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# State of Colorado

Traffic Records Assessment

**April 27, 2015**

National Highway Traffic Safety Administration

Technical Assessment Team





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## Executive Summary

Out of 391 assessment questions, Colorado met the Advisory ideal for 161 questions, or 41.2% of the time; partially met the Advisory ideal for 65 questions, or 16.6% of the time, and did not meet the Advisory ideal for 165 questions or 42.2% of the time.

As Figure 1 illustrates, within each assessment module, Colorado met the criteria outlined in the *Traffic Records Program Assessment Advisory* 63.2% of the time for Traffic Records Coordinating Committee Management, 25% of the time for Strategic Planning, 65.9% of the time for Crash, 56.4% of the time for Vehicle, 62.2% of the time for Driver, 7.9% of the time for Roadway, 25.9% of the time for Citation / Adjudication, 38.2% of the time for EMS / Injury Surveillance, and 15.4% of the time for Data Use and Integration.

**Figure 1: Rating Distribution by Module**

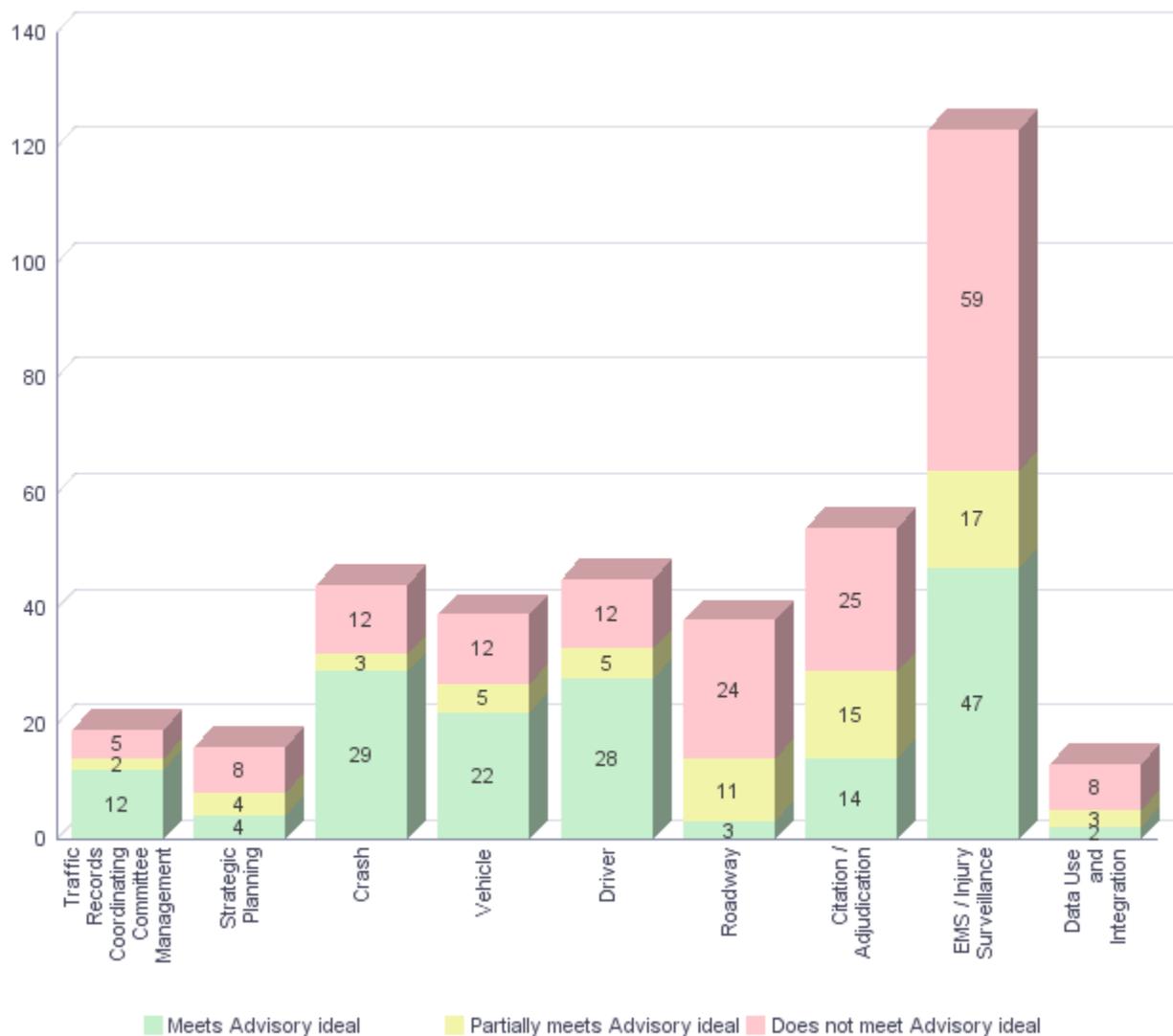






Figure 2: Assessment Section Ratings

	 Crash	 Vehicle	 Driver	 Roadway	 Citation / Adjudication	 EMS / Injury Surveillance
Description and Contents	90.5%	55.6%	93.3%	66.7%	68.4%	84.3%
Applicable Guidelines	100.0%	90.9%	100.0%	66.7%	52.6%	80.7%
Data Dictionaries	93.3%	61.9%	66.7%	43.3%	60.3%	73.3%
Procedures / Process Flow	83.3%	72.7%	94.1%	62.5%	81.5%	80.3%
Interfaces	46.7%	66.7%	81.0%	44.4%	61.9%	33.3%
Data Quality Control Programs	79.0%	84.6%	62.4%	38.0%	44.9%	50.0%
<b>Overall</b>	<b>81.7%</b>	<b>77.2%</b>	<b>78.7%</b>	<b>48.7%</b>	<b>61.9%</b>	<b>64.4%</b>

	Overall
Traffic Records Coordinating Committee Management	78.7%
Strategic Planning for the Traffic Records System	58.7%
Data Use and Integration	52.5%

## 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:

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

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

*“Include(s) a list of all recommendations from its most recent highway safety data and traffic records system assessment; identifies which such recommendations the State intends to implement and the performance measures to be used to demonstrate quantifiable and measurable progress; and for recommendations that the State does not intend to implement, provides an explanation.”*





Colorado can address the recommendations below by implementing changes to improve the ratings for the questions in those section modules with lower than average scores. Colorado can also apply for a NHTSA Traffic Records GO Team, for targeted technical assistance.

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### Strategic Planning Recommendations

Strengthen the TRCC's abilities for strategic planning that reflect best practices identified in the Traffic Records Program Assessment Advisory.

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### Crash Recommendations

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

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

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### Vehicle Recommendations

Improve the description and contents of the Vehicle data system that reflect best practices identified in the Traffic Records Program Assessment Advisory.

Improve the data dictionary for the Vehicle data system that reflects best practices identified in the Traffic Records Program Assessment Advisory.

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

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

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### Driver Recommendations

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

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

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### Roadway Recommendations

Improve the data dictionary for the Roadway data system that reflects best practices identified in the Traffic Records Program Assessment Advisory.

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

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





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### Citation / Adjudication Recommendations

Improve the applicable guidelines for the Citation and Adjudication systems that reflect best practices identified in the Traffic Records Program Assessment Advisory.

Improve the data dictionary for the Citation and Adjudication systems that reflects best practices identified in the Traffic Records Program Assessment Advisory.

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

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### EMS / Injury Surveillance Recommendations

Improve the interfaces with the Injury Surveillance systems that reflect best practices identified in the Traffic Records Program Assessment Advisory.

Improve the data quality control program for the Injury Surveillance systems that reflects best practices identified in the Traffic Records Program Assessment Advisory.

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### Data Use and Integration Recommendations

Improve the traffic records systems capacity to integrate data that reflects 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 plan dates and prepare for the assessment that is consistent with the general schedule outlined in Figure 3. Actual schedules may vary as dates can be altered to accommodate specific State 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
<b>Assessment</b>	Monday, Week 1	On-site kickoff meeting
	Tuesday, Week 1 – 12pm EST, Friday, Week 3	<b>Round 1 Data Collection:</b> State answers standardized assessment questions
	Friday, Week 3 – Wednesday, Week 5	<b>Round 1 Analysis:</b> Assessors review State answers and rate the responses and, if needed, request necessary clarifications
	Thursday, Week 5 – 12pm EST, Friday, Week 7	<b>Round 2 Data Collection:</b> State responds to the assessors' initial ratings and requests for more information and clarification
	Friday, Week 7 – Wednesday, Week 9	<b>Round 2 Analysis:</b> Assessors review additional information from the State and, if needed, adjust initial ratings
	Thursday, Week 9 – 12pm EST, Friday, Week 11	<b>Round 3 Data Collection:</b> State provides final response to the assessors' ratings
	Friday, Week 11 – Monday, Week 13	<b>Round 3 Analysis:</b> 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.

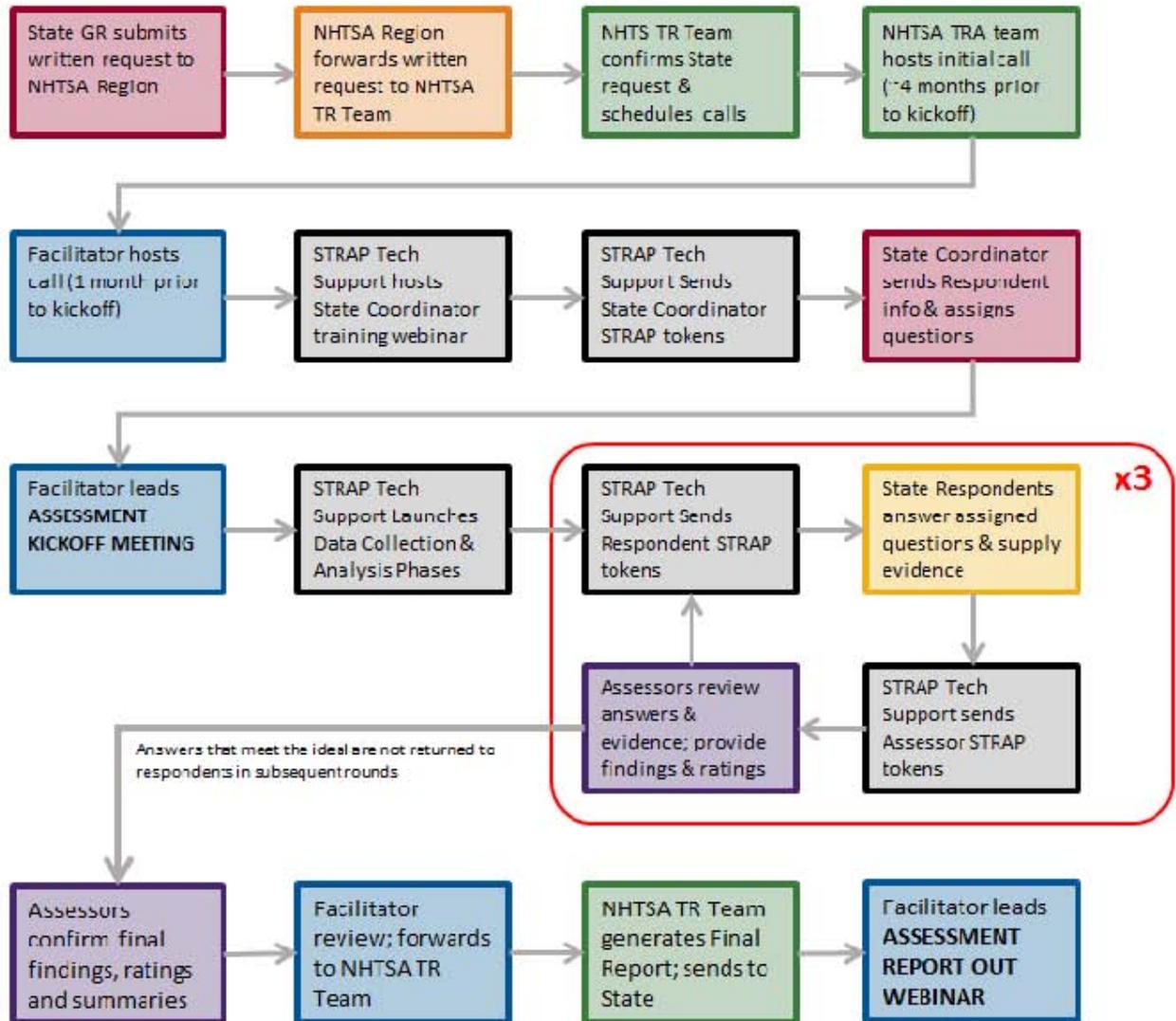
**Figure 4: State Schedule for the Traffic Records Assessment**

Kickoff	January 15, 2015
Begin first Q&A Cycle	January 16, 2015
End first Q&A Cycle	February 06, 2015
Begin second Q&A Cycle	February 19, 2015
End second Q&A Cycle	March 06, 2015
Begin third Q&A Cycle	March 19, 2015
End third Q&A Cycle	April 03, 2015
Assessors’ Final Results Complete	April 12, 2015
Final Report Due	April 24, 2015
Debrief	April 27, 2015





Figure 5: State Traffic Records Assessment Process



Legend:





## 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

The State of Colorado Traffic Records Coordinating Committee is called the State Traffic Records Advisory Committee (STRAC). The committee is organized in two levels, an executive and a technical committee. The executive committee is comprised of State agency executives and directors of component traffic records systems. The technical level committee members are designated representatives of the same component traffic records systems with additional representative members from local jurisdictions. The planning and coordination of projects occurs within the technical level committee, which meets quarterly. The executive committee does not meet as an actual committee, but will discuss traffic records topics in State level cabinet meetings if necessary.

The STRAC has a full-time Traffic Records Coordinator. At the time of this report, the State was in the process of hiring a replacement, as the coordinator had recently retired. Additionally, the organization has a Chairperson, Vice-Chair, and a Secretary. Both the Chair and Vice-Chair are voting members of the organization and are voted to their positions for a two year seat. The Secretary is designated and is not a voting member of the organization. A Memorandum of Understanding (MOU), signed by each of the component traffic records systems, provides the technical level committee the authority and responsibility to fulfill the duties and intent of the strategic plan. Projects within the strategic plan are monitored throughout the year and documented in meeting notes. The technical level committee provides an annual report to the executive committee. The Technical committee serves as a forum to discuss traffic record issues on both the State and local levels.

The strengths of the State Traffic Records Advisory Committee are:

1. The STRAC has established a well-rounded technical level committee, involving many local organizations with the voting process in places for projects.
2. The voting process set up within the by-laws of the organization allows great opportunities for local jurisdictions to take part in improving traffic data systems.
3. The organization has the ability to affect change and improve State data systems through collaboration and oversight of the strategic plan.

Opportunities:

1. There are opportunities to leverage other sources of funding for traffic records improvement projects outside the 405(c) funding sources. Using these funds to a greater extent provides an opportunity for growth in partnerships and allows the 405(c) funding to be used in other areas.
2. There is an opportunity for the STRAC to create an inventory of component traffic records systems to fully understand the data sources, promote integration, and promote uses of traffic records information and the interrelated nature of data elements.
3. There is an opportunity to provide and monitor performance measures with greater detail for traffic records improvement projects. This will increase the State's ability to evaluate the progress and effectiveness of projects.





**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:**

Colorado has both, an executive and technical level TRCC. An MOU designates the State Traffic Record Advisory Committee (STRAC) and provides it with authorization over the Strategic Plan.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

The executive committee members hold executive director positions within their respective agencies.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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 executive committee has given the technical committee the authority to carry out the MOU. The technical level has the authority and responsibility to fulfill the duties and intent of the strategic plan.

An annual report is given to the executive committee. While this is a good tool for review, it doesn't support the efforts of reviewing and approving actions proposed by the technical TRCC.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

Colorado's TRCC (STRAC) shows a rounded representation of the core data systems. It is unclear if Colorado's STRAC is a 1 or a 2 level committee. There is some involvement at the executive level in core data systems.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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 Governor's Office of Information Technology is a member of the STRAC. They are required to participate on every IT project. Their function is to provide communication with other agencies so as to not duplicate IT efforts.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

The MOU grants the STRAC with the responsibility to oversee the development and implementation of the strategic plan. Additionally, the bylaws provide for functions of the committee.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

The STRAC created the current strategic plan. It is also responsible for the oversight and guidance of the strategic plan. Projects are monitored throughout the year and documented in quarterly meeting notes.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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 STRAC influences policy and decisions by funding opportunities, applying schema requirements, and updating current data forms. The committee is involved with the State's electronic citation system by providing funding and enforcing the requirements of the schema. The STRAC also coordinates to implement and deploy updates to the current crash reporting form.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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 STRAC has a voting process to accept projects proposed for 405(c) funding.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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 STRAC demonstrated performance measures in Crash, Roadway, and EMS. There were no active performance measures in three of the other systems (Driver, Citation, and Vehicle).

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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 STRAC coordinates efforts among stakeholders and serves as a forum for discussion.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**Question 12:**

Does the TRCC have a traffic records inventory?



**Standard of Evidence:**

Provide the traffic records inventory.

**Question Rank:**  
Somewhat Important

**Assessor conclusions:**

The STRAC does not have a traffic records inventory at this time. It plans to conduct an assessment with the future goal of developing one.

<b>Respondents assigned</b>	3	<b>Responses received</b>	1	<b>Response rate</b>	33.3%
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**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 State has a designated chair for their TRCC (STRAC). This position is an elected position from within the STRAC.

<b>Respondents assigned</b>	3	<b>Responses received</b>	1	<b>Response rate</b>	33.3%
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**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:**

Colorado has a designee serving as the TRCC Coordinator, filling in for the previously retired coordinator. They are in the process of hiring a TR Coordinator.

<b>Respondents assigned</b>	3	<b>Responses received</b>	1	<b>Response rate</b>	33.3%
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**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 level committee does not meet as a TRCC Committee.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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 level committee (STRAC) meets on a quarterly basis.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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 STRAC exercises quality control and improvement over projects through collaboration with the involved State agencies, as well as using performance measures for oversight and funding. Unfortunately, there were no documentation of the quality control activities the TRCC actually provided.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

The STRAC is providing technical assistance and training and project progress is reported back to the committee. It also sends members to the International Traffic Records Forum and the State Traffic Records Conference.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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 STRAC distributes only 405(c) funding. There are other funding sources available for traffic record projects. It does not appear that the State takes advantage of other funding sources for its traffic records projects.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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## Strategic Planning

The Colorado State Traffic Records Advisory Committee (STRAC) serves at the State's Traffic Records Coordinating Committee (TRCC) and is responsible for the development and maintenance of a strategic plan. This strategic plan was assessed for its alignment with the ideals as set forth in the Traffic Records Program Assessment Advisory (Advisory) published by NHTSA.

Overall, there was a discrepancy between the multi-year, high-level strategic planning approaches taken by Colorado's STRAC and the annual strategic operational plan envisioned by the Advisory. For this reason, there are a number of strategic plan considerations addressed in Advisory elements which are not included in Colorado's plan. The State has created a high-level plan that is only updated every three years and does not include any specific projects. This plan should be supplemented with an annual component that includes projects, timelines, and specific system improvement measures. The approach taken by Colorado still appears to provide long term strategic direction. However, additional operational and project-level considerations should be documented annually, either within a section of the strategic plan (as the Advisory suggests) or as an annual addendum or compendium document.

Some examples for areas which an annual report could cover would include: coordination, funding strategy, project selection and oversight, and approaches to integration of new technology. Coordination considerations can include both data user trainings, needs, and input to system needs, and coordination and alignment with various federal data systems. Documentation of strategic funding and project selection considerations can support the project prioritization process and ensure that the annual slate of projects using Section 405(c) funds are aligned with the intentions of the multi-year strategic plan. Additionally, these considerations should consider life-cycle costs and not capital investment costs alone. Project oversight considerations can include specific project controls, including timelines and designated responsibility. And lastly, considerations and alignment of advancing technological trends can be reviewed and if appropriate integrated into the annual set of projects.

Despite Colorado taking a deferring approach to their strategic planning efforts, the strategic plan which is produced is an excellent example of clearly defining the purpose, role, and long-term vision of the STRAC. There is clear alignment between the strategic plan and past traffic record assessments. There is strong buy-in from the Colorado Department of Transportation (CDOT) and Colorado Department of Revenue (CDOR) – the major data system owners. In addition to the strong State-level support, the plan is cognizant and inclusive of local stakeholders and local data needs.

Overall, this multi-year strategic plan of Colorado's STRAC is an excellent example of collaboration and the development of a vision, mission, and goals. It does however differ from the Advisory ideals for a strategic plan, which assumes the strategic plan as an annual activity. As such there are discrepancies between Colorado's plan and the Advisory, especially in the reporting of coordination, funding strategy, project selection and oversight, and approaches to integration of new technology. It is suggested that an annual component – such as an addendum or compendium – be developed to complement the existing multi-year strategic plan.





**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 STRAC developed and regularly updates the strategic plan with support from CDOT and CDOR. This plan is an excellent example of collaboration and the development of a vision, mission, and goals.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

In the Background section of the strategic plan, there is specific reference to how the results of the previous assessment informed the development of the strategic plan. Many of the tasks outlined in the plan note the specific associated data deficiencies from the 2009 assessment.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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 strategic plan does not list specific projects or strategies which are identified as improving the timeliness, accuracy, completeness, uniformity, integration, and accessibility of the six core data systems.

It has been stated that individual projects are evaluated in these areas to measure their success and these are reported in the annual report, outside of the strategic plan.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

Specific funding sources and the allocation of funds are not detailed in the Strategic Plan. Annually, the STRAC matches funding to projects developed to achieve the goals set forth in the strategic plan. The STRAC reports back to the appropriate funding sources how the funds were used.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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 strategic plan references that the STRAC will evaluate projects annually for 405(c) funding (Strategic Plan Section 5). There is a formal process which the STRAC annually undertakes to approve, conditionally approve, or reject projects, and further provide rankings when projects exceed funding. However this process is not detailed in the strategic plan document.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

While projects utilize performance measures, and measures are discussed in STRAC meetings, the strategic plan does not have specific performance measures. However it is noted on page 4 of the strategic plan that future revisions of the plan will have "clearly defined performance measures in support of each objective."

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

The STRAC strategic plan does not discuss technical assistance and training needs.

<b>Respondents assigned</b>	3	<b>Responses received</b>	1	<b>Response rate</b>	33.3%
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**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 plan is written at a very high level, and as such there is no mention of federal assistance funds.

<b>Respondents assigned</b>	3	<b>Responses received</b>	1	<b>Response rate</b>	33.3%
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**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:**

The STRAC strategic plan does not include a process for specific project controls, including timelines and designated responsibility, nor are specific projects explicitly discussed.

<b>Respondents assigned</b>	3	<b>Responses received</b>	1	<b>Response rate</b>	33.3%
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**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:**

Although the STRAC includes discussion with State and local data users, the State has not demonstrated a formal process to integrate the needs and goals of the users into the strategic plan.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

On page 4 of the strategic plan, it states that "This plan is designed to be dynamic in response to changing technology and the traffic data environment." However, since projects are not included in the strategic plan, it is difficult to meet the ideal.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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 STRAC does not formally consider full life-cycle costs of projects.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

Local stakeholders and local data is a strong consideration throughout the strategic plan. Some of the notable goals which are responsive to local needs include e-Citation, e-Reporting, and the Statewide database project.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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 State has not demonstrated consideration for coordination with federal traffic records data systems within the strategic plan. While federal agencies regularly attend STRAC meetings to discuss coordination needs, there are no references in the strategic plan to any federal agency beyond the acronyms and requirements statements.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

Major issues, including issues with coordination of federal traffic record data systems, are discussed at quarterly STRAC meetings. Where deemed appropriate, the STRAC will establish a subcommittee to further investigate and work to resolve an identified issue.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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 State has created a high-level plan that is only updated every three years and does not include any specific projects. This plan should be supplemented with an annual component that includes projects, timelines, and specific system improvement measures.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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## Crash

Colorado's crash reporting and data management systems are implemented to an acceptable standard. Many of the system attributes meet the ideals as set forth in the Traffic Records Program Assessment Advisory (Advisory).

The custodian of the crash data records system is clearly established as the Colorado Department of Revenue (CDOR). All law enforcement agencies must submit crash reports to the CDOR repository within five days of the crash or within five days after the crash investigation has been completed. All crashes, regardless of injury, are reported – with the only exception being non-injury/property damage only (PDO) crashes on private property. All crash reports are completed on the adopted crash report form - DR2447. The DR2447 was last revised in 2006 by the Colorado State Traffic Records Advisory Committee (STRAC) to incorporate research and guidelines from the Model Minimum Uniform Crash Criteria (MMUCC), the National Highway Traffic Safety Administration (NHTSA), American National Standards Institute (ANSI), the Federal Highway Administration (FHWA), and the Federal Motor Carrier Safety Administration (FMCSA).

Currently CDOR accepts crash reports both electronically and via paper forms. Currently all electronically submitted crashes reside in the Electronic Accident Reporting System (EARS) database. Current paper crashes are partially entered into the EARS database, and retained in full in the CDOR Electronic Data Warehouse (EDW). All crash reports from between 1986 and 2006 are maintained in a separate "Old Electronic Reporting System (ERS)" database. The EARS database, though not inclusive of all crash data from paper-reports nor pre-2006 crash data, has a level of completeness to provide needed information to major stakeholders.

The State has indicated that crash data is used by the Colorado Department of Transportation (CDOT) to help guide projects – specifically all major projects are required to have safety assessments, in part based on crash data from the records system. The crash data is well integrated with the State's roadway system data through a program called "Vision Zero". Vision Zero provides additional understanding of the safety along the roadway network. State and local law enforcement agencies utilize crash data to identify areas for increased enforcement, as well as trends that could be impacted by education efforts. The State has provided to these agencies a detailed sample location-based analysis which breaks down different types of crashes across different State routes.

However, inclusion of full electronic and paper crash report data in a single database (such as EARS) will provide for more robust analytic abilities and allow for additional decision-making support. While older crash reports are retained separately, the State has indicated no plans to purge any crash reports from the system. The retention of the long-term historic data is notable, and valuable to researchers and advanced analytic tools.

All electronically submitted crashes are qualified through formalized validation rules – however the State has indicated that only three agencies submit their crash reports electronically (the Colorado State Patrol, Aurora Police Department and Longmont Police Department). All other crash reports are submitted via paper methods and undergo a manual quality review and geo-location.

The State has indicated that each crash report is reviewed for accuracy. The quality control staff





working with the Statewide crash database has been granted State-level correction authority to amend obvious minor errors and omissions without returning the report to the originating officer. All major errors are returned to the submitting law enforcement agency. The “rejected” crashes are partly entered into EARS, but flagged as rejected, until the corrected crash data is submitted. Also retained are the reasons the original crash report was rejected. This allows CDOR to track returned reports by law enforcement agency and the reason the report was returned. This data is used to train the law enforcement agency and provide to them the returned statistics. The agencies with the highest return rates are contacted and provided with technical assistance to reduce errors. Additionally, the most frequently encountered errors are distributed through bulletins to all police departments.

While there is strong emphasis on review and training to improve data quality, there are additional opportunities to identify error patterns. Currently, the Traffic Records Operations manager periodically audits the EARS database to ensure that all fatal, level 3 injury, and crashes involving commercial vehicles are complete. A more formalized process of periodic, more inclusive audits can provide an additional level of quality checks. Additionally, comparative or trend analyses to identify unexplained differences in the data across years and jurisdictions could be beneficial. Lastly, another review the State can consider is comparing the narrative, diagram, and coded contents of the report to ensure alignment. To ensure awareness of the current and potential quality control and review activities, the State can consider providing regular data quality management reports to the STRAC.

The State has a detailed data dictionary, which is regularly kept up-to-date. The document is distributed to CDOT’s stakeholders on a regular basis and reviewed regularly. This data dictionary clearly defines all of the DR2447 data elements and allowable values. While the State does not provide the list of system edit checks and validation rules in the data dictionary, they are documented in detail in a compendium document - the Coding Packet. Overall Colorado has strong, detailed documentation of the crash data fields.

Colorado has indicated that performance measure exist for multiple quality areas identified in the Advisory. Specifically, there are clear performance measures for timeliness (5 days, coder entry time), accuracy (roadway location, VIN verification), uniformity, accessibility and completeness. However, most performance measures do not have set numeric goals, except to improve. There is an opportunity to establish baseline measures of the currently adopted performance metrics and set goals for improvement. This has been done in a few areas – specifically percentage of agencies reporting, timeliness goal of 5 days, and full identification of GPS coordinates for on-system crashes.

Overall, the CDOR crash records system meets many of the ideals outlined within the Advisory. The process used by the State directly supports infrastructure, enforcement, and educational/behavioral programs throughout Colorado. There are opportunities to improve the quality of the crash data system – most notably integration of electronic and paper submitted reports into a single database, establishment of goals for performance measures, data system integration, and additional quality control efforts.





**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:**

Currently all electronically submitted crashes reside in the Electronic Accident Reporting System (EARS) database. Current paper crashes are partially data entered into the EARS database and retained in full in the CDOR Electronic Data Warehouse (EDW). All crashes from before 2006 are in a separate "Old ERS" database.

<b>Respondents assigned</b>	3	<b>Responses received</b>	1	<b>Response rate</b>	33.3%
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**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:**

The Colorado Department of Revenue is the State's custodian of the crash repository. All law enforcement agencies must submit crash reports to this repository within five days of the crash or within five days after the crash investigation has been completed.

<b>Respondents assigned</b>	3	<b>Responses received</b>	1	<b>Response rate</b>	33.3%
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**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:**

The State has clear criteria for a crash to be considered an official fatal by Colorado FARS. The criteria follow the FARS guidelines that the fatality must have occurred within 30 days of the crash.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

As per statute, all crashes on public roads are required to be reported.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

The State does track all crashes including property damage only (PDO) on public roads. It does not track PDO crashes that appear intentional in nature.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

The State does not record or collect private property crashes. Crashes not collected include those taking place in parking lots, private roadways, trails, and driveways.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

Crash data from the system is used in the development of safety planning documents and is referenced as the data source used to identify the crash risk factors in the Strategic Highway Safety Plan (SHSP).

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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 State crash data is used by the Colorado Department of Transportation (CDOT) to help guide projects. All major projects are required to have safety assessments and one of the criteria is based on provided crash data from the records system.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

Both State and local agencies utilize crash data to identify areas for increased enforcement, as well as trends that could be impacted by education efforts.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

The data from the crash system is used to aid in decision making for construction/engineering projects and as well as behavioral projects.

<b>Respondents assigned</b>	3	<b>Responses received</b>	1	<b>Response rate</b>	33.3%
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**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:**

In 2006, the Colorado STRAC (State Traffic Records Advisory Committee) revised the contents of the crash report (DR2447) to incorporate research and standard guidelines, including the Model Minimum Uniform Crash Criteria (MMUCC).

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

In 2006, the Colorado TRCC STRAC (State Traffic Records Advisory Committee) revised the contents of the crash report (DR2447) to incorporate research and standard guidelines, including those from the American National Standards Institute (ANSI).

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>50%</b>
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**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:**

The State does indeed have a data dictionary that clearly defines all of the data elements and allowable values.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>50%</b>
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**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:**

The State does not provide the list of system edit checks and validation rules in the data dictionary, but instead they are fully documented in another document - the Coding Packet.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado has indicated that the State's crash data dictionary is regularly kept up to date. The document is handed out to CDOT's stakeholders on a regular basis and reviewed regularly.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

All data fields are from the crash report form - as direct linkage to other traffic records systems do not exist. However, this is not noted in the data dictionary.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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 crash reports are received electronically, but the State is moving towards increasing the percentage of crash reports received electronically. The goal for the State is to achieve 80-85% electronic submission. Over the last year, Colorado has increased the e-transmitted crash reports by 5% to 31.4%. The State hopes to increase this by an additional 30% this year.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

Only three agencies submit crash reports electronically (Colorado State Patrol, Aurora Police Department and Longmont Police Department). All other crash reports are submitted via paper methods.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

The State requires all law enforcement agencies that submit crash data electronically to adhere to the State's validations rules.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>16.7%</b>
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**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:**

The State does maintain accurate and up to date documentation that details 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.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

The State has started a LEAN initiative to scan incomplete reports into the system, tabulate the error frequency, and give feedback to the law enforcement agencies.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

The State maintains crash reports from 1986 and has no plans to purge any crash reports from the system.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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 State crash system does not interface with the driver system.

<b>Respondents assigned</b>	8	<b>Responses received</b>	2	<b>Response rate</b>	25%
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**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.

**Assessor conclusions:**

The State crash system does not interface with the vehicle system.



**Question Rank:**  
Somewhat Important

<b>Respondents assigned</b>	8	<b>Responses received</b>	2	<b>Response rate</b>	25%
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**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.

**Assessor conclusions:**

The State crash system interfaces with the roadway system. This is achieved through a program called "Vision Zero".



**Question Rank:**  
Somewhat Important

<b>Respondents assigned</b>	7	<b>Responses received</b>	1	<b>Response rate</b>	14.3%
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**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.

**Assessor conclusions:**

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



**Question Rank:**  
Somewhat Important

<b>Respondents assigned</b>	8	<b>Responses received</b>	2	<b>Response rate</b>	25%
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**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.

**Assessor conclusions:**

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



**Question Rank:**  
Somewhat Important

<b>Respondents assigned</b>	8	<b>Responses received</b>	3	<b>Response rate</b>	37.5%
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**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:**

The CDOT uses a software program of its own design called the Check Edits Program to validate the coding process. All of CDOT's crash coders are required to use this program.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

State-level correction authority has been 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.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

Each crash report is reviewed for accuracy and minor errors are corrected. Major errors require that the crash report be returned to the law enforcement agency. The “rejected” case number, law enforcement agency, date of the crash, and if available, the driver information is entered into EARS. The report is then scanned into the EDW, with a flag to identify it as a rejected report the reason it was rejected and the date the report was returned to the law enforcement agency. This allows the CDOR to retrieve reports that are rejected if necessary and allows the CDOR to track returned reports by law enforcement agency and the reason the report was returned. This data is used to train the law enforcement agency.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>16.7%</b>
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**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:**

There exists a policy that all crash reports must be submitted to the State's crash data custodian within 5 days. The State also has a performance measure related to the time it takes the coder to enter the data into the system as well.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>16.7%</b>
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**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 a list of performance measures for accuracy. It includes measures for roadway location, VIN verification, and other measures for fatal errors.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

The State has performance measures in regards to crash data completeness.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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 uniformity performance measures to aid data managers and data users.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

There is no integration between various State systems. Therefore, there are no integration performance measures.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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 accessibility performance measures.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

Most performance measures do not have set numeric goals, except to improve. However, CDOR has a standard timeliness goal of 5 days to input crash reports into EARS and CDOT strives for 100% of GPS coordinates for on-system crashes.

<b>Respondents assigned</b>	6	<b>Responses received</b>	3	<b>Response rate</b>	50%
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**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:**

Through the use of spreadsheet tracking, the State is able to identify law enforcement agencies with the highest return rate. These agencies are contacted and provided with technical assistance to reduce errors.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>16.7%</b>
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**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:**

The most frequently encountered errors are distributed through bulletins to all police departments. Additionally, sergeants and corporals are trained to address commonly identified errors.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>3</b>	<b>Response rate</b>	<b>50%</b>
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**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:**

The State has not demonstrated any quality control reviews that compare the narrative, diagram, and coded contents of the report as part of the data acceptance process.

<b>Respondents assigned</b>	6	<b>Responses received</b>	3	<b>Response rate</b>	50%
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**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:**

The Traffic Records Operations manager periodically audits the EARS database to ensure that all fatal, level 3 injury, and crashes involving commercial vehicles are complete.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

The State does not perform comparative or trend analysis.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The State does not have any formal method for key users to communicate data quality feedback to data collectors or data managers.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

No data quality management reports are provided to the TRCC for regular review.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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## Vehicle

The Colorado Department of Revenue Division of Motor Vehicles maintains the vehicle title and registration databases. The CSTARs (Colorado State Title And Registration System) is the unified title/registration system of the State. While no links currently exist between the Colorado driver and vehicle systems, a projected replacement for both systems in four years looks to address that linkage. CSTARs is a distributed system across 64 counties. Counties are statutorily required to submit data at least monthly to the Department of Revenue's central repository, but most submit batches of transactions within 3 to 5 days.

Colorado is a 'Step 3' participant in PRISM. Continued efforts in the future to get Colorado to step 8 of PRISM would be an ideal goal. The State is also an active NMVTIS participant by submitting data and manually querying the system when vehicles are titled within the State.

Colorado has the absolute best performance metrics that I have ever seen from a State. From timeliness, completeness, uniformity, etc. Colorado has done a superb job establishing, documenting, and implementing these metrics across all of the vehicular business functions. Many States do not have formally defined metrics, so it is very good to see a State like Colorado excel in this area. The State also has a well-defined feedback loop for high frequency errors and issues to be identified and disseminated back through the system to appropriate personnel. It would be ideal in the future if these valuable metrics and other data were reported back to the State Traffic Records Coordinating Committee (TRCC) as a strong TRCC can be beneficial to a State in many ways.

Colorado has the appropriate key variables for vehicle record retrieval and validation procedures in place that ensure the validity and integrity of the data entered into the system. Colorado also has the appropriate user levels and roles in place to allow for the correction of obvious errors and omissions within the system. It would be ideal in the future to have independent audits performed to ensure data integrity and proper system functionality.

Opportunities: Since a new system is on the horizon for Colorado, below are some key items that would ideally be in the new system:

- Built-in automated VIN validation against an industry standard product like RL Polks' VINA
- Barcoding of documents for easier processing and records management
- Automated NMVTIS lookups versus the current manual process
- Full Brand compliance with NMVTIS corresponding to the recent Colorado House Bill 14-1100
- A more in-depth data dictionary and documentation for all system edit checks and data flow paths as well as formal documentation of all affiliated title, registration, and brand procedures
- Process flow charts; the current user manual documents the system but high-level flow charts help new personnel to understand the systems
- Ideally real-time transacted vehicle registration, title, and driver license information would all be available roadside for law enforcement and integrated into systems for accurate pre-population of data





**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:**

Centralized responsibility for vehicle data is an important feature to have in a vehicle registration system. The State custodian is the Department of Revenue, Division of Motor Vehicles.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

The State does not currently validate every VIN, but it would be good to implement VIN validation, such as RL Polk's VINA application, into the workflow process of registrations and titles.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

The State does not barcode vehicle registration documents, but it would be good to add 2D barcodes, such as PDF417, to these documents in the future.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado submits data to NMVTIS nightly. Submission of data to NMVTIS ensures that other states can have accurate and up to date information.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Manual queries of NMVTIS are conducted, but ideally this lookup in the future could be automated to reduce clerk lookup time and possible errors.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado appears to have brand information that is consistent across all of the associated systems.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado is a 'Step 3' participant in PRISM. Continued efforts in the future to get Colorado to step 8 of PRISM would be an ideal goal.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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 copybooks with easy to understand field names, but there is no documentation for the vehicle system that provides a definition for each data field.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado's system appears to have edit checks within the application code. Ideally these checks would be documented in a guidelines manual.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>50%</b>
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**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 does not maintain documentation of collection, reporting, and posting procedures. Formal documentation of all affiliated title, registration, and brand procedures ensures reduced training and consistent application development and transparency.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>50%</b>
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**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:**

Colorado has a well-documented flow of the data in and out of the Colorado State Title and Registration System (CSTARS) system.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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 CSTARS system and law enforcement agencies are appropriately updated when vehicles are reported as stolen.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

Colorado has a statutorily defined process that covers how stolen vehicles are managed from both a law enforcement and registration view.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

While Colorado does not currently have the appropriate brand history measures in place, new legislation appears to have passed that will allow this to be tracked appropriately in the near future.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

While not in a process flow diagram, Colorado does have everything well documented in a user manual. It would be beneficial in the future to condense the process into a flow diagram.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

While the current CSTARS system doesn't include this information, it looks like the future system will have a process flow with time components for each step.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

Alternative data flows are not currently documented, but it would be good to incorporate that in the redesign of CSTARS.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

Colorado has an appropriately documented user manual that defines error correction and handling procedures. It would be good in the future is this information could be condensed into a flow diagram.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

The purging of records is not appropriately documented, but it would be good to include that information in the future redesign of CSTARs.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

While Colorado does not currently have a unified system, it appears to be working towards this with the new system being designed.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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 Q100 documentation appropriately addressed data entry criteria for titles and registrations but did not cover driver licenses (DLs).

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

The vehicle system data may be used to verify information captured by law enforcement at the scene, but this is not done at the creation of the report. Ideally vehicle registration, title, and DL information would all be available roadside for law enforcement and integrated into those systems for accurate pre-population of data.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

In the current system records are not flagged for updating. It would be good in future system designs if this functionality could be incorporated.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

Colorado has the appropriate key variables in place for vehicle record retrieval.

<b>Respondents assigned</b>	3	<b>Responses received</b>	1	<b>Response rate</b>	33.3%
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**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:**

Vehicle data is not processed in real-time, but the environment could be redesigned to do so in future versions of the system.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado appears to have validation procedures in place that ensure the validity and integrity of the data entered into the system.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado has the appropriate user levels and roles in place to allow for the correction of obvious errors and omissions within the system.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado does a great job in having performance measures in place to meet system user and data manager needs.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado has audit measures that do a great job accounting for data accuracy. They meet and surpass the requirements of this Advisory ideal.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado has very good completeness performance measures. They meet and surpass the requirements of this Advisory ideal.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado has very good uniformity performance measures. They meet and surpass the requirements of this Advisory ideal.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado has very good integration performance measures. They meet and surpass the requirements of this Advisory ideal.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado has very good accessibility performance measures. They meet and surpass the requirements of this Advisory ideal.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado has very good numeric performance goals. They meet and surpass the requirements of this Advisory ideal. Many States do not have formally defined metrics, so it is very good to see a State like Colorado excel in this area.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado has a feedback loop that allows for high frequency errors and issues to be identified and disseminated back through the system to appropriate personnel.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Periodic audits are not conducted to evaluate data quality. It would be ideal in the future to have independent audits performed to ensure data integrity and proper system functionality.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Some trend analyses are performed using data from the Department of Transportation summary data. Ideally this process needs to be formalized in the future and performed on a regular basis.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado has a statutorily backed formally defined process in place to allow for data quality feedback for appropriate data collectors and managers.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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 STRAC for review. It would be ideal in the some or all of the many data quality reviews were made available to the STRAC.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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## Driver

The Driver Services division of the Colorado Department of Revenue maintains custodial responsibility of driver records in a centralized location. The system architecture from the forms provided did not allow for an understanding of how many systems/components compose the Driver License System (DLS).

The DLS is the central capture point for every document related to license applicants/issuance. Driver information and history are centrally stored in the DLS. The Driver License System is connected to the Problem Driver Pointer System (PDPS), the Commercial Driver License Information System (CDLIS) and all applications (if applicable) run through these systems prior to issuance. After a technician enters personally identifiable information into the DLS, the system electronically verifies the information through the PDPS, CDLIS, Social Security Online Verification System (SSOLV) and Systematic Alien Verification for Entitlement System (SAVES).

Colorado has a very detailed access control procedure that is well documented. The control specifications govern many scenarios and cover field-level access control. Other State agencies, including law enforcement, courts, and other approved agencies/organizations, are vetted through the defined security process and allowed access to the information that only pertains to their associated business requirements. Other States do not currently have direct access to Colorado's data other than through PDPS.

The DLS maintains a historical log of all driver license changes that ensures accurate and up-to-date license status change information. Extended novice drivers' training histories is one area that could use improvement within the system.

The Express Consent (EC) process in Colorado covers the submission, processing, and storage of all citation data from internal and external parties. The EC process provides an external electronic submission process of Secure File Transfer Protocol (SFTP) as well as a paper submission route. The citations are stored in the official driver history repository located in the Electronic Data Warehouse (EDW). If citations are rejected, processes exist to return the documents back to the reporting parties. Corresponding processes exist for citation information received from other States and points are allocated against a driver in a citation category-specific process.

The data quality control and fraud prevention practices appear to be manually done at this point and that responsibility primarily resides within the training of the license technician processing the application. Clearly stated data quality and accountability procedures are needed to improve this area. Having external auditing and automated data quality tools could strengthen this area as well. The State also needs tighter reporting paths of data benchmarks to its Traffic Records Coordinating Committee (TRCC).



**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:**

Colorado's centralization of records ensures that all driver records reside in one single location.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado has a data linkage process for tying together citations (electronic and paper) to driver records through the driver history system. Through this intermediary system, DUIs are linked to the driver system.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

The State is moving in the right direction towards meeting this ideal but needs to be able to store more information about driver's education schools. The current system captures some information about mandated training but should extend beyond just mandated training.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado's system should be extended to capture additional data elements (driver education provider and type). While violations are probably the most important to capture, capturing driver improvement class information allows the State to analyze the effectiveness of those driver remediation techniques.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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 Colorado driver system collects and maintains all original dates of issuance. Keeping proper logs of all documents issued ensures that the instruments can be properly validated and allows for proper statistical program review.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado data is maintained in such a way to interact with PDPS and CDLIS. The validation of driver documents prior to issuance is key to ensuring valid data.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

As stated by Colorado, each field is documented, but supporting documentation was not available for review.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Supporting documentation was not available for review.

<b>Respondents assigned</b>	3	<b>Responses received</b>	1	<b>Response rate</b>	33.3%
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**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 Colorado system has edit checks at the input level but the primary method for ensuring data integrity relies upon carefully trained data specialists. Through those trained personnel, there are appropriate system & manual edit checks necessary to meet the defined level of data quality.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado has an appropriate process in place that governs how and when updates are made to the data dictionary.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

Colorado has a procedures manual that every Driver's License employee follows.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>16.7%</b>
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**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:**

Colorado has a documented process for the flow of both paper and electronic citations and convictions (driver history).

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

Colorado does not track driver education and improvement course information.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The Colorado system appears to have historical fields that are cross-referenced by licensing officials at the time of issuance.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

Colorado has a historical log of all DL changes that ensures accurate and up to date license status change information.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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 has the appropriate process flow diagrams for the driver data system.

<b>Respondents assigned</b>	7	<b>Responses received</b>	1	<b>Response rate</b>	14.3%
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**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:**

Erroneous documents are voided in the system. Events that trigger changes in license status need to have a well-documented process flow. Events that result in DL suspensions and other license states need to be appropriately documented.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The State has a 'no purge' policy.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

Colorado has a documented flow process that describes how the Express Consent (EC) process works to administratively suspend a license.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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 security measures, such as facial recognition, to help support the identification of licensure fraud.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

Colorado has processes in place, such as anonymous hotlines and auditing, that help reduce internal fraud risks.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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 has an auditing process that enables the detection of CDL fraud and appropriately refers the cases to investigative units.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

Colorado has a very detailed access control procedure that is well documented.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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 control specifications govern many scenarios and cover field-level access control.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>16.7%</b>
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**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 State crash and driver system may not be linked electronically. It would be ideal in the future if the systems could be linked via common identifiers such as DL numbers.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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 State's driver and citation systems are linked via the driver history system.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

After paper and electronic citations are adjudicated, they are linked to the driver system in Colorado via the driver history system.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

Driver's license technicians in Colorado verify information from the PDPS, CDLIS, SSOLV, and SAVE systems.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

Colorado has a very detailed access control procedure that is well documented. The control specifications govern many scenarios and cover field-level access control.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

Colorado has a very detailed access control procedure that is well documented. The control specifications govern many scenarios and cover court-level access control.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

Other States may only access the Colorado driver system through the Problem Driver Pointer System. It would be ideal if States, particularly neighboring ones, had a read-only method of accessing Colorado's driver system. Beyond just driver's history, system level access can help law enforcement in other States.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>3</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

There is no formal data quality management system, but it would be useful for Colorado to look at developing one for the driver system. Such an initiative would give great insight into data accuracy and consistency in Colorado.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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 driver system has edit checks that prevent the system from progressing if data validations are not met.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

The State has established a data import timeliness quality metric that meets its needs. However, other temporal data performance metrics are ideally needed if they do not currently exist.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>50%</b>
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**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:**

The State has established a baseline accuracy performance measure in that the processing personnel manually verify each document. However, automated data analysis needs to exist to determine the effectiveness of those processes.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>50%</b>
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**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 no completeness performance measures. Regular data evaluations may unearth shortcuts that are taken by examiners. For example, Colorado may have an edit check to ensure a city is entered but a monthly report showing 99% of cities entered match an official city list or were longer than X characters would be possible measures to ensure completeness.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>50%</b>
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**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:**

Colorado appears to have input validation measures that ensure consistent and uniform data entered into the systems.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>50%</b>
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**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 no integration performance measures, but such measures would be useful to determine the trends of the system and to ensure continuing system integrity.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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 no accessibility performance measures. Colorado's immediate removal of user access authority addresses system access from a security standpoint.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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 for the performance measures.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Through the use of a secondary evaluations process that results in weekly analysis on an Infractions sheet, Colorado is able to detect and act upon high frequency errors. After error analysis occurs, the associated material, manuals, rules, etc. are updated accordingly.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

Audits are not currently performed on driver report and records. Audits, especially independently performed ones, give insight into the performance of a system. Random sampling of records can help statistically identify anomalies and catch issues that might be hidden to the system.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>50%</b>
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**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:**

Periodic trend analysis of data, across years and jurisdictions, allows for anomalies and patterns to emerge from the system. Colorado is regularly performing these data analyses.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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:**

Colorado has a help desk ticketing system that meets its users' needs for feedback to data collectors and managers.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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**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 STRAC for review.

<b>Respondents assigned</b>	2	<b>Responses received</b>	1	<b>Response rate</b>	50%
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## Roadway

The Colorado Department of Transportation (CDOT) has primarily a legacy roadway information system that does include basic linear referencing methods. However, this system is mainly limited to the State route system in Colorado which consists of approximately 10% of the roadway mileage in the State. The CDOT management has issued a directive that mandates all business systems must use and be able to relate to the CDOT Unified Linear Referencing System (LRS). This is a major step for any State DOT to take and Colorado DOT should be commended for their directive towards consistency and compatibility of systems. However, more work is needed in order to have one fully integrated roadway information system with one compatible LRS.

Currently, two incompatible linear referencing systems are currently used by CDOT. A legacy LRS for State system routes is in place and the CDOT roadway and traffic data can be referenced to State-maintained roadways. A comprehensive LRS has been developed for all public roads and CDOT should be commended for this effort. However, translation between the two systems cannot currently be accomplished and a project is underway to develop this functionality. Once this project is complete in August 2015, the new LRS for all public roads will be further implemented within CDOT. Full integration of the legacy roadway information system with the new LRS for all public roads should be a priority for CDOT.

Colorado DOT has indicated that crash locations can be referenced onto their legacy LRS for State-maintained roads but crash data must be manually incorporated. Once this manual process has taken place, crash data can then be incorporated with roadway data and used extensively for safety analysis and management use. At this time crash data cannot easily be displayed on the new LRS that includes all public roads. As a result, it is very difficult to perform meaningful crash analysis on non-State system roadways. Colorado should work toward fully integrating their crash data system with the new LRS for all public roads.

Colorado DOT has indicated that no process exists for how roadway data is updated in the existing business systems. Many of the individual roadway business systems do have documentation for collecting and editing of data at the system level. However, since no enterprise GIS system is currently in place, procedures and workflows do not currently exist to ensure that changes are reflected as desirable in formal workflows. The implementation of the new system in August 2015 should allow for progress in this area.

Colorado DOT does have a system in place that allows for easy importation of data from local or municipal roadway owners. The CDOT has indicated that no requirements exist for local jurisdictions on the collection or management of roadway data. However, requirements and procedures are in place for how local governments submit this data to CDOT. Local governments and roadway data owners are required to use a web application (WebHUT) that was developed for this process and they must submit the data in a specific schema. The WebHUT application also allows "the local jurisdiction user to access their data, make changes to attribution, upload line work and submit." CDOT should be commended for having developed an application such as WebHUT to facilitate the collection of roadway data from local jurisdictions in a consistent format while providing data ownership functionality to those entities. Colorado should seek to interact with local agencies regarding procedures for the collection or management of the data to further achieve integration and to ensure that once it is submitted, it is also usable by the enterprise system.





Colorado DOT has indicated a thorough awareness of the Model Inventory of Roadway Elements (MIRE). Due to the size of MIRE and the resources it would take to collect all of the roadway data elements in MIRE, FHWA developed a much smaller list of data elements identified as the Fundamental Data Elements (FDEs). A guidance document, the “Fundamental Roadway and Traffic Data Elements to Improve the Highway Safety Improvement Program”, was also developed for State DOTs. The focus has been placed on the collection of the FDEs to ensure that roadway and crash data can be linked to identify and analyze safety issues for the development of data-driven safety projects and programs. Colorado DOT collects all MIRE FDEs for State-maintained and many of the MIRE FDEs are collected on the non-State system roadways as well. Colorado DOT has performed analysis on the roadway data and results indicate that, while many elements do not conform to MIRE, data can be extrapolated to conform to MIRE as needed.

Colorado DOT should look for reasonable opportunities to conform to the MIRE data elements and should also consider expanding the collection of FDEs onto more non-State system roadways, especially since those make up the majority of the roadway system. This would allow CDOT to build on the foundation that is currently in place.

Colorado DOT generally has a poor electronic data dictionary with little information available. While metadata documentation is available, it contains only brief descriptions of data elements. CDOT should consider developing a formal electronic data dictionary that includes all elements, the business rules that apply to the values, data collection standards that apply where appropriate, and procedures for data collection. Many States have developed robust roadway inventory data dictionaries (Wisconsin, Minnesota, Michigan, and Louisiana, for example) and FHWA may be able to assist in helping peer-to-peer support through their Roadway Data Improvement Program.

While Colorado DOT does not currently support a formal data quality control program, a program with robust tools that can perform error and edit checking on roadway data and LRS line work is in place. However, many of the data systems have manual business rules in place that must be run after data is consumed into the systems to identify inconsistencies and are typically run at the time of publication. At this time only one application, the web portal (WebHUT), has automated business rules. The CDOT should consider developing a formal data quality control program that includes automated edit checks and validation rules to be performed as data is added or modified to individual roadway files. The findings from this program, once established, could be shared with the data collectors and used to develop training programs.

Colorado DOT has not established many formal performance measures for their roadway system. Performance measures are useful for establishing goals for data improvement and measuring successes as data improvement projects are implemented. However, performance metrics could be established to capture some of the great accomplishments the CDOT has made, such as Online Transportation Information System (OTIS) (accessibility) and having an LRS for all public roadways (completeness). In other areas performance metrics could be established to help measure critical areas such as data quality and serve to provide focus on areas of need. NHTSA has published the Model Performance Measures for State Traffic Records Systems document that provides guidance in developing performance measures and formal quality control programs. FHWA has also published a guidance document titled Performance Measures for Roadway





Inventory Data. All of these programs could assist Program Managers at CDOT In their data improvement efforts.

**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:**

A comprehensive LRS has been developed for all public roads. The impetus for developing this system was the HPMS requirements associated with the FHWA ARNOLD project. However, while roadway data systems can integrate with the newly developed LRS for all public roads, crash data and the CDOT Traffic Safety data systems have not been integrated with the LRS for all public roads.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

Two referencing systems are currently used by Colorado DOT and they are not compatible. Currently, roadway and traffic data can be referenced to the legacy LRS of State-maintained roadways and can be referenced separately to the new LRS for all public roads. Translation between the two systems cannot currently be accomplished; however, a project is underway to develop this functionality. Once this project is complete in August 2015, the new all roads LRS will be further implemented within all of CDOT.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

The location reference methodology used by CDOT's roadway information business systems is primarily compatible with the legacy LRS for State system roads. Crash data can only be located on State system roadways until the translation project is complete. It appears that the basis for an enterprise roadway data system is in existence but still under development.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

Crash locations are easily referenced onto the CDOT legacy LRS for State-maintained roads. At this time, crash data cannot easily be displayed on the new LRS that includes all public roads. A project is underway that will enable this functionality in the future.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

CDOT has to manually incorporate crash data onto the LRS for State-maintained roadways. It can then be incorporated with roadway data and used extensively for safety analysis and management use.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

Colorado DOT has indicated that all MIRE Fundamental Data Elements are collected for State-maintained roadways which make up approximately 10% of the public roadway mileage. In addition, many of the MIRE FDEs are collected on the non-State system roadways as well.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

Many MIRE elements are collected, beyond the Fundamental Data Elements, on State-maintained roadways. It does not appear that any MIRE elements beyond the FDEs are collected for the non-system roadways. CDOT has performed analysis on the roadway data and results indicate that, while many elements do not conform to MIRE, data can be extrapolated to conform to MIRE as needed.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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 Data Dictionary does not document elements as being specific to MIRE. One would have to review the data dictionary and the list of MIRE elements in order to determine the relationship.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

While the Colorado DOT does have meta data that also serves as a data dictionary, the data dictionary does not contain details regarding MIRE elements. The data dictionary contains brief information explaining the "fields, data types, domains and a description of what the data represents."

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

All data from local and municipal sources comply with the data dictionary in the sense that all data submissions are required to meet a specific data schema.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

No formal procedures exist for updating the metadata that is referenced as the data dictionary.

<b>Respondents assigned</b>	2	<b>Responses received</b>	2	<b>Response rate</b>	100%
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**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:**

While there is no formal or documented process in existence for adding a new roadway information element, an informal but valuable process is in place. When there is a business reason to add or change a roadway element, the group responsible will meet with all potentially affected units and identify any impacts of the change.

<b>Respondents assigned</b>	2	<b>Responses received</b>	2	<b>Response rate</b>	100%
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**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:**

Colorado DOT has indicated that no process exists for how roadway data is updated in the business systems. Many of the individual roadway business systems do have documentation for collecting and editing data at the system level. However, since no enterprise GIS system is currently in place, procedures and workflows do not currently exist to ensure that changes are reflected as desirable in formal workflows. The implementation of the new system in August of 2015 should allow for progress in this area.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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 steps for archiving roadway information have not been documented. Annual snapshots are taken on a fiscal year basis. No evidence of a formal or documented process or information on the accessibility of archived data was available.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

No requirements exist for the local jurisdictions on the collection or management of roadway data. However, requirements and procedures are in place for how local governments submit this data to CDOT. Local governments and roadway owners are required to use a web application (WebHUT) that was developed for this process and they must submit the data in a specific schema. The WebHUT application also allows "the local jurisdiction user to access their data, make changes to attribution, upload linework, and submit." CDOT should be commended for having developed an application such as WebHUT to facilitate the collection of roadway data from local jurisdictions in a consistent format while providing data ownership functionality to those entities.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

Requirements exist regarding the submission of data from local agencies. By controlling the submission process, the data submitted complies with a schema that is compatible with the CDOT roadway inventory. CDOT does not interact with local agencies regarding procedures for the collection or management of the data, the focus is on the submitted data fitting a desired schema.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

The Colorado DOT has several guidelines in place that provide control of how the roadway data is collected for the State system of roadways. The ideal system would have a guideline for collection of data elements as they are described in the State roadway inventory data dictionary.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

The Colorado DOT management has issued a directive that mandates all business systems must use and be able to relate to the CDOT Unified LRS. This is a major step for any State DOT to take and CDOT should be commended for their directive towards consistency and compatibility of systems. However, the CDOT Unified LRS is for State-maintained roadways only and is landmark-based which is not compliant with the LRS developed for all public roads which is length-based and meets MAP-21 requirements. The CDOT roadway management system project will be complete in August of 2015 and at that time all LRS editing will take place in the new system; however, it is anticipated that the legacy system will be supported for a period of time and translations will need to take place between the two systems.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

CDOT has established that each discrete roadway business system shall use the same location referencing methodology and be compatible with the LRS for State-maintained roadways. This allows for data to be manually imported into a GIS platform. Once data is in GIS it can be queried and manipulated in order to combine roadway data for simple analytic purposes. However, there are currently no interface linkages between different systems. Linkage can only be provided manually.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

Colorado DOT has two LRS systems in place currently. One for State-maintained roadways and a separate one that covers all public roadways. The two CDOT linear referencing systems are not compatible; however, data can be translated between the two systems. In addition, several regional or municipal entities may have their own LRS that may or may not be compliant with the two Colorado DOT linear referencing systems.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

Roadway data systems maintained by local custodians can submit data to the Colorado DOT enterprise roadway information system. This is achieved through the CDOT web application WebHUT. However, local custodians of data systems cannot truly interface with the CDOT systems. There is not a high degree of interoperability in place, for example, and the interactions are not seamless. Traffic volume data collected by local governments, for example, appears to have a different schema and does not allow for easy use of the data.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

CDOT has a public-facing web portal, the Online Transportation Information System (OTIS). This site appears to be a robust GIS-based portal that allows the public and local governments to access a variety of roadway and other information. Local governments are also able to download any of the data from CDOT and incorporate it into their own systems if they choose.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>50%</b>
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**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:**

Data system managers use domains and business rules to aid in data quality control in an effort to endure that only valid data is entered into the systems. However, most of the processes must be manually triggered and may be done so at the time of data publication. Errors identified are sent to the person responsible for correction. At this time, only one application, the web portal (WebHUT) has automated business rules.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

Colorado DOT does appear to have a program with robust tools that can perform error and edit checking on roadway data and LRS linework. However, many of the data systems have manual business rules in place that must be run after data is consumed into the systems to identify data inconsistencies.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

No procedures are in place that would provide guidance on how to handle errors once they are found. Informal procedures are in place to ensure that LRS errors are fixed immediately once found. Other errors may be fixed as they are found but are not prioritized.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

Data collectors receive no feedback or training as a result of the data quality control efforts that take place.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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 Colorado DOT has not established any performance measures for the roadway information system. Many of the performance metrics could be established to capture some of the great accomplishments the CDOT has made, such as OTIS (accessibility) and having an LRS for all public roadways (completeness).

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

Performance measures have not been established for any part of the roadway information system as it relates to non-State maintained roadways. Some submittal dates for local data reporting have been established. Local governments are required to submit data to Colorado DOT by February 1 of each year, for the previous calendar year.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

There are no performance measures for accuracy on State roads.

<b>Respondents assigned</b>	2	<b>Responses received</b>	2	<b>Response rate</b>	100%
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**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:**

Performance measures have not been established for any part of the roadway information system as it relates to non-State maintained roadways. While no metric has been established, when discrepancies are found in data submitted by local jurisdictions, a field validation of the roadway and data is completed if resources allow.

<b>Respondents assigned</b>	2	<b>Responses received</b>	2	<b>Response rate</b>	100%
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**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 Colorado DOT has not established any performance measures for completeness for the roadway information system.

<b>Respondents assigned</b>	2	<b>Responses received</b>	2	<b>Response rate</b>	100%
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**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 are no performance measures for completeness on local roads.

<b>Respondents assigned</b>	2	<b>Responses received</b>	2	<b>Response rate</b>	100%
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**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 Colorado DOT has not established any uniformity performance metrics for the roadway information system. The respondent has asked for more information regarding the area of uniformity as it relates to roadway databases.

<b>Respondents assigned</b>	2	<b>Responses received</b>	2	<b>Response rate</b>	100%
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**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 are no performance measures for uniformity on local roads.

<b>Respondents assigned</b>	2	<b>Responses received</b>	2	<b>Response rate</b>	100%
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**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:**

Performance measures have not been established for any part of the roadway information system as it relates to State-maintained roadways. However, Colorado DOT should be commended for providing a great web portal such as OTIS. This web system makes a tremendous amount of data accessible to the public.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

Performance measures have not been established for any part of the roadway information system as it relates to non-State maintained roadways. However, Colorado DOT should be commended for providing a great web portal such as OTIS. This web system makes a tremendous amount of data accessible to the public.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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:**

There are no performance measures for integration of roadway Information with other critical data systems.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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**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 are no performance measures for integration of roadway information captured by locals with other critical data systems.

<b>Respondents assigned</b>	<b>2</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>100%</b>
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## Citation / Adjudication

Colorado offers two separate court systems for State courts and municipal courts. Without all of the State and municipal courts being unified, it is difficult to gain a perspective related to traffic activity and enforcement at a Statewide level. There is a data standard established and published for local courts to follow although it appears to need updated. National standards are not currently being used throughout the citation and adjudication systems. The implementation of those standards throughout these systems would allow for the integration and sharing of data not only within the State, but nationally as well. The adjudication data is shared with the driver file in order to post convictions on the driver history through a National Information Exchange Model (NIEM)-compliant XML. The municipal courts must file these via paper format which could lead to violations not being reported. Electronic transfers of disposition data from all jurisdictions would benefit not only the timeliness of disposition data entered, but also the completeness and accuracy of the record.

Documentation appears to be in good order, with appropriate data dictionaries, security protocols, training materials, and other documentation. While not all national standards are observed, standards have been utilized in some cases. Similarly, while some performance measures are lacking, some have been implemented. The traffic safety analysis function does not appear to be well supported.

Colorado does not have a unique citation number used throughout the State. There is no central authority on the number and format of the traffic citation. The establishment of a unique citation number and uniform traffic citation assists in implementing, sharing, and utilizing a Statewide system. The ability to track a citation from issuance to disposition is an important feature of a citation tracking system. This will allow the State to set performance measures at a State level showing gaps in dispositions reported or even citations that had not made it to the court records.

Colorado has also been appropriately engaged in impaired driver tracking, and appears to effectively track impaired driver elements such as blood alcohol concentration (BAC) and drug testing results through the Colorado Department of Revenue (CDOR) administrative process.

While the citation and adjudication systems appear to be complete and address the complete set of functions outlined in the Advisory, the implementation of the new system should help with efficiency. There are numerous opportunities to increase the utilization of national standards for data exchange, develop additional quality metrics, and develop a complete citation tracking system to ensure overall integrity of the citation/adjudication process.





**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:**

The State has a real-time system that provides both driving history and criminal history information to law enforcement.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>16.7%</b>
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**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 State's law enforcement agencies, parole agencies, probation agencies, and courts have a real-time system which provides the necessary parties with access to both driving and criminal histories.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>16.7%</b>
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**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:**

No specific State agency has been given authority to assign unique citation numbers.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>3</b>	<b>Response rate</b>	<b>50%</b>
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**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:**

There is no Statewide system that tracks the dispositions of municipal citations. The Judicial Department does send its dispositions to the DMV.

<b>Respondents assigned</b>	<b>7</b>	<b>Responses received</b>	<b>4</b>	<b>Response rate</b>	<b>57.1%</b>
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**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:**

The State was unable to demonstrate that all final dispositions are posted to the driver file.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

The State has two case management systems. The first manages the State courts and the other is operational in only two of the municipal courts.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>3</b>	<b>Response rate</b>	<b>50%</b>
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**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:**

Law enforcement analyzes citation data to develop traffic safety analysis plans. This data is used to identify problem locations, areas, problem drivers, and issues related to the issuance of citations or prosecution of offenders. The law enforcement agencies currently do not utilize adjudication data in the development of traffic safety plans.

<b>Respondents assigned</b>	6	<b>Responses received</b>	4	<b>Response rate</b>	66.7%
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**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:**

The State adjudication system adheres to the NCIC guidelines. The State did not provide any indication if the citation system does as well.

<b>Respondents assigned</b>	4	<b>Responses received</b>	2	<b>Response rate</b>	50%
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**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:**

The Aurora Police Department is the only agency in the State that is currently compliant with the Uniform Crime Reporting Program guidelines.

<b>Respondents assigned</b>	<b>4</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>50%</b>
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**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:**

Only the Aurora Police Department adheres to the National Incident Based Reporting System guidelines.

<b>Respondents assigned</b>	<b>4</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>50%</b>
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**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:**

The Aurora Police Department adheres to the National Law Enforcement Telecommunications System guidelines.

<b>Respondents assigned</b>	4	<b>Responses received</b>	2	<b>Response rate</b>	50%
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**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:**

The appropriate portions of the citation and adjudication systems do not adhere to the National Law Enforcement Information Network (LEIN) guidelines.

<b>Respondents assigned</b>	4	<b>Responses received</b>	2	<b>Response rate</b>	50%
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**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:**

The appropriate portions of the citation and adjudication systems do not adhere to the Functional Requirement Standards for Traffic Court Case Management.

<b>Respondents assigned</b>	4	<b>Responses received</b>	2	<b>Response rate</b>	50%
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**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's citation and adjudication systems adhere to the NIEM Justice domain guidelines.

<b>Respondents assigned</b>	4	<b>Responses received</b>	1	<b>Response rate</b>	25%
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**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 is currently developing a new case management system that will utilize the National Center for State Court's (NCSC) guidelines for court records.

<b>Respondents assigned</b>	4	<b>Responses received</b>	2	<b>Response rate</b>	50%
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**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:**

The State follows the NCSC guidelines instead of the Global Justice Reference Architecture.

<b>Respondents assigned</b>	4	<b>Responses received</b>	2	<b>Response rate</b>	50%
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**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 does not have an impaired driving data tracking system that meets the specifications of NHTSA's Model Impaired Driving Records Information System.

<b>Respondents assigned</b>	4	<b>Responses received</b>	2	<b>Response rate</b>	50%
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**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:**

The State's citation system does utilize a data dictionary.

<b>Respondents assigned</b>	3	<b>Responses received</b>	1	<b>Response rate</b>	33.3%
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**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 State's citation data dictionary clearly defines all of the data fields.

<b>Respondents assigned</b>	3	<b>Responses received</b>	1	<b>Response rate</b>	33.3%
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**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 only data dictionary that is used is the one published by the State Judicial agency. There was no evidence provided to indicate how it is kept up to date or documentation regarding data collection manuals, training manuals and coding manuals.

<b>Respondents assigned</b>	3	<b>Responses received</b>	2	<b>Response rate</b>	66.7%
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**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 State was unable to indicate the data fields that are populated through interface linkages with other traffic records system components.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

State and municipal courts use different systems and have different data dictionaries. The Colorado State Judicial Department maintains a dictionary, but supporting documentation was not available for review.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

The State courts' current case management system data dictionary does not clearly define all data fields.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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 State courts' current case management system data dictionary does not indicate the data fields populated through interface linkages with other traffic records system components.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

The judicial department does interface with the prosecutors' systems but no data dictionary was available.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

The State cannot track citations from point of issuance to posting to the driver file because there is not a citation system that interfaces between all ticketing agencies, judicial branch, and the DMV.

<b>Respondents assigned</b>	<b>4</b>	<b>Responses received</b>	<b>3</b>	<b>Response rate</b>	<b>75%</b>
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**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 does measure compliance with the process outlined in the citation lifecycle flow chart.

<b>Respondents assigned</b>	4	<b>Responses received</b>	1	<b>Response rate</b>	25%
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**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 is able to track DUI citations through the CDOR administrative process.

<b>Respondents assigned</b>	4	<b>Responses received</b>	1	<b>Response rate</b>	25%
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**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:**

The State, through the CDOR administrative process, can track DUIs as well as any BAC or drug testing result.

<b>Respondents assigned</b>	4	<b>Responses received</b>	1	<b>Response rate</b>	25%
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**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 has a system for tracking administrative driver penalties and sanctions both manually or in electronic format.

<b>Respondents assigned</b>	4	<b>Responses received</b>	1	<b>Response rate</b>	25%
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**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:**

The State has a system for tracking traffic citations for juvenile offenders just as it does for adults. All minor driver convictions in the Driver License System automatically apply the appropriate minor driver sanction. The driver history is maintained from minor to adult license. However, the State was unable to provide a flow chart documenting the process for minor offenders.

<b>Respondents assigned</b>	4	<b>Responses received</b>	2	<b>Response rate</b>	50%
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**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:**

The State does distinguish between the administrative handling of court payments in lieu of court appearances (mail-ins) and court appearances through the DMV, however no documentation was available.

<b>Respondents assigned</b>	4	<b>Responses received</b>	2	<b>Response rate</b>	50%
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**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 Judicial Department tracks deferral and dismissal information but no supporting documentation was available.

<b>Respondents assigned</b>	4	<b>Responses received</b>	2	<b>Response rate</b>	50%
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**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 CDOR has a specific statutory provision that addresses criteria for deferring or dismissing traffic citations.

<b>Respondents assigned</b>	4	<b>Responses received</b>	1	<b>Response rate</b>	25%
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**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 Judicial Department purges paper records in accordance with their records retention policy. It is unclear if the timing, conditions, and procedures are documented.

<b>Respondents assigned</b>	4	<b>Responses received</b>	2	<b>Response rate</b>	50%
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**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 State, under CRS 42-1-206, has identified security protocols governing data access, modification, and release of official documents.

<b>Respondents assigned</b>	4	<b>Responses received</b>	1	<b>Response rate</b>	25%
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**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 State's citation data is automatically linked with the driver system to collect driver information, carry out administrative actions, and determine the applicable charges.

<b>Respondents assigned</b>	3	<b>Responses received</b>	1	<b>Response rate</b>	33.3%
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**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:**

The State's adjudication data is linked with the driver system to collect certified driver records and administrative actions and post them to the driver file.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

The State's citation data is not linked with the vehicle file.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

The State's adjudication data is not linked with the vehicle file.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

The State does not link citation data with the crash file to document violations.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

The State does not link adjudication data with the crash file in order to document violations and charges.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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 State does not have a set of established performance measures to track the timeliness of the citation system.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

The State does not have a set of established performance measures to track the accuracy of the citation system.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

The State does not have a set of established performance measures to track the completeness of the citation system.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

The State does not have an established set of performance measures to track the uniformity of the citation system.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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 State does not have an established set of performance measures for integration for the citation system.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

The State does not have an established set of performance measures to track accessibility of the citation system.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

The State has a set of established performance measures to track the timeliness of the adjudication system and these measures are reviewed periodically.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

Audits are performed on the data entered in the adjudication system, although it is unclear exactly what is being audited for accuracy purposes.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

The State has a timeliness performance measure although did not discuss a performance measure for completeness.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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:**

The State maintains a case management system that is audited for accuracy of inbound and outbound data. It was unclear how the State measures integration.

<b>Respondents assigned</b>	<b>3</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>66.7%</b>
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**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 State does not have a designated agency responsible for the issuance of unique citation numbers.

<b>Respondents assigned</b>	7	<b>Responses received</b>	4	<b>Response rate</b>	57.1%
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**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:**

The State's DUI tracking systems ends with CDOR. Once the DUI is listed in the CDOR system, no additional quality control procedures are in place to ensure the accuracy and timeliness of the data.

<b>Respondents assigned</b>	3	<b>Responses received</b>	2	<b>Response rate</b>	66.7%
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## EMS / Injury Surveillance

Colorado maintains the core components of a Statewide injury surveillance system. These include the Colorado EMS information system, the State Trauma Registry, and the Statewide death certificate database, all collected by the Colorado Department of Public Health and Environment (CDPHE), and the hospital inpatient and emergency department databases collected by the Colorado Hospital Association (CHA). In addition to the core components, Colorado utilizes medical examiner data to supplement the FARS data, the State's Violent Death Reporting System, and other State data systems.

### Colorado EMS Information System

The Colorado EMS Information System (CEMSIS) is NEMSIS-compliant, collecting only the National Elements subset of sixty-seven data elements as required by Colorado law. CEMSIS accepts only electronic records submitted via a State-approved NEMSIS-compliant third party vendor or directly to the State via State-supported software. Approximately 43% of the State's EMS agencies submit through the State-supported software. Agencies may capture patient care information on paper but must submit to the State via an electronic XML upload process. Clinical Data Management is responsible for the data checks and validations upon data entry. The data checks include missing data, invalid codes, and logical issues; edit alerts are triggered upon saving the record and fields must be corrected prior to submission to the State. Quarterly completion reports are distributed to the individual agencies to review and verify the information as well as to the regional coordinators. The State has established numeric goals for completeness, timeliness, and uniformity; the measures inform future system improvements.

CEMSIS data is used by State and regional advisory councils for problem identification and program evaluation. The collection of the minimal data elements limits the use of the EMS data for traffic safety activities. EMS data is available to researchers in both a non-confidential format and at the case-level; both require completion of a data access form. Requestors applying for case-level data must have Institutional Review Board (IRB) approval as applicable and sign additional data security and confidentiality contracts. EMS data quality reports are not shared with the Traffic Records Coordinating Committee (TRCC).

### Colorado Hospital Discharge and Emergency Department Data

The Colorado Hospital Association (CHA) is the entity responsible for the collection and maintenance of the State's hospital discharge data and emergency department data. The CHA maintains documentation for the edit checks and validation rules that happen at the provider level for the hospital discharge and emergency department data as well as documentation for additional edit checks and validations performed on the hospital discharge data once it is received by the CHA. The Colorado Department of Public Health and Environment (CDPHE) must purchase the databases from the CHA and therefore does not have the authority to institute performance measures to assess the quality of the data nor does the CDPHE conduct its own quality reviews or comparative analyses of the data. There are two limitations with regard to injury records: the data is missing external cause of injury codes (E-code) on an estimated twelve percent of the records and injury severity categorizations cannot be applied.

The CDPHE uses the hospital discharge data and emergency department data to assist the





Colorado Department of Transportation in traffic safety problem identification as well as for its own reports on the state of injuries in Colorado.

### State Trauma Registry

The CDPHE maintains an established trauma registry that utilizes the same vendor as CEMSI and follows the same process when submitting data to the State registry. All hospitals with a trauma facility designation are required to participate in the trauma registry. Data is validated upon entry; missing data, invalid codes, and logical issues can trigger an edit alert. Records failing the edit and validation checks will not be exported for submission; users must correct the data for successful submission to the State Registry. Data quality feedback is provided to trauma facilities as an annual frequency distribution so the facilities may review and compare certain measures to Statewide metrics and metrics from similar facility levels.

Abbreviated Injury Scale (AIS) and Injury Severity Score (ISS) are available within the trauma registry. The State maintains a data dictionary and formal documentation for the collection, maintenance, and management of the trauma registry.

Trauma center hospitals use the trauma data for injury prevention activities and the CDPHE has used trauma registry data for select studies as well as for problem identification, program evaluation, and resource allocation. Trauma registry data is available to researchers in both a non-confidential format and at the case-level; both require completion of a data access form. Requestors applying for case-level data must have IRB approval as applicable and sign additional data security and confidentiality contracts as well.

### Death Certificate Database

Information regarding deaths is collected by the CDPHE. The coding and editing of death certificate data closely follow procedures developed by the National Center for Health Statistics (NCHS). Quality control reviews are conducted bi-weekly, monthly, and annually by CDPHE and NCHS. Two data dictionaries are maintained, one for statistical files and another for the master death file. Death certificate data has been linked with FARS to improve the coding for fatal motor vehicle crashes. Death certificate data is queryable via the Colorado Health Information Dataset website and is used to create Statewide injury related reports. Death certificate data is accessible to researchers via the Colorado Data Request System. Data quality reports are not produced and made available to the TRCC.

### Strengths

Colorado maintains the core components of a robust injury surveillance system and has the potential to conduct comprehensive analyses on the state of injuries in Colorado and specifically traffic safety issues. The disparate systems are used internally for problem identification and program evaluation as well as made available to outside entities for analysis. In 2007 a feasibility study to create an integrated data system was done. The study addressed the difficulties and limitations of the linkage and made recommendations to improve the linkage. In the years since the study was conducted, the data systems have matured, the collection of emergency department data has been established, and data quality metrics have been instituted for some of the data systems.





## Opportunities

- Revisit the 2007 data integration study (Linking Traffic Accident Information to Public Health Data); use the results to inform system changes (collection of more or improved quality variables) and build an integrated traffic safety database.
- Work with the Colorado Hospital Association and the Colorado Health Information Management Association to determine the feasibility of collecting external cause of injury for all injury records.
- Work with the vendor of CEMSIS and the trauma registry to implement an interface between the two systems.
- As CEMSIS migrates to NEMSIS v3, consider collecting additional variables beyond the current sixty-seven to improve the usefulness of the data and its ability to be integrated with the other injury surveillance data systems.
- Develop performance measures related to timeliness, accuracy, completeness, uniformity, integration, and accessibility as applicable for the data systems described in this section. The following data systems should develop performance measures as follows:
  - EMS: Accuracy, integration, accessibility
  - Emergency Department and Hospital Discharge: Integration
- Develop data quality management reports for each of the systems described in this section and share the reports 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.

#### Assessor conclusions:

A limited version of EMS data is available.



**Question Rank:**  
Very Important

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

The State receives the emergency department data from the Colorado Hospital Association.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The State receives the hospital discharge data that is collected by the Colorado Hospital Association.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

The State injury surveillance system does include trauma registry data.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

Colorado's injury surveillance system does not include rehabilitation data.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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 State vital records death data is part of the injury surveillance system.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

The State medical examiner reports are used to supplement the FARS system, the CDC's Motor Vehicle PICCS (Prioritizing Interventions and Cost Calculator for States), the State's Violent Death Reporting System, and other systems.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

The State EMS data includes information (primary impression, cause of injury) on persons involved in motor vehicle crashes but not level of injury severity which can be found in the trauma registry data.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

The State emergency department data provides a principal diagnosis (nature of injury) and 86-89% of the records contain an external cause of injury code, identifying if the external cause was MV related. Injury severity scores (AIS, ISS) are not part of the emergency department data.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>40%</b>
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**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:**

The State hospital discharge data contains a primary diagnosis (nature of injury) and 86-89% of the records contain an external cause of injury code. The hospital discharge data does not contain any injury severity scores.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>40%</b>
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**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 State indicated that trauma registry data does track the frequency, severity, and nature of injuries sustained in motor vehicle crashes, but supporting documentation was not available for review.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>40%</b>
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**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 State vital records data tracks the frequency and nature of injuries sustained in motor vehicle crashes.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>40%</b>
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**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:**

The State EMS data is used by the regional Emergency Medical and Trauma Advisory Councils to identify problems, evaluate programs, and allocate resources.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>40%</b>
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**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:**

The State emergency department data is available for analysis, and is used to identify problems, evaluate programs, and allocate resources.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>40%</b>
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**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:**

The State hospital discharge data is available for analysis and used to identify problems, evaluate programs, and allocate resources.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>40%</b>
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**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:**

The State trauma registry data is used by trauma program managers to identify problems, evaluate programs, and allocate resources.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>40%</b>
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**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:**

The State vital records data is available and is used to identify problems, evaluation programs, and allocate resources.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

The State has a NEMSIS-compliant Statewide database.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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 State's emergency department and hospital discharge data conform to the most recent uniform billing standard.

<b>Respondents assigned</b>	5	<b>Responses received</b>	1	<b>Response rate</b>	20%
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**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:**

The State trauma registry database adheres to the National Trauma Data Standards.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

The State indicates that Abbreviated Injury Scale (AIS) and Injury Severity Scores (ISS) are not derived from the State emergency department and hospital discharge data for injury patients.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

The State indicates that Abbreviated Injury Scale (AIS) and Injury Severity Scores (ISS) are derived from the State trauma registry for motor vehicle crash patients. The State has reportedly used ISS for unrestrained children involved in motor vehicle crashes, but supporting documentation was not available for review.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

The Glasgow Coma Score can be calculated by 95 of the 220 EMS transport agencies based on their use of the State-supported software. However, this is not a comprehensive collection of GCS data.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

The State indicates that the trauma registry does collect the Glasgow Coma Scale (GCS) data for motor vehicle crash patients, but supporting documentation was not available for review.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>40%</b>
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**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:**

The State complies with HIPAA guidelines and has State laws preventing the public identification of facilities. A listing of the applicable statutes and interpretive guidelines for public health were available.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>40%</b>
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**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:**

The NEMSIS data dictionary is the formal data dictionary used by the State's EMS providers.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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 State does not maintain formal documentation that provides a summary dataset and the process for data collection, management, and maintenance.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

The State maintains a formal data dictionary for the emergency department data.

<b>Respondents assigned</b>	5	<b>Responses received</b>	1	<b>Response rate</b>	20%
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**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:**

The State does not have formal documentation - summary dataset, data collection, management, maintenance processes - for the emergency department data.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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 a formal data dictionary for the hospital discharge data.

<b>Respondents assigned</b>	5	<b>Responses received</b>	1	<b>Response rate</b>	20%
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**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:**

The State does not have formal documentation - summary dataset, data collection, management, maintenance processes - for the hospital discharge data.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The State trauma registry has a formal data dictionary.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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 State trauma registry dataset has formal documentation that provides a summary dataset and describes data collection, management, and maintenance.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

The State vital records system has a formal data dictionary.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

The State does not have formal documentation providing a summary dataset and the process for the collection, management, and maintenance of the data.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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 State identifies the Health Facilities Emergency Medical Services division of the Department of Public Health as the manager of the Statewide EMS reporting system.

<b>Respondents assigned</b>	5	<b>Responses received</b>	1	<b>Response rate</b>	20%
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**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:**

The Colorado Hospital Association is the entity responsible for the collection and maintenance of the Statewide emergency department data.

<b>Respondents assigned</b>	5	<b>Responses received</b>	1	<b>Response rate</b>	20%
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**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:**

The Colorado Hospital Association is the entity responsible for the collection and maintenance of the hospital discharge data.

<b>Respondents assigned</b>	5	<b>Responses received</b>	1	<b>Response rate</b>	20%
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**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:**

The State maintains a process flow diagram that outlines the EMS system's key data process flows, including inputs from other systems.

<b>Respondents assigned</b>	6	<b>Responses received</b>	3	<b>Response rate</b>	50%
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**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 State indicates that there is not a process flow diagram that outlines the emergency department's key data process flows.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The State indicates that there is not a process flow diagram that outlines the hospital discharge system's key data process flows.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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 indicates that there is not a process flow diagram that outlines the trauma registry's key data process flows. However, a narrative was provided.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

The State has documented procedures describing how paper and electronic EMS filings of patient care records are managed. Patient care information captured in a paper format must be converted to an electronic format prior to submittal.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>20%</b>
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**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:**

The State indicates that the collection, editing, and error checking of emergency department and hospital discharge data is done by the State hospital association and describes the processes used and their limitations (lack of external cause of injury coding).

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>20%</b>
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**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 State described their process for the collection and submission of trauma data and how and when the data is validated. Trauma centers use Clinical Data Management, submitting to CDM which then submit data to CDPHE. Centers not using CDM as a vendor submit data directly to the registry on a monthly basis and only those required variables as listed in the data dictionary. The State provided details regarding the edit and error-checking process, including that if a record fails the process, it must be corrected and pass the edit and error-checking process before being accepted at the State level. Feedback is provided to the submitting entities in the form of an annual frequency distribution so the entities may review their data and compare certain measures to Statewide metrics and metrics from similar levels.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>3</b>	<b>Response rate</b>	<b>50%</b>
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**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 State has standard policies and practices governing the collection, editing/modification/error-checking, and submission of data to Colorado Department of Public Health and Environment and by the CDPHE to the CDC.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>40%</b>
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**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:**

There are undocumented procedures for returning data to the EMS agencies for quality improvement and assurance. However, the State describes quarterly completion reports distributed to EMS agencies for data verification, but supporting documentation for correction and re-submission was not available for review.

<b>Respondents assigned</b>	6	<b>Responses received</b>	3	<b>Response rate</b>	50%
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**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:**

The State does not have documented procedures for returning data to the reporting emergency departments for quality assurance and improvement.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The State indicates that the Colorado Hospital Association would have procedures for returning hospital discharge data to the reporting hospitals for quality assurance and improvement, but supporting documentation was not available for review.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

Trauma data frequency distributions are sent annually to trauma facilities for quality assurance, comparison, and trend analysis purposes. Trauma records cannot be submitted unless all fields pass the edit and error-checks.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>3</b>	<b>Response rate</b>	<b>50%</b>
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**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 State indicates that there are procedures in place for returning data to the reporting vital records agency for quality assurance and improvement.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>40%</b>
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**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:**

The State indicates that aggregate EMS data is available to outside parties based on individual data requests.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>40%</b>
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**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:**

The State indicates that aggregate emergency department data is available to outside parties for analytic purposes.

<b>Respondents assigned</b>	5	<b>Responses received</b>	1	<b>Response rate</b>	20%
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**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:**

The State indicates that aggregate hospital discharge data is available to outside parties for analytic purposes.

<b>Respondents assigned</b>	5	<b>Responses received</b>	1	<b>Response rate</b>	20%
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**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 State indicates that aggregate trauma data is available to outside parties.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

Vital records data is available to outside parties.

<b>Respondents assigned</b>	5	<b>Responses received</b>	1	<b>Response rate</b>	20%
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**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:**

There is not an interface between the EMS data system and the emergency department and hospital discharge data systems.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

The State does not have an interface between the EMS data system and the trauma registry data system.

<b>Respondents assigned</b>	6	<b>Responses received</b>	3	<b>Response rate</b>	50%
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**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:**

The State does not have an interface between the vital records data system and the hospital discharge data system.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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 State indicates that there are 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.

<b>Respondents assigned</b>	6	<b>Responses received</b>	3	<b>Response rate</b>	50%
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**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:**

The State indicates that there 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 but that typically the originating entity would be asked to correct the identified errors.

<b>Respondents assigned</b>	5	<b>Responses received</b>	1	<b>Response rate</b>	20%
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**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:**

The State does not have formally documented processes for returning rejected EMS patient care reports to the collecting entity and tracking re-submission to the Statewide EMS database. Rather the State has an informal email or phone communication process.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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 has well-defined and monitored performance measures for the timeliness of EMS data.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

The State indicates that there are accuracy performance measures tailored to the needs of EMS system managers and data users. System generated quality reports show accuracy as well as average accuracy among all systems. However, there do not appear to be predetermined performance measures against which progress can be measured.

<b>Respondents assigned</b>	6	<b>Responses received</b>	3	<b>Response rate</b>	50%
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**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:**

The State indicates that there are completeness performance measures tailored to the needs of EMS system managers and data users. Annual improvement in the number of entities submitting to the Statewide repository is tracked and the measures inform system improvements.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>20%</b>
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**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:**

The State's EMS data system has uniformity performance measures. The goal of 98.8% uniformity was met in 2010 and has been maintained ever since.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>20%</b>
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**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:**

The State indicates that there are integration performance measures tailored to the needs of EMS system managers and data users, but it is unclear what other data to which the EMS data is linked/integrated and supporting documentation was not available for review.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>40%</b>
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**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:**

The State indicates that there are accessibility performance measures tailored to the needs of EMS system managers and data users, but supporting documentation was not available for review.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>3</b>	<b>Response rate</b>	<b>50%</b>
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**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:**

The State reports that it has established numeric goals for three of the EMS system performance measures: completeness, timeliness, and uniformity. Accuracy, integration, and accessibility have not been assigned numeric goals.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>3</b>	<b>Response rate</b>	<b>50%</b>
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**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:**

The State does not provide performance reporting or feedback on timeliness, accuracy, and completeness to the submitting entities. This task is left up to the individual agencies. Agency administrators can assess completeness, timeliness, and accuracy.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>3</b>	<b>Response rate</b>	<b>50%</b>
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**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:**

The State indicates that high frequency errors are used to update EMS system training content and places a high level of importance on this. High frequency errors are used to inform data collection manuals and validation rules as well, but supporting documentation was not available for review.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>3</b>	<b>Response rate</b>	<b>50%</b>
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**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:**

Quality control reviews are conducted to ensure completeness of the EMS system, but supporting documentation was not available for review. The State's response did not address accuracy or uniformity.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>3</b>	<b>Response rate</b>	<b>50%</b>
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**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:**

Periodic comparative and trend analyses are used to identify unexplained differences in the EMS data across years and agencies. Limited resources prevent more frequent comparative and trend analyses of EMS data.

<b>Respondents assigned</b>	5	<b>Responses received</b>	1	<b>Response rate</b>	20%
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**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:**

Periodic comparative and trend analyses are used to identify unexplained differences in the EMS data across years and agencies. Limited resources prevent more frequent comparative and trend analyses of EMS data.

<b>Respondents assigned</b>	6	<b>Responses received</b>	3	<b>Response rate</b>	50%
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**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:**

EMS data quality management reports are not produced regularly and made available to the State TRCC.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>40%</b>
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**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:**

The State purchases the emergency department and hospital discharge data from the Colorado Hospital Association (CHA). The CHA maintains the documentation for edit checks and validation rules that happen at the hospital (emergency department and hospital discharge data) and CHA levels (hospital discharge only) and that supporting documentation was not available for review.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

The State does not have authority to correct data errors in the emergency department and hospital discharge databases.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The State purchases the emergency department and hospital discharge data from the Colorado Hospital Association and does not have access to the processes and procedures of the CHA.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The emergency department and hospital discharge data are purchased from the Colorado Hospital Association. The State does not have the authority to institute timeliness performance measures tailored to the needs of emergency department and hospital discharge database managers and data users.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

The emergency department and hospital discharge data are purchased from the Colorado Hospital Association. The State does not have the authority to institute accuracy performance measures tailored to the needs of emergency department and hospital discharge database managers and data users.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The emergency department and hospital discharge data are purchased from the Colorado Hospital Association. The State does not have the authority to institute completeness performance measures tailored to the needs of emergency department and hospital discharge database managers and data users.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The emergency department and hospital discharge data are purchased from the Colorado Hospital Association. The State does not have the authority to institute uniformity performance measures tailored to the needs of emergency department and hospital discharge database managers and data users.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The State does not have integration performance measures tailored to the needs of emergency department and hospital discharge database managers and data users.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The emergency department and hospital discharge data are purchased from the Colorado Hospital Association. The State does not have the authority to institute accessibility performance measures tailored to the needs of emergency department and hospital discharge database managers and data users.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

The emergency department and hospital discharge data are purchased from the Colorado Hospital Association. The State does not have the authority to establish numeric goals for each performance measure.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The emergency department and hospital discharge data are purchased from the Colorado Hospital Association. The State is not involved in any performance reporting or feedback to the submitting entities.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The emergency department and hospital discharge data are purchased from the Colorado Hospital Association. The State can make note of any errors in the data but is not involved in identifying high frequency errors or using those errors to inform training content.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The State does not conduct regular data quality reviews on the emergency department and hospital discharge data as the two databases are purchased from the Colorado Hospital Association. The State does conduct in-depth periodic data quality reviews on specific data quality issues. The results of these periodic reviews are presented to the CHA and the Colorado Health Information Management Association.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

When CDPHE purchases the emergency department and hospital discharge data, the CHA includes an analysis of monthly reporting by hospital and explains differences in trends. CDPHE also conducts periodic comparative and trend analyses, in addition to the ones that CHA conducts. If these analyses identify unexplained differences, CDPHE contacts the CHA.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

Though the emergency department and hospital discharge data are purchased from the Colorado Hospital Association, the State does solicit and receive feedback from data users. Quality issues are addressed at periodic meetings with key users and managers.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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**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:**

Emergency department and hospital discharge data quality management reports are not regularly produced, nor are they made available to the State TRCC.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>40%</b>
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**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:**

Clinical Data Management (CDM) works with the State to ensure the data in the Trauma Registry meets the criteria for defining a trauma patient. However, it is unclear if this work includes automated edit checks and validation rules.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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 indicates that limited State-level correction authority is granted to quality control staff working with the Statewide trauma registry.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>16.7%</b>
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**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:**

There are no formally documented processes for returning rejected data to the collecting entity and tracking re-submission to the Statewide trauma registry. Rather an informal process is in place utilizing phone or email contact.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

Annual trauma data reports that include timeliness performance measures are provided to facility managers. It is unclear whether there are formal performance measures, and if so, whether they are used to inform decision making.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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 State indicates that there are accuracy performance measures tailored to the needs of trauma registry managers and data users in the form of an annual report to each trauma facility manager, but supporting documentation was not available for review.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

While it seems that the State can generate reports for trauma managers if they have specific performance measures, supporting documentation was not available for review.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

While it seems that the State can generate reports for trauma managers if they have specific performance measures, supporting documentation was not available for review.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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 State did not indicate if it has integration performance measures tailored to the needs of trauma registry managers and data users.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

The State's response is unclear, it references annual reports as a source of accessibility performance measures but does not address the status or use.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

The State's response does not indicate that numeric goals have been established for each trauma registry performance measure.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

The State works with Clinical Data Management to ensure all data meets specific criteria for performance reporting, but supporting documentation was not available for review.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

The State indicates that annual meetings are the mechanism by which high frequency errors are used to update trauma registry training content, data collection manuals, and validation rules.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

The State responds that CDM conducts quality control reviews to ensure the completeness, accuracy, and uniformity of injury data in the trauma registry data, but supporting documentation was not available for review.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The State produces quarterly and annual comparative and trend analyses that are used to identify unexplained differences in the trauma registry data across years and agencies, but supporting documentation was not available for review.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The State responds that data quality feedback from key users is regularly communicated to trauma registry data collectors and data managers through annual meetings.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

Trauma registry data quality management reports are not produced regularly and made available to the State TRCC.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

There are 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, and the State Center for Health and Environmental Data System performs specific edit checks, cross-checks and validations on a daily, monthly and annual basis.

<b>Respondents assigned</b>	<b>5</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>20%</b>
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**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:**

The State Center for Health and Environmental Data Registration and Quality Assurance quality control staff may make corrections by statute.

<b>Respondents assigned</b>	5	<b>Responses received</b>	1	<b>Response rate</b>	20%
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**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:**

The State has a formally documented process for returning rejected vital records data to the submitting entity. Follow up is conducted until the corrected records are resubmitted.

<b>Respondents assigned</b>	5	<b>Responses received</b>	1	<b>Response rate</b>	20%
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**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:**

The State Center for Health and Environmental Data Registration and Quality Assurance program adheres to timeliness standards set by the National Center for Health Statistics (NCHS) and CDC contract, but supporting documentation was not available for review.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

The State indicates that it follows the guidelines set by the National Center for Health Statics (NCHS) and CDC and conducts quality control reviews for accuracy on a regular basis, but supporting documentation was not available for review.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

The State responds that it finalizes the completeness of data as set by the National Center for Health Statistics (NCHS) and CDC contract and conducts quality control reviews on a regular basis for completeness, but supporting documentation was not available for review.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>2</b>	<b>Response rate</b>	<b>33.3%</b>
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**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:**

It is unclear as to whether or not the State has established uniformity performance measures tailored to the needs of vital records managers and data users.

<b>Respondents assigned</b>	<b>6</b>	<b>Responses received</b>	<b>1</b>	<b>Response rate</b>	<b>16.7%</b>
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**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:**

The State indicates that it does not have integration performance measures at this time.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The Colorado Department of Public Health and Environment conducts a customer satisfaction survey to solicit periodic feedback from data users. However, it is unclear if accessibility measures are in place.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

The State's Vital Records has established numeric goals, using national standards to measure quality, completeness, and timeliness of its records. The State has both internal and external measures for examining individual data item quality, completeness, and timeliness, but supporting documentation was not available for review.

<b>Respondents assigned</b>	6	<b>Responses received</b>	1	<b>Response rate</b>	16.7%
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**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:**

The Colorado Department of Public Health and Environment, Center for Health and Environmental Data Training & Field program conducts audits, reviews timely reports, and provides feedback and/or certificate awards to offices on a quarterly and annually basis, but supporting documentation was not available for review.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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 State uses high frequency errors to update vital records training content, data collection manuals, and validation rules, but supporting documentation was not available for review.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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's Center for Health and Environmental Data Registration and Quality Assurance follows data quality standards set by the National Center for Health Statistics (NCHS) and CDC contract and conducts quality control reviews daily, biweekly, monthly and annually, but supporting documentation was not available for review.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

Comparative and trend analyses used to identify unexplained differences in the vital records data across years and agencies are not conducted.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

The State response indicates that key users occasionally provide feedback to vital records data collectors and data managers, but the process of how the feedback is obtained is unclear.

<b>Respondents assigned</b>	6	<b>Responses received</b>	2	<b>Response rate</b>	33.3%
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**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:**

Vital records data quality management reports are not produced regularly and made available to the State TRCC.

<b>Respondents assigned</b>	5	<b>Responses received</b>	2	<b>Response rate</b>	40%
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## Data Use and Integration

Data interfaces are in place for many of Colorado’s systems but true integration remains an ideal to strive toward. Interfaces exist largely to support business processes while integration combines data from multiple systems to form a new, more robust dataset.

Colorado decision-makers have access to data and personnel to help them use the data from the individual data systems. The Office of Traffic Safety has knowledgeable staff on site for problem identification and program evaluation. Most of the data is, however, from single data systems. Creation of, and access to, integrated databases would help planners to better understand the overall traffic safety picture. The Crash and Roadway systems integration is a good example.

The Colorado Traffic Records Coordinating Committee is moving in this direction and the planned hiring of a full-time Traffic Records Coordinator could help in the effort. This position could also work to combine the information from the various systems into a traffic records system inventory and aid in development of a combined data governance process to help promote integration.

Colorado should continue to build upon the strengths of the individual systems and quality analysis while moving toward integration. Processes are in place for integration of crash with injury surveillance data as shown by the 2007 example, and could be revived. The planned hiring of a full-time Traffic Records Coordinator should be great resource for implementing data integration in the Strategic Plan.

### 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:

The Office of Transportation Safety is fortunate to have a statistician on staff that provides data for problem identification and program evaluation activities. In addition, the Department of Public Health and Environment partners with the Colorado Department of Transportation to support its focus on motor vehicle injury prevention. Data from the majority of the traffic records components are available to these agencies.

<b>Respondents assigned</b>	12	<b>Responses received</b>	5	<b>Response rate</b>	41.7%
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**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:**

Colorado has an open records act that does not directly address the issues related to data integration and the use of personal identifiers. The Department of Public Health has a new governance board in place and may want to consider data integration while drafting any new recommendations. Most governance policy is determined at the agency level responsible for the data.

<b>Respondents assigned</b>	12	<b>Responses received</b>	4	<b>Response rate</b>	33.3%
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**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:**

While each agency maintains information on their data systems, there is no formal, comprehensive inventory. It is anticipated that this task will be assigned to the Traffic Records Coordinator when that position is filled.

<b>Respondents assigned</b>	12	<b>Responses received</b>	4	<b>Response rate</b>	33.3%
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**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 Strategic Plan mentions some preliminary linkage efforts. The TRCC recognizes the importance of data integration and plans are in place to hire a Traffic Records Coordinator who will help further the State's efforts in this area.

<b>Respondents assigned</b>	12	<b>Responses received</b>	4	<b>Response rate</b>	33.3%
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**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 Colorado Department of Transportation extracts driver and vehicle data from the Department of Revenue for analysis. However, the driver information from the crash file is not linked to the driver file to provide additional information related to license date, class, or status. The example showing crash data by driver characteristics, which most likely come from the crash report, is not integration with the driver license file.

<b>Respondents assigned</b>	12	<b>Responses received</b>	4	<b>Response rate</b>	33.3%
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**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:**

Vehicle data is extracted from the Department of Revenue for analysis but specific linkages to the vehicle system are not in place at this time.

<b>Respondents assigned</b>	12	<b>Responses received</b>	4	<b>Response rate</b>	33.3%
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**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:**

Roadway data is used to geocode all highway crashes contained in the Colorado Department of Transportation's database. Examples were provided showing the use of crash and roadway data highway safety studies.

<b>Respondents assigned</b>	12	<b>Responses received</b>	3	<b>Response rate</b>	25%
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**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:**

Colorado does not currently conduct analysis linking crash with citation and adjudication data. Crash and citation data are not currently being integrated for analytical purposes.

<b>Respondents assigned</b>	12	<b>Responses received</b>	3	<b>Response rate</b>	25%
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**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:**

Crash data has been integrated with injury surveillance data in the past but is not conducted on a regular basis. A linkage report was prepared by the Department of Public Health and Environment in 2007 that described the process. This process should be re-established as part of the focus in data integration moving forward.

<b>Respondents assigned</b>	12	<b>Responses received</b>	5	<b>Response rate</b>	41.7%
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**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:**

Colorado reports no linkages currently being conducted between the crash data system and two or more of the other traffic records systems. This could be another focus for the new Traffic Records Coordinator.

<b>Respondents assigned</b>	12	<b>Responses received</b>	4	<b>Response rate</b>	33.3%
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**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:**

Colorado reports no linkages currently being conducted between non-crash components of the State's traffic records system. This could be a focus area for the new Traffic Records Coordinator.

<b>Respondents assigned</b>	12	<b>Responses received</b>	4	<b>Response rate</b>	33.3%
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**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 Colorado Open Records Act allows the Department of Transportation to provide summary crash data to anyone who requests it. They also produce an annual Crash Book which provides a summary of the State's crash data. In general, decision makers have access to tools and analysts that primarily use individual data sets only. There is limited integration at this time among the State's traffic records data systems.

<b>Respondents assigned</b>	12	<b>Responses received</b>	6	<b>Response rate</b>	50%
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**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 Colorado Open Records Act allows the Department of Transportation to provide summary crash data to anyone who requests it, including the public. They also publish an annual Crash Book which provides a summary of the State's crash data. However, these resources focus largely on individual data sets. The State has limited integration between traffic records data systems at this time.

<b>Respondents assigned</b>	12	<b>Responses received</b>	5	<b>Response rate</b>	41.7%
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## Appendix A

### Assessment Participants

#### State Highway Safety Office Representative(s)

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Executive Director

Mr. Darrell S Lingk  
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Director of Office of Transportation Safety - CDOT

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Colorado State Patrol  
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Colorado Department of Transportation  
State Crash Data Specialist

#### NHTSA Regional Office Coordinator(s)

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#### NHTSA Headquarters Coordinator

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## State and Local Respondents

The following State and Local staff assisted in the Assessment by providing responses to the Advisory criteria and questions.

Name	Agency	Title
Mr. David Bourget	Colorado Department of Transportation	Data Engineer - CDOT
Mr. Steve Boylls	Colorado Department of Public Health & Environment	Programmer and Data Manger
Maj. Barry Bratt	Colorado State Patrol	Major
Sgt. Michael W. Farr	Denver Police Department	Sergeant
Ms. Barbara Gabella	Colorado Department of Public Health & Environment	Senior Scientist in Injury Epidemiology
Mr. Webster Hendricks	Colorado Department of Human Services	Intervention Specialist
Mr. Steven Monson	Colorado Department of Revenue	Colorado CDL Program Manager
Ms. Nicole Richmond	Colorado Department of Public Health & Environment	Motor Vehicle Epidemiologist
Ms. Phyllis Snider	Colorado Department of Transportation	GIS -Program Manager- DTD / CDOT
Ms. Tracy Walter	Colorado Judicial Branch	Sr. ITS Manager
Mr. Kevin Pennock	GOIT	Application Service Manager





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## Assessment Facilitator

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## Assessment Team Members

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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

CDOR	Colorado Department of Revenue
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CEMSIS	Colorado EMS Information System
CHA	Colorado Hospital Association
CSTARS	Colorado State Title And Registration System
DLS	Driver License System
EARS	Electronic Accident Reporting System
EC	Express Consent
EDW	Electronic Data Warehouse
ERS	Electronic Reporting System
LRS	Linear Referencing System
OTIS	Online Transportation Information System
STRAC	State Traffic Records Advisory Committee

