



COLORADO

TRAFFIC RECORDS STRATEGIC PLAN

JUNE 2021

COLORADO TRAFFIC RECORDS STRATEGIC PLAN

June 2021

prepared for
Colorado Department of Transportation

prepared by
Colorado STRAC Committee



TABLE OF CONTENTS

Introduction	1
Background of the Traffic Records Strategic Plan	1
Traffic Records System Overview	2
DRIVES - Crash	2
DRIVES - Driver	2
DRIVES - Vehicle	2
OTIS - Roadway	2
DRIVES - Citation and Adjudication	3
CDPHE - Injury Surveillance System	3
STRAC Background	4
TRCC Governance	4
TRCC Membership	4
Traffic Records Strategic Approach	6
Development Process of the Strategic Plan	6
Review of Traffic Records Assessment	6
Stakeholder Input	7
Traffic Records Strategic Plan Vision	7
Prioritizing and Setting Performance Measures	7
Traffic Records Strategic Plan Mission	8
Assessment Recommendations, Planned Activities, and Performance Measures	8
Traffic Records System Performance	40
Traffic Records Projects	42
STRAC Ongoing and Future Initiatives	42
Traffic Records Project Prioritization	43
FFY 2021 Projects (October 2020 to September 2021)	45
Commitment to the Strategic Plan	49
STRAC MOU	49
Appendix A: 2019 Traffic Records Assessment Report	50

LIST OF TABLES

Table 1. Voting STRAC Membership	5
----------------------------------	---

LIST OF FIGURES

Figure 1. Strategic Planning Process	1
Figure 2. Four box Project analysis	41

INTRODUCTION

Background of the Traffic Records Strategic Plan

The purpose of this document is to provide the State of Colorado, State Traffic Records Advisory Committee (STRAC), and other traffic safety stakeholders of the State of Colorado with a Strategic Plan for traffic records improvements.

This plan is designed to identify actions to inform the STRAC member agencies and stakeholders to fulfill broad roles in communication, coordination, and assistance to data collectors, managers, and users of traffic data.

This plan is based on the findings and recommendations documented in the 2019 Traffic Records Assessment, the previous strategic plan, and information provided by STRAC members. The STRAC membership believes this revised Strategic Plan will again provide the framework for improvement to the statewide traffic records system and will guide agencies in the planning and development of projects to improve Colorado Traffic Records. The plan includes clearly defined objectives, coordination, and performance measures to increase public safety and create the environment for improving the state’s traffic records system.

FIGURE 1. STRATEGIC PLANNING PROCESS



TRAFFIC RECORDS SYSTEM OVERVIEW

This section provides a brief overview of each of the State traffic records systems (e.g., crash system). Include any details regarding integration with other data sets.

Crash

Department of Revenue - DRIVES System

Colorado's Department of Revenue (DOR) is the agency of record for Colorado's crash data which is stored in the DRIVES System. In the 2014 and 2015 legislative sessions, funding was allocated to replace the outdated Driver License System (DLS) and Colorado State Titling and Registration System (CSTARS). DOR used these funds to create Colorado's Driver License, Record, Identification, and Vehicle Enterprise Solution (DRIVES System). This project was to provide a flexible, reliable, accurate and integrated solution for driver and vehicle services, as well as business licensing, and revenue accounting. An automated extract of aggregated crash data is sent to CDOT to use for reporting and analytics.

The crash database within DRIVES was modified in 2019 to accept data from the new DR 3447 Crash Form as well as the previous DR 2447 Crash Form. The new crash form addressed federal requirements to update the injury level definition and captured more robust crash data, to aid in the analysis, development, scoping, and evaluation of traffic safety countermeasures to move Colorado Toward Zero Deaths (TZD). DOR anticipates fully transitioning all law enforcement agencies to the new DR 3447 in 2021.

Driver

Department of Revenue - DRIVES System

The Driver Control Section of DOR has custodial responsibility for the Colorado driver data system, which resides in the DRIVES System and includes commercially licensed drivers. The system maintains novice driver, motorcycle, and driver improvement training histories. DRIVES also captures the original issuance date of licenses, permits, and endorsements. DOR accommodates interaction with the National Driver Register's Problem Driver Pointer System (PDPS) and the Commercial Driver's License Information System (CDLIS).

Vehicle

Department of Revenue - DRIVES System

The Department of Revenue has custodial responsibility of the Colorado vehicle data system. The State incorporates brand information on the vehicle records that are recommended by the American Association of Motor Vehicle Administrators (AAMVA).

Roadway

Colorado Department of Transportation - Online Transportation Information Systems (OTIS)

The roadway data is contained in CDOT's Online Transportation Information System (OTIS) which is an online dataset providing information for the public as well as transportation planning, and project development. Information is provided on current and projected traffic volumes, state highway attributes, summary roadway statistics, demographics and geographic data. All State owned roads are available in a linear reference system including the Model Inventory of Roadway Elements (MIRE) Fundamental Data Elements (FDEs). The State is in the process of moving other business areas to the All Roads Linear Referencing Method to allow integration of location data across different systems.

Citation and Adjudication

Department of Revenue - DRIVES System

The DRIVES System is designed for citations from all potential law enforcement sources (municipal, county and state) and currently houses the complete electronic citation data for Ports of Entry and manually entered data for citations processed by the department as penalty assessments. The traffic violation citation database and common charge codes database are contained in this system.

Injury Surveillance System

Colorado Department of Public Health and Environment - Injury Data and Epidemiology

The Colorado Department of Public Health and Environment (CDPHE) implements several statewide injury surveillance and prevention and control programs. These programs track injury-related emergency department visits, hospitalizations and deaths through a variety of data sources and use this information to help reduce the rates of injury through public education, intervention and prevention programs, and policy development. Data have been used to evaluate the effectiveness of Colorado's trauma system in providing care to residents and visitors injured in the state. More information about CDPHE's injury surveillance and data is available here:

<https://cdphe.colorado.gov/prevention-and-wellness/injury-prevention/injury-data-and-epidemiology>

CDPHE provides injury data available to the public through their Injuries in Colorado Dashboard that includes injury deaths, ED visits, and hospital discharges that can be queried at the local and statewide level. Below each of these categories are separate links for counts, crude rates, and age-adjusted rates of all injuries by mechanism. The Dashboard can be accessed here: https://cohealthviz.dphe.state.co.us/t/PSDVIP-MHPPUBLIC/views/InjuryIndicatorsDashboard/LandingPage?%3AshowAppBanner=false&%3Adisplay_count=n&%3AshowVizHome=n&%3Aorigin=viz_share_link&%3AisGuestRedirectFromVizportal=y&%3Aembed=y

If a requester needs data that is not available on the Injuries in Colorado dashboard, a health data request portal is available to help guide requests to the correct contacts; <https://cdphe.colorado.gov/prevention-and-wellness/injury-prevention/injury-data-and-epidemiology>. Inquiries for various health-related statistics and information will direct individuals to request specialized data that can be prepared by CDPHE staff.

STRAC BACKGROUND

The Moving Ahead for Progress in the 21st century (MAP-21) and the Fixing America's Surface Transportation Act (FAST Act) outlines the requirements to qualify for the National Highway Traffic Safety Administration (NHTSA) Section 405 grants to improve a State's traffic records system. Traffic records are a key component in the effort to improve safety on the State's transportation system by allowing for the analysis of crash data to aid in the analysis, development, scoping, and evaluation of traffic safety countermeasures to move Colorado Toward Zero Deaths (TZD). The traffic records systems provide the framework supporting the effort to maximize resources to improve safety.

The requirements found under 23 CFR § 1300.22 for inclusion in State Traffic Records Strategic Plans, addressed in this plan, are noted below:

1. Provide a list of all recommendations from the most recent traffic records assessment.
2. Identify which recommendations the State intends to address, along with which Highway Safety Plan projects/planned activities will address each recommendation, and the performance measure used to demonstrate quantifiable and measurable progress.
3. Identify which recommendations the State will not address and provide reasoning for doing so.

TRCC Governance

Colorado's Traffic Records system is a virtual system composed of independent crash data systems. These systems collectively form the information base for the management of the state's highway and traffic safety activities. The different sources of the state's traffic records system are managed by various state agencies. Membership in the State Traffic Records Advisory Committee (STRAC) consists of voting representation from seven state agencies in addition to non-voting representation from local government representatives, universities, researchers, Metropolitan Planning Organizations (MPOs), and others. Collectively, these groups use the data to develop and identify funds to further initiatives to reduce both the number and severity of traffic crashes on the state's roadways. STRAC has served in the roles of the TRCC since the 1970's. In 2008, STRAC reorganized under a restructured interagency Memorandum of Understanding (MOU) designed to provide long-term continuity and support for a coordinated traffic records system. The MOU defines the roles and responsibilities of STRAC and its members. It addresses ownership of the data, security, permissible uses along with a process for resolving disputes. This MOU was renewed in 2013 and in 2016, and is scheduled for renewal again in 2021.

TRCC Membership

STRAC Responsibilities

- Develop and oversee the long-range planning efforts of the traffic records system.
- Review potential changes to traffic records systems and highway safety data before changes are implemented.
- Follow the direction provided by the 2019 Traffic Records Assessment and implement changes as needed.
- Consider and coordinate the views of organizations in the State that are involved in the administration, collection and use of traffic records systems and highway safety data.

- Represent the interests of agencies and organizations within the traffic records system to outside organizations.
- Review and evaluate new technologies and keep the traffic records system and highway safety data up to date.
- Investigate the possibilities of linking traffic records systems.
- Provide recommendations to their respective departments, divisions and agencies on the collection, management, and enhancement of statewide traffic records systems.
- Provide a forum for discussion and reporting of highway safety data and traffic records issues to agencies and organizations in the State that create, maintain and use traffic records and highway safety data.
- Review national initiatives and best practices of other states.
- Provide education to law enforcement officers in an endeavor to enhance the quality of traffic accident reporting.

TABLE 1. VOTING STRAC MEMBERSHIP

Name	Title	Agency	System
Major David Aldridge	Chair	CSP	Citation/Adjudication
Scott Spinks	Vice Chair	DOR	Crash/Driver/Vehicle
BoYan Quinn	Secretary	CDOT	Crash/Roadway
Glenn Davis	Sergeant at Arms	CDOT	Crash/Roadway
Dave Swenka	Member	CDOT	Crash/Roadway
Christine Demont	Member	CDPHE	Injury Surveillance
Webster Hendrix	Member	DHS	Injury Surveillance
Molly Saxton	Member	Judicial	Citation/Adjudication
Amy Bhikha	Member	OIT	Data Use & Integration

TRAFFIC RECORDS STRATEGIC APPROACH

Development Process of the Strategic Plan

The recommendations contained in this strategic plan are the result of a review of Colorado's traffic records and input from persons knowledgeable in the use and operation of the data sets. The purpose of the traffic records review was to update knowledge of Colorado's:

- Compliance with recommended standards, practices, and Federal guidelines.
- Efficiency and effectiveness of data processing, information exchange, and existing technology.
- Ability to support highway safety program management with timely and accurate traffic records information.

This strategic plan includes a synthesis by the review team of information derived from the following sources:

- 2019 Traffic Records Assessment Report.
- System documentation for the various data sets identified.
- Recommended practices and standards promulgated by various Federal agencies and professional organizations involved in transportation, highway safety, and traffic records.
- Technical expertise of the project team itself in the definition, development, and use of traffic records to support national, state, and local highway and traffic safety applications.
- Knowledge and expertise of the TRCC.

Review of Traffic Records Assessment

Led by the consultant, members of the STRAC organized a thorough review of the 2019 Traffic Records Assessment report completed in the State. Additionally, a review was conducted of the 2020 Colorado Highway Safety Plan (HSP), Colorado Strategic Transportation Safety Plan (STSP), and the Colorado Highway Safety Improvement Plan to review and compile data-related performance measures noted in various statewide plans. From this a Traffic Records Assessment priorities and current performance measures matrix was developed.

The consultant reviewed and analyzed these documents for items related to traffic records data sources, users of the data, collectors of the data, and data-related performance measures. The analysis by the consultant helped coordinate the various traffic records data performance measures across a variety of statewide plans into the new Traffic Records Strategic Plan. This review helped to integrate various statewide and local data needs and goals into the final report. The consultant then consolidated and synthesized these items into a single spreadsheet matrix to aid in the development of the Traffic Records Strategic Planning process.

The matrix incorporated the findings that were noted as 'does not meet' or 'partially meets' from the most recent Traffic Records Assessment (Assessment) conducted in the State. The findings were then cross-referenced with the current Traffic Records Strategic Plan and any other strategic plans in the State that contain traffic records related performance measures.

Stakeholder Input

There are three general categories of stakeholders: data users (includes local governments and Metropolitan Planning Organizations), data collectors (law enforcement, hospitals that provide emergency services, DMV, for example) and data system managers (primarily CDOT, DOR, CDPHE). Members for each of these categories were surveyed for every data system (crash, vehicle, driver, roadway, citation/ adjudication, EMS/ Injury Surveillance) outlined in the assessment. This also served as another opportunity to integrate the needs of traffic data stakeholders across the state.

Using the STRAC as the connection to stakeholders who collect and report crash data and to those who manage data systems, the consultant developed an interview framework to get the opinions and priorities of the STRAC stakeholders regarding their use of the data and the strengths, weaknesses, opportunities, and challenges with current traffic data systems. Survey results were also compiled, analyzed, and documented by the consultant.

Traffic Records Strategic Plan Vision

It is the vision of STRAC to provide a traffic records data system, which delivers complete, timely and accurate data, incorporating data from all available sources, for use by approved data consumers in traffic safety decision making processes.

Prioritizing and Setting Performance Measures

The data system stakeholders reviewed all findings from the assessment which were rated as “does not meet” or “partially meets” in the developed matrix to prioritize the findings as high, medium, or low priority for the Traffic Records Strategic Plan. Based on the comments in the interviews, assessment findings were categorized as the following:

- Short term - next two years (by 2023)
- Medium term - next three to four years (by 2024)
- Long term - four or more years (2024 and beyond)

Although findings may be labeled a medium or long priority they could be expedited within a year or two, once other Traffic Records Strategic Plan goals have been achieved or as opportunities arise. As priorities evolve and benchmarks are achieved for short term priority findings, they will trigger the prioritization of others.

The data system stakeholders and the STRAC were consulted in the development of performance measures. The consultant worked with the traffic records data system stakeholders in the development of quantitative performance measures, action steps, and leaders to develop traffic records improvement strategies rated as very important.

Traffic Records Strategic Plan Mission

Our mission is to coordinate and facilitate the interagency and intra-agency acquisition and disbursement of accurate, timely and accessible traffic records to data consumers for use in the traffic safety improvement processes in a user-friendly environment.

Assessment Recommendations, Planned Activities, and Performance Measures

NHTSA's *Traffic Records Program Assessment Advisory* describes the ideal traffic records systems from which States can assess their capabilities. The benefit for States to align to the description of the ideal traffic records system would be to ensure that complete, accurate, and timely traffic safety data is collected, analyzed, and made available for decision making, which is central to identifying traffic safety problems, and designing countermeasures to reduce injuries and deaths caused by crashes. The ideal described is aspirational, and there is no expectation that States align perfectly with the ideal as described.

Out of the 328 assessment questions, Colorado met the Advisory ideal for 155 questions (47%), partially met the Advisory ideal for 71 questions (22%), and did not meet the Advisory ideal for 102 questions (31%). The percentages for each area are broken out below:

- Traffic Records Coordinating Committee Management - 75% of the ideal
- Strategic Planning - 82% of the ideal
- Crash Data - 54% of the ideal
- Vehicle Data - 47% of the ideal
- Driver Data - 66% of the ideal
- Roadway Data - 15% of the ideal
- Citation/ Adjudication Data - 16% of the ideal
- EMS/ Injury Surveillance Data - 59% of the ideal
- Data Use and Integration - 33% of the ideal

TRAFFIC RECORDS COORDINATING COMMITTEE

Non-specific Assessment Priority

Creation of an Executive level STRAC committee.

Goal

Create an Executive level STRAC committee.

Priority

- Short term - by 2023
- Medium term - by 2024
- Long term - 2024 and beyond

Status

- No action
- Initial progress
- Considerable progress
- Completed

Draft MOU has been circulated for review and some comments have been received. Anticipated MOU execution is anticipated in 2021, and an executive committee will be created in late 2021 or early 2022.

Performance Measure(s) Creation of an Executive committee to provide direction to the STRAC.

Core Traffic Records Systems Addressed

- Crash
- Driver
- Vehicle
- Roadway
- Citation/Adjudication
- Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness
- Accuracy
- Completeness
- Uniformity
- Data Integration
- Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
Develop MOU for STRAC member agencies to review and sign which establishes STRAC Executive Committee	Draft MOU for signature	No	5/1/2020	6/30/2021	CDOT	TRC	Draft MOU is under review by STRAC agencies	
Schedule and hold first STRAC Executive Committee meeting	Hold first STRAC Executive Committee meeting	No	9/1/2020	9/1/2021	CDOT	TRC	Draft MOU is under review by STRAC agencies	

Consideration From 2019 Assessment

The State has made a good start towards a traffic records inventory with the Traffic Records Resource Guide and Inventory. They may wish to fill in the missing information as well as include the data elements and attributes available in the systems. The contact list will help current and future users to make use of the Guide.

Goal

Update the draft State of Colorado Traffic Records Resource Guide and Inventory.

Priority

- Short term - by 2023
- Medium term - by 2024
- Long term - 2024 and beyond

Status

- No action
- Initial progress
- Considerable progress
- Completed

The draft Traffic Records Resource Guide and Inventory was completed prior to DRIVES and contains outdated or missing information . The STRAC will continue to work with associated records holders to update Guide and Inventory.

Performance Measure(s)

Submit to STRAC an updated Traffic Records Resource Guide and Inventory.

Core Traffic Records Systems Addressed

- Crash
- Driver
- Vehicle
- Roadway
- Citation/Adjudication
- Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness
- Accuracy
- Completeness
- Uniformity
- Data Integration
- Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
Contact Colorado Hospital Association (CHA) to verify and edit as needed the hospital discharge and emergency department database.	Update traffic records inventory from the CHA.	No	3/1/2021	3/30/2021	TRC and CHA	TRC	Completed	Injuries in Colorado Dashboard fulfills the database for CHA data for emergency department and hospital discharges: https://cohealthviz.dphe.state.co.us/t/PSDVIP-MHPPUBLIC/views/InjuryIndicatorsDashboard/LandingPage?%3AshowAppBanner=false&%3Adisplay_count=n&%3AshowVizHome=n&%3Aorigin=viz_share_link&%3AisGuestRedirectFromVizportal=y&%3Aembed=y
Contact CDPHE to verify and edit as needed the NEMSIS, CoHID, and CDPHE databases.	Update traffic records inventory from the CDPHE.	No	4/1/2021	4/30/2021	TRC and CDPHE	TRC	Completed	https://cdphe.colorado.gov/cohid
Contact CDOT to verify and edit as needed the crash reporting system, FARS, OTIS, and CoRIS databases.	Update traffic records inventory from CDOT.	No	5/1/2021	5/30/2021	TRC and CDOT	TRC	Not yet started	
Contact DOR to verify and edit the DRIVES System for crash, vehicle, license, and citation databases.	Update traffic records inventory from DOR.	No	6/1/2021	6/30/2022	TRC and DOR	TRC	Not yet started	

STRATEGIC PLANNING

Consideration From 2019 Assessment

The committee is to be commended for including plans to increase input of others by conducting a survey of state and local data users to identify their needs and goals and incorporate them into the strategic plan. STRAC may wish to consider expanding the grant application distribution beyond law enforcement agencies and include specific questions in surveys to data users to understand training and technical assistance needs.

Goal

Develop and conduct a survey of traffic records users and collectors of data to understand any training and technical assistance needs they may have.

Priority

- Short term - by 2023
- Medium term - by 2024
- Long term - 2024 and beyond

Status

- No action
- Initial progress
- Considerable progress
- Completed

STRAC will develop and conduct a survey of traffic records users and collectors of data to understand any training and technical assistance needs they may have.

Performance Measure(s)

Develop and conduct a survey of traffic records users and collectors of data and provide a report to STRAC for consideration.

Core Traffic Records Systems Addressed

- Crash
- Driver
- Vehicle
- Roadway
- Citation/Adjudication
- Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness
- Accuracy
- Completeness
- Uniformity
- Data Integration
- Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
Review current STRAC grant application distribution list and edit to incorporate more organizations than law enforcement	Update STRAC grant distribution list to reach wider audience	No	10/1/2020	11/1/2020	CDOT/TRC	TRC	Completed	
Develop survey of traffic data holders and users of any training or technical needs they may have	Develop survey for determining any training or technical needs the STRAC can help address	No	11/1/2020	12/1/2021	CDOT/TRC	TRC	Not yet started	
Distribute survey to stakeholders and conduct report out to STRAC of results	Gain input from traffic records stakeholders of training and technical needs	No	12/1/2020	1/15/2021	CDOT/TRC	TRC	Not yet started	
Address training or technical needs noted in survey	Address traffic records stakeholders training and technical needs	No	TBD	TBD	STRAC	TRC and STRAC	Not yet started	

CRASH DATA

Non-specific Assessment Priority

Consolidated Statewide Crash Repository.

Goal

Convergence between the involved departments on how to develop a crash data repository that meets the needs of safety analysts throughout the state, consolidates agreed data edit checks, has appropriate keys for integration with other traffic data sources, and is accessible.

Priority

- Short term - by 2023
- Medium term - by 2024
- Long term - 2024 and beyond

Status

- No action
- Initial progress
- Considerable progress
- Completed

DOR completed the DRIVES System Inbound Crash Application Programming Interface (API) development. STRAC is in initial discussions on what organization would host the consolidated statewide crash repository. CDOT and DOR have an Interagency Agreement in process.

Performance Measure(s)

Development of an accessible single source statewide crash data repository available for all crash traffic record analysts needs.

Core Traffic Records Systems Addressed

- Crash
- Driver
- Vehicle
- Roadway
- Citation/Adjudication
- Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness
- Accuracy
- Completeness
- Uniformity
- Data Integration
- Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
Determine if legislative changes, MOU between agencies, or any other legal or administrative rule changes would be needed to create a consolidated crash repository	Address legal or admin challenges	No	5/1/2020	TBD	STRAC, DOR, CDOT, CSP, OIT	TRC	STRAC is in initial discussions on what organization would host the consolidated statewide crash repository	
Determine who would house the consolidated crash repository and how it would be funded	Determine statewide crash repository record holder	No	5/1/2020	TBD	STRAC, DOR, CDOT, CSP, OIT	TRC	STRAC is in initial discussions on what organization would host the consolidated statewide crash repository	

Non-specific Assessment Priority

Improve accessibility of crash records for all data users.

Goal

Refined system for analysts to access the crash data (from the consolidated repository); web based query tool for most users.

Priority

- Short term - by 2023
- Medium term - by 2024
- Long term - 2024 and beyond

Status

- No action
- Initial progress
- Considerable progress
- Completed

CDOT has had initial discussions with potential vendors to develop a statewide crash data dashboard.

Performance Measure(s)

Satisfaction of the crash data users of accessing crash data.

Core Traffic Records Systems Addressed

- Crash Driver Vehicle Roadway Citation/Adjudication Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness Accuracy Completeness Uniformity Data Integration Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
Identify principal users of the crash database and survey their ability to obtain their crash data needs in a timely and accessible manner	Determine users of crash data and determine baseline satisfaction of accessibility and timeliness of obtaining statewide crash data	No	TBD	TBD	STRAC	TRC	Need to address consolidated statewide crash repository goal first	
Create an Outbound API to help sharing crash data back from DOR.	Share aggregate data with partner agencies through an API.	Yes	3/1/2021	9/30/2021	DOR	DOR	DOR is developing an API, but there are no agencies identified to use the API at this time.	
Develop a dashboard to share crash data with the public.	Work with data users to develop an interactive crash dashboard allowing access to crash and roadway data.	Yes	7/1/2021	9/30/2021	CDOT	CDOT	CDOT is working with OIT to develop the scope and implement the project	

Non-specific Assessment Priority

State-sponsored crash reporting application.

Goal

Provide a state-sponsored electronic crash reporting system that allows law enforcement agencies to capture and submit crash data electronically.

Priority

- Short term - by 2023
 Medium term - by 2024
 Long term - 2024 and beyond

Status

- No action
 Initial progress
 Considerable progress
 Completed

DOR completed the DRIVES System Inbound Crash Application Programming Interface (API) development in March 2021. DOR is actively working with Record Management System (RMS) vendors and law enforcement partners to bring additional agencies on board with the new system.

Performance Measure(s)

Increase in percentage of electronically submitted DR 3447 Crash Forms to the state.

Core Traffic Records Systems Addressed

- Crash
 Driver
 Vehicle
 Roadway
 Citation/Adjudication
 Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness
 Accuracy
 Completeness
 Uniformity
 Data Integration
 Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
CDOT BESDT electronic crash form	Provide an online tool for law enforcement to complete DR3447 forms and submit them to DOR electronically	No	7/1/2021	TBD	STRAC, CDOT	DOR, CDOT, TRC	CDOT developed the application and is developing an API for submittal to DOR.	Rollout will require training materials, instruction, and coordination between CDOT and DOR.

Recommendation From 2019 Assessment

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

Goal

Development of a crash data system data dictionary based off of the DRIVES System platform.

Priority

- Short term - by 2023
 Medium term - by 2024
 Long term - 2024 and beyond

Status

- No action
 Initial progress
 Considerable progress
 Completed

A data dictionary was requested from the vendor as part of the Outbound API development for Crash System.

Performance Measure(s)

Completion of a crash data system data dictionary that meets STRAC needs.

Core Traffic Records Systems Addressed

- Crash
 Driver
 Vehicle
 Roadway
 Citation/Adjudication
 Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness
 Accuracy
 Completeness
 Uniformity
 Data Integration
 Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
Work with DOR to develop a data dictionary of the traffic records systems within DRIVES	Develop a data dictionary of DRIVES to assist in improving data integration of other traffic record systems	Yes	2/20/21	9/30/2021	DOR, STRAC	TRC	To be provided when the DRIVES crash development is completed	Included in the DOR API project

Recommendation From 2019 Assessment

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

Goal

Increase the uniformity and accuracy of crash data by providing quarterly QA/QC reports to the STRAC.

Priority

- Short term - by 2023
- Medium term - by 2024
- Long term - 2024 and beyond

Status

- No action
- Initial progress
- Considerable progress
- Completed

DOR completed the DRIVES System Inbound Crash Application Programming Interface (API) development, and received the first electronic transmission of a DR 3447 Crash Form from Thornton PD on March 30, 2021.

Performance Measure(s)

Increase the percentage of DR 3447 Crash Forms submitted electronically from 0 percent in 2019 to improve uniformity and accuracy of crash data quality.

Core Traffic Records Systems Addressed

- Crash
- Driver
- Vehicle
- Roadway
- Citation/Adjudication
- Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness
- Accuracy
- Completeness
- Uniformity
- Data Integration
- Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
Provide to law enforcement agencies information on how to onboard to submit the DR 3447 electronically from their RMS	Improve electronic reporting of DR3447	No	6/2020	2/2021	DOR, STRAC	Scott Spinks	Complete. As opportunities to add additional agencies occur, DOR will continue to work with law enforcement	DOR and the TRC reached out to all 220+ Law Enforcement partners and RMS vendors in the state of Colorado
Determine which QA/QC reporting elements for crash data are feasible	Establish QA/QC crash data reporting metrics	No	10/1/2020	6/30/2021	DOR, STRAC	TRC	DOR completed the DRIVES System Inbound Crash Application Programming Interface (API) development in March 2021. Development of reporting metrics for inbound data is ongoing.	Completion of the DRIVES System Outbound Crash API is required before all QA/QC reporting elements can be determined.
Request funding from STRAC for developing a QA/QC report from DRIVES for the crash system	Develop crash system QA/QC report	No	1/1/2020	TBD	DOR	Scott Spinks	On hold until QA/QC crash data reporting metrics are determined.	
Provide crash data system QA/QC report to STRAC	Establish baseline QA/QC metrics to track progress	No	TBD		DOR	Scott Spinks	On hold until DRIVES is modified to provide QA/QC reports.	

Recommendation From 2019 Assessment

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

Goal

Create the ability to link adjudication of DUI arrests to related crash reports.

Priority

- Short term - by 2023
- Medium term - by 2024
- Long term - 2024 and beyond

Status

- No action
- Initial progress
- Considerable progress
- Completed

Among STRAC membership there is interest in looking at opportunities to link adjudication of DUI arrests to related crash reports. Issue to be explored at a later date.

Performance Measure(s)

Successfully link a test sample of adjudication of DUI arrests related to crash reports.

Core Traffic Records Systems Addressed

- Crash
- Driver
- Vehicle
- Roadway
- Citation/Adjudication
- Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness
- Accuracy
- Completeness
- Uniformity
- Data Integration
- Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
Discuss with interested STRAC members what aspects of DUI and crash data they would like to see linked	Determine attributes to be linked from DUI adjudications and crash reports	No	10/1/2020	12/31/2021	CDOT	CDOT/OTS, CDPS, CDPHE, CSP, Judicial, CDHHS	Not yet started	Evaluate GHSA recommendations and consider a project
Explore opportunities to develop a test sample of DUI arrests with crash reports	Link DUI and crash data	No	TBD		TBD	TBD	Not yet started	

DRIVER DATA SYSTEM

Recommendation From 2019 Assessment

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

Goal

Develop and provide a quarterly report to the STRAC that reports on the quality and accuracy of the Driver Data System.

Priority

- Short term - by 2023
- Medium term - by 2024
- Long term - 2024 and beyond

Status

- No action
- Initial progress
- Considerable progress
- Completed

DOR is developing a Task Order to submit to STRAC for consideration of funding that would help develop a regular report to the STRAC that would report on the QA/QC of driver data.

Performance Measure(s)

STRAC development of quality and accuracy metrics to be reported. Submit a report to STRAC on quality and accuracy of Driver data.

Core Traffic Records Systems Addressed

- Crash
- Driver
- Vehicle
- Roadway
- Citation/Adjudication
- Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness
- Accuracy
- Completeness
- Uniformity
- Data Integration
- Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
Determine which QA/QC reporting elements for driver data are important	Establish QA/QC driver data reporting metrics	No	10/1/2020	TBD	DOR, STRAC	TRC	Holding off until further development of the DRIVES system is completed	
Request funding from STRAC for developing a QA/QC report from DRIVES for the driver system	Develop driver system QA/QC report	No	1/1/2020	TBD	DOR	Scott Spinks	On hold until QA/QC reporting elements are known.	
Provide driver data system QA/QC report to STRAC	Establish baseline QA/QC metrics to track progress	No	TBD		DOR	Scott Spinks	On hold until DRIVES is modified to provide QA/QC reports.	

VEHICLE DATA SYSTEM

Recommendation From 2019 Assessment

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

Goal

Develop and provide a quarterly report to the STRAC that reports on the quality and accuracy of the Vehicle Data System.

Priority

- Short term - by 2023
- Medium term - by 2024
- Long term - 2024 and beyond

Status

- No action
- Initial progress
- Considerable progress
- Completed

DOR is developing a Task Order to submit to STRAC for consideration of funding that would help develop a regular report to the STRAC that would report on the QA/QC of vehicle data.

Performance Measure(s)

STRAC development of quality and accuracy metrics to be reported on and have a report submitted to STRAC on vehicle data.

Core Traffic Records Systems Addressed

- Crash
- Driver
- Vehicle
- Roadway
- Citation/Adjudication
- Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness
- Accuracy
- Completeness
- Uniformity
- Data Integration
- Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
Determine which QA/QC reporting elements for vehicle data are important	Establish QA/QC vehicle data reporting metrics	No	10/1/2020	12/31/2021	DOR, STRAC	TRC	Not yet started	
Request funding from STRAC for developing a QA/QC report from DRIVES for the vehicle system	Develop system QA/QC vehicle report	No	1/1/2020	TBD	DOR	Scott Spinks	On hold until QA/QC reporting elements are known.	
Provide vehicle data system QA/QC report to STRAC	Establish baseline QA/QC metrics to track progress	No	TBD		DOR	DOR	On hold until DRIVES is modified to provide QA/QC reports.	

ROADWAY DATA SYSTEM

Recommendation From 2019 Assessment

Improve the data dictionary for the Roadway Data System to reflect best practices identified in the Traffic Records Program Assessment Advisory.

Goal

Development of a Roadway Data System Data dictionary based off of the MIRE FDE platform at CDOT.

Priority

- Short term - by 2023
- Medium term - by 2024
- Long term - 2024 and beyond

Status

- No action
- Initial progress
- Considerable progress
- Completed

Collection of MIRE FDEs and completion of the data dictionary is ongoing.

Performance Measure(s)

Completion of a roadway data system data dictionary approved by the STRAC.

Core Traffic Records Systems Addressed

- Crash
- Driver
- Vehicle
- Roadway
- Citation/Adjudication
- Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness
- Accuracy
- Completeness
- Uniformity
- Data Integration
- Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
Complete MIRE FDE project	Improve collection of MIRE FDEs for intersections	Yes	4/1/2020	12/31/2021	CDOT	Phyllis Snider	Project is underway, potentially finish in 2021	
Work with CDOT to develop a data dictionary of the roadway systems within CDOT after completion of MIRE FDE project	Develop a data dictionary of roadway data systems to assist in improving data integration of other traffic record systems	No	5/1/2020	12/31/2021	CDOT	Phyllis Snider	Project is underway, potential finish in 2021	

Recommendation From 2019 Assessment

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

Goal

Develop and provide a quarterly report to the STRAC that reports on the quality and accuracy of the Roadway Data System.

Priority

- Short term - by 2023
- Medium term - by 2024
- Long term - 2024 and beyond

Status

- No action
- Initial progress
- Considerable progress
- Completed

After completion of the MIRE FDEs collection, consider how best to address QA/QC of roadway data systems and what it would look like.

Performance Measure(s)

STRAC development of quality and accuracy metrics to be reported on and have a report submitted to STRAC on Roadway Data.

Core Traffic Records Systems Addressed

- Crash
 Driver
 Vehicle
 Roadway
 Citation/Adjudication
 Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness
 Accuracy
 Completeness
 Uniformity
 Data Integration
 Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
Complete MIRE FDE project	Improve collection of MIRE FDEs for intersections	Yes	4/1/2020	12/31/2021	CDOT	DTD	Project is underway, potentially finish in 2021	
Determine which QA/QC reporting elements for roadway data are important	Establish QA/QC roadway data reporting metrics	No	TBD		CDOT, STRAC	DTD	On hold until MIRE FDE data collection is complete.	
Provide roadway data system QA/QC report to STRAC	Establish baseline QA/QC metrics to track progress	No	TBD		CDOT	DTD	On hold until QA/QC reporting elements are known.	

Recommendation From 2019 Assessment

Improve the interfaces with the Roadway Data System to reflect best practices identified in the Traffic Records Program Assessment Advisory.

Goal

Integrate the Roadway LRS data with some other data systems within CDOT.

Priority

- Short term - by 2023
 Medium term - by 2024
 Long term - 2024 and beyond

Status

- No action
 Initial progress
 Considerable progress
 Completed

Integration is a priority for CDOT with Linear Referencing System (LRS) locations being one of the key linking elements. CDOT to evaluate how they can potentially integrate with other systems. The CDOT Roadway section will coordinate with the Office of Traffic Safety to determine what their needs are and next steps.

Performance Measure(s)

CDOT determines which data system to integrate with LRS data and conducts a pilot test integrating the data set.

Core Traffic Records Systems Addressed

- Crash Driver Vehicle Roadway Citation/Adjudication Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness Accuracy Completeness Uniformity Data Integration Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
Discuss and determine how to integrate LRS data within CDOT with other systems	Integrate LRS data for use by the Office of Traffic Safety	No	6/1/2020	9/30/2021	CDOT	DTD	Staff are working on API's to assist other Business Units to access LRS location data. A pilot project with Traffic Mobility has begun with the intention of expanding to include other units.	

CITATION AND ADJUDICATION SYSTEMS

Recommendation From 2019 Assessment

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

Goal

Produce a data dictionary for Colorado’s citation and adjudication system with focus on the statewide e-citation effort.

Priority

- Short term - by 2023
- Medium term - by 2024
- Long term - 2024 and beyond

Status

- No action
- Initial progress
- Considerable progress
- Completed

DOR and Judicial need a data dictionary to be completed in order for e-citations to move forward in Colorado. Judicial is working with one court for e-citations so there may be some data available from them to start the dictionary. DOR indicated potentially looking at a data dictionary from another state’s model and incorporating that into how to design the Colorado data dictionary.

Performance Measure(s)

Completion of a citation and adjudication data dictionary approved by the STRAC.

Core Traffic Records Systems Addressed

- Crash
- Driver
- Vehicle
- Roadway
- Citation/Adjudication
- Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness
- Accuracy
- Completeness
- Uniformity
- Data Integration
- Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
Judicial will contact one court who submits e-citations to request their data dictionary	Obtain an example e-citation data dictionary to potentially use as a template	No	7/1/2020	9/30/2021	Judicial	Molly Saxton	Not yet complete. One location using e-citations has been identified for follow up.	
Work with DOR to develop a data dictionary of the citation/adjudication records system within DRIVES	Develop a data dictionary of DRIVES to assist in improving data integration of other traffic record systems	No	TBD		DOR, Judicial, STRAC	TRC	Holding off on updating until Citation / Adjudication System is completed	

Recommendation From 2019 Assessment

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

Goal

Develop and provide a quarterly report to the STRAC that reports on the quality and accuracy of the Citation and Adjudication Data System.

Priority

- Short term - by 2023
- Medium term - by 2024
- Long term - 2024 and beyond

Status

- No action
- Initial progress
- Considerable progress
- Completed

Judicial will look at what they can pull for QA/QC and develop some performance measures based on what is available to pull and then build on that. Currently, no citations are rejected. STRAC should consider looking at citations and figure out what attributes of citations are essential. Creating a data dictionary first may help developing more robust QA/QC reporting metrics.

Performance Measure(s)

STRAC development of quality and accuracy metrics to be reported on and have a report submitted to STRAC on Citation and Adjudication data.

Core Traffic Records Systems Addressed

- Crash
 Driver
 Vehicle
 Roadway
 Citation/Adjudication
 Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness
 Accuracy
 Completeness
 Uniformity
 Data Integration
 Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
Determine which QA/QC reporting elements for citation/adjudication data are important	Establish QA/QC data reporting metrics for citation/ adjudication	No	10/1/2020	12/31/2020	DOR, Judicial, STRAC	TRC	Will begin shortly after implementation of new TRCC Strategic Plan	
Request funding from STRAC for developing a QA/QC report from DRIVES for the citation/ adjudication system	Develop system QA/QC report on citation/ adjudication	No	1/1/2020	TBD	DOR	Scott Spinks	On hold until QA/QC reporting elements are known.	
Provide citation/ adjudication data system QA/QC report to STRAC	Establish baseline QA/QC metrics to track progress	No	TBD		DOR	Scott Spinks	On hold until DRIVES is modified to provide QA/QC reports.	

INJURY SURVEILLANCE SYSTEM

Recommendation From 2019 Assessment

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

Goal

Develop and provide a quarterly report to the STRAC that reports on the quality and accuracy of the Injury Surveillance Data System.

Priority

- Short term - by 2023
- Medium term - by 2024
- Long term - 2024 and beyond

Status

- No action
- Initial progress
- Considerable progress
- Completed

CDPHE can only conduct QA/QC on the backend. CDPHE will ask the Colorado Hospital Association (CHA) if they could potentially produce quarterly reports.

Performance Measure(s)

STRAC development of quality and accuracy metrics to be reported on and have a report submitted to STRAC on Injury Surveillance data.

Core Traffic Records Systems Addressed

- Crash
- Driver
- Vehicle
- Roadway
- Citation/Adjudication
- Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness
- Accuracy
- Completeness
- Uniformity
- Data Integration
- Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
CDPHE ask CHA if they could produce quarterly QA/QC reports	Determine if any reporting is possible currently	No	6/1/2020	12/31/2021	CDPHE	C. Demont	Initial progress	Additional coordination with CHA is required and has been delayed due to COVID.
Determine which QA/QC reporting elements for injury surveillance data are important	Establish QA/QC data reporting metrics for injury surveillance	No	10/1/2020	12/31/2021	CDPHE, STRAC	TRC	Not started	Injury surveillance staff are currently deployed on COVID response.
Provide injury data system QA/QC report to STRAC	Establish baseline QA/QC metrics to track progress	No	TBD		CDPHE	C. Demont	To be provided once QA/QC reporting elements for injury surveillance are determined.	

Recommendation From 2019 Assessment

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

Goal

Link EMS and trauma data systems for analysis.

Priority

- Short term - by 2023
- Medium term - by 2024
- Long term - 2024 and beyond

Status

- No action
- Initial progress
- Considerable progress
- Completed

CDPHE will look into opportunities to link EMS and trauma data systems since they both exist on the ImageTrend software platform and the COVID-19 priorities within the department have subsided.

Performance Measure(s)

Link EMS and trauma data systems for review and analysis of STRAC.

Core Traffic Records Systems Addressed

- Crash
 Driver
 Vehicle
 Roadway
 Citation/Adjudication
 Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness
 Accuracy
 Completeness
 Uniformity
 Data Integration
 Accessibility
-

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
CDPHE will review if there are opportunities to link EMS and trauma data sets within the ImageTrend platform	Determine if any linking of EMS and trauma data is possible	No	6/1/2020	12/31/2021	CDPHE	C. Demont	Crash reports and trauma registry have been linked. Next steps will include determining the feasibility of linking crash reports to EMS data.	Injury surveillance staff are currently deployed on COVID response.

DATA USE AND INTEGRATION

Consideration From 2019 Assessment

Use the data set developed through the CDC-sponsored project and through the DRIVES system to conduct small-scale evaluations of existing highway safety programs (i.e. teen drivers).

Goal

Utilize integrated crash and hospital data for traffic safety programming purposes.

Priority

- Short term - by 2023
- Medium term - by 2024
- Long term - 2024 and beyond

Status

- No action
- Initial progress
- Considerable progress
- Completed

CDPHE has been pilot testing connecting crash and hospital data; efforts are underway to continue and expand these efforts.

Performance Measure(s)

Provide an integrated data set of crash and hospital data to the Highway Safety Office for use in program countermeasure development and evaluation.

Core Traffic Records Systems Addressed

- Crash
- Driver
- Vehicle
- Roadway
- Citation/Adjudication
- Injury Surveillance

Data Quality Performance Attributes Addressed

- Timeliness
- Accuracy
- Completeness
- Uniformity
- Data Integration
- Accessibility

Action Plan

Project Title/ Activity Description	Objective	Included in HSP	Start	End	Lead Agency	Lead Staff	Current Status	Notes
Contact Colorado Hospital Association (CHA) to verify and edit as needed the hospital discharge and emergency department database.	Update traffic records inventory from the CHA.	No	3/1/2021	3/30/2021	TRC and CHA	TRC	Ongoing	Hospital discharge and Emergency Department data are available now on CDPHE's Injuries in Colorado Dashboard: https://cohealthviz.dphe.state.co.us/t/PSDVIP-MHPPUBLIC/views/InjuryIndicatorsDashboard/LandingPage?%3AshowAppBanner=false&%3Adisplay_count=n&%3AshowVizHome=n&%3Aorigin=viz_share_link&%3AisGuestRedirectFromVizportal=y&%3Aembed=y
CDC-sponsored project to link (integrate) crash reports with hospital data	The linked data will provide a more comprehensive look at the risk and protective factors involved in traffic crashes, including severity and types of injuries.	No	8/1/2019	7/31/2021	CDPHE	Christine Demont	Ongoing	Not funded through 405(c)
Contact CDPHE to verify and edit as needed the NEMSIS, CoHID, and CDPHE databases.	Update traffic records inventory from the CDPHE.	No	4/1/2021	4/30/2021	TRC and CDPHE	TRC	Completed	CDPHE health databases are all on CoHID data dashboards: https://cdphe.colorado.gov/cohid
Contact CDOT to verify and edit as needed the crash reporting system, FARS, OTIS, and CoRIS databases.	Update traffic records inventory from CDOT.	No	5/1/2021	5/30/2021	TRC and CDOT	TRC	Ongoing	

Traffic Records System Performance

NEMSIS V3 Compliance

Core Traffic Records Systems Impacted:

- Crash Driver Vehicle Roadway Citation/Adjudication Injury Surveillance

Performance Areas Impacted:

- Timeliness Accuracy Completeness Uniformity Data Integration Accessibility

Performance Measure Used to Track Improvements:

The increased number of State EMS providers who submit National Emergency Medical Service Information System (NEMSIS) v3 compliant run reports.

Performance Measure Improvement Achieved:

The State has demonstrated measurable progress by the increased number of agencies using NEMSIS v3 from 222 agencies as of 3/31/2020 to 234 agencies by 4/1/2021. This indicates that an additional 12 agencies began submitting NEMSIS v3 compliant run reports during this time period.

Measurement Technique:

Calculating a number increase in state EMS providers who submit under NEMSIS v3 from March of 2020 to April of 2021.

DR 3447 Utilization

Core Traffic Records Systems Impacted:

- Crash Driver Vehicle Roadway Citation/Adjudication Injury Surveillance

Performance Areas Impacted:

- Timeliness Accuracy Completeness Uniformity Data Integration Accessibility

Performance Measure Used to Track Improvements:

The increased number of Law Enforcement Agencies that submit crash reports using the DR 3447 form.

Performance Measure Improvement Achieved:

Use of the DR 3447 improves Model Minimum Uniform Crash Criteria (MMUCC) compliance by 12.9% as compared to

the previous DR 2447. The State has demonstrated measurable progress in MMUCC compliance by the increased number of agencies using the DR 3447 to report crashes. In April 2020, DOR received DR 3447 crash reports from four law enforcement agencies. By April 2021, 114 of the approximately 220 law enforcement agencies in Colorado have submitted crash reports using the DR 3447 form.

Measurement Technique:

Calculating the increase in the number of Law Enforcement Agencies that submit crash reports using the DR 3447 form from April of 2020 to April of 2021.

TRAFFIC RECORDS PROJECTS

STRAC Ongoing and Future Initiatives

Traffic records reflect a multitude of different types of data, including citations, crash reports, traffic volume, roadway inventory data, injury outcome data, and EMS trip reports. This data is collected by multiple agencies and resides in multiple databases making data retrieval and sharing difficult. For example, the State of Colorado produces over 100,000 crash reports each year from approximately 230 separate law enforcement agencies. The data from these reports is officially stored at the Colorado Department of Revenue's Motor Vehicle Division, and then extracted to the Colorado Department of Transportation for data processing, data scrubbing, coding, analysis, and sharing of summary data among the federal, state, local agencies, and stakeholders responsible for improving safety on Colorado's transportation network.

STRAC guides Colorado agencies on the use of NHTSA grant funding to improve the collection, storing, linking, and sharing of this data through grant-awarded projects. Below in this section are current projects approved by the STRAC at the time of this report.

DRIVES System - DOR

Since 2015 the Colorado Department of Revenue has been working to replace outdated systems within the organization with the Colorado Driver (License), Record, Identification, and Vehicle Enterprise Solution (DRIVES System). The primary goal of this project is to provide a flexible, reliable, accurate and integrated solution for crash, driver and vehicle services, as well as business licensing and revenue accounting.

The DOR continued to update the State's crash database (including crash, vehicle, and person datasets) in 2020 into 2021. This project requires coordination from STRAC members to ensure it meets the needs of data providers and users, most notably the revision of the crash form (DR 3447) and the associated officer's manual. In 2018, the revised crash form (DR 3447) was completed, approved by STRAC and submitted to DOR for incorporation into the new DRIVES system. In October 2019, the DRIVES system was able to accept paper/PDF copies sent in from law enforcement of the DR 3447.

Electronic Transmission of DR 3447 Crash Form Data - DOR

STRAC is working with law enforcement partners across the state to capture their crash reports electronically through an electronically transmission to the DOR DRIVES System. Thus far, for the FFY 2021 grant year, two projects were funded to improve the electronic capturing and submission of crash reports. Currently, it is estimated that over 90 percent of the statewide crashes are collected electronically by law enforcement agencies using the previous DR 2447 Accident Report. DOR completed the DRIVES System Inbound Crash Application Programming Interface (API) development in March 2021, and received the first electronic transmission of a DR 3447 Crash Form from Thornton PD on March 30, 2021. DOR continues working with known Record Management Vendors (RMS) who are developing an API to support electronic transmissions for their law enforcement partners and is working to onboard all law enforcement seeking to transmit electronically. .

Traffic Records Coordinator (TRC)

All STRAC members have other full-time responsibilities that limit the amount of time that can be devoted to traffic records projects. A Traffic Records Coordinator was hired in late 2015 to assist STRAC with various projects and to represent STRAC in discussions with member agencies; this partnership was continued into FFY 2020. Of note, in FFY 2018 and 2019, the TRC assisted in completing the new DR 3447 Crash Form for both manual submission and electronic transmission and worked collaboratively with DOR between June and October 2020 to help outreach to and train law enforcement partners on the new crash form. The TRC continues to review best practices, lead, organize, and facilitate the development of the new Traffic Records Strategic Plan. Other accomplishments were assisting in the discussions for the creation of a statewide citation repository and a centralized statewide crash repository.

New DR 3447 Crash Form - DOR

The new DR 3447 Crash Form was approved by the STRAC in 2018 and DRIVES System development of the form was completed in October 2019, at which time law enforcement agency (LEA) partners were provided 18 months, or until May 1, 2021, to transition to the new form either by manual submission or electronic transmission. During the FFY 2020, increasing the number of DR 3447 Crash Forms received by DOR became a priority. In June 2020 DOR and the STRAC TRC launched a joint outreach initiative to gain law enforcement awareness around the new form and the option to complete electronic transmissions. In June 2020, only 46 DR 3447 Crash Forms had been submitted by five law enforcement agencies. DOR's development of the Crash Inbound Application Programmable Interface (API) was at that time scheduled to begin in the fall and no Record Management System Vendors (RMS) were prepared to integrate. Following the completion of joint outreach efforts between June - October 2020, 502 DR 3447's were manually submitted by 37 LEA's in November and RMS were making development progress. DOR independently continued outreach efforts through February 2021 having contacted and received correspondence from all LEA's not pursuing electronic transmission. DOR was in consistent communication with all known RMS working to develop a crash API. On March 30, 2021 the first DR 3447 Crash Form was electronically transmitted by Thornton PD through their RMS, Hexagon. By May 1, 114 LEA were submitting DR 3447 Crash Forms to the DMV.

During the development of the DR 3447 Crash Form NHTSA evaluated the form for having a 12.9 percent increase in MMUCC compliance over the current DR 2447 Accident Report. Members of the STRAC and NHTSA agree that with increased submission rates of the DR 3447, the accuracy and completeness of crash reporting data will be improved.

Traffic Records Project Prioritization

Grant Management

The STRAC oversees the solicitation, application, review, approval, and recommendation of NHTSA 405c grant projects to improve traffic records. In past years, a request for project applications was sent to every police department throughout the state, as well as all STRAC members, who then passed on the request to any appropriate associates.

For FFY 2021, the STRAC will evaluate projects authorized for NHTSA 405c funding, and will continue to encourage those projects that serve the key goals and objectives of this STRAC Strategic Plan. The STRAC will use the following schedule to guide its traffic records grant application and prioritization process for FFY 2022:

- Short form applications due by February 2021
- Preliminary approval by STRAC at February and April meetings
- Long form applications due April 2021
- Main approval (from NHTSA) in August/September
- Projects start after 10/1/2021
- Projects end 9/30/2022

A copy of the most recent Traffic Records Assessment, Traffic Records Strategic Plan, and the NHTSA publication Model Performance Measures for State Traffic Records Systems are made available to applicants.

Project Prioritization Process

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. The overall criteria is that proposed 405c projects must improve Colorado’s traffic records systems. If they meet that criteria and meet the goals of this Strategic Plan, then the projects are usually accepted if funding is available. If the STRAC believes the project cost is too high of an investment for the return, or it only helps the sponsoring agency internally, then the proposed project is rejected or sent back to the applicant with restrictions or request for clarifications. As a general rule, a four box analysis is conducted for each proposal received as indicated in Figure 2 below.

FIGURE 2. FOUR BOX PROJECT ANALYSIS



FFY 2021 Projects (October 2020 to September 2021)

Through March 2021, STRAC approved projects totaled \$1,158,462 for FFY 2021. Additional projects are likely to be identified, approved, and completed throughout 2021.

Colorado Department of Transportation

Project Name:	Traffic Records Coordinator (TRC)	21-41-03
Grant Amount Requested:	\$297,845	
Actual Amount Spent:	TBD	
Performance Measure:	Deliverables Presented Satisfactorily and On Time.	

Project: This project was created to supply Colorado with a TRC to organize traffic records systems among all the agencies involved. The TRC would work closely with the STRAC, CDOT, DOR, CSP and other agencies (including Police Departments) involved with traffic records. The TRC will act as a liaison among the involved agencies, under the guidance of the CDOT Project Manager. Duties will include monitoring the work done on projects relating to developing a statewide crash database. Also, working with stakeholders to facilitate the rollout of a new state crash form and crash manual, expand data collection as well as distribution, establishing requirements (IT, business rules, confidentiality/security, etc.) for new projects, especially those related to data sharing, and helping manage or monitor traffic record projects. Other duties will include participation in STRAC and promoting participation in projects by stakeholders, promoting e-crash transmission into DOR, helping with related projects, soliciting new agencies to transmit their crash reports electronically, and working to institute a state e-citation and e-crash platforms to promote a uniform citation format and easier e-crash submission for smaller agencies.

Progress/Results: The project is active. The DR 3447 Crash Form and coding manual has been implemented

Colorado Department of Transportation

Project Name:	Technology Transfer	21-41-04
Grant Amount Requested:	\$15,000	
Actual Amount Spent:	TBD	
Performance Measure:	Improve Traffic Records Knowledge	

Project: To fund the attendance of six core STRAC Members (to be determined based on priority) to attend the International Traffic Records Conference hosted by National Safety Council and sponsored by NHTSA, FHWA, FMCSA, and BTS (Bureau of Transportation Statistics). This task will enable the attendees to learn and incorporate best practices around the nation.

Progress/Results: The project is active; however, due to COVID-19 the Traffic Records Forum was held virtually in 2021.

Department of Revenue

Project Name: DMV Digital Transformation 21-41-06
Grant Amount Requested: \$213,750
Actual Amount Spent: TBD
Performance Measure: Timeliness and Uniformity

Project: Establish a Developer Portal and Application Programming Interfaces (API) for crash, conviction, citation and a Data Access Project search engine tool to allow for the integration of data through electronic transmission. The interface exchange with partners is managed through a process administered by the DOR Driver Control Data Services Unit (DSU). These developments will allow the Statewide Traffic Records Advisory Council (STRAC) partners and jurisdictions to work directly with the DSU to submit requests for access to any existing DRIVES API rather than competing for DRIVES System development resources with legislative mandates and internal DOR business priorities through the SQR process.

Progress/Results: The project is active

Colorado Department of Transportation

Project Name: Geocoding 21-41-07
Grant Amount Requested: \$193,536
Actual Amount Spent: TBD
Performance Measure: Accuracy and completeness

Project: CDOT will work with OIT to build an effective process that extracts hard geospatial references from soft textual geospatial references. This process will automate the current manual process that is lengthy, error-prone and expensive.

Progress/Results: The project is on hold

Thornton Police Department

Project Name: Thornton PD E-Crash 21-41-08
Grant Amount Requested: \$18,218
Actual Amount Spent: TBD
Performance Measure: Accuracy and completeness

Project: This project was dependent on Department of Revenue (DOR) development of the Crash Inbound API to support the electronic transmission of the DR 3447 Crash Form and was funded through STRAC grant funds for FY 2020. Both the DOR API development and Thornton PD’s API development were incomplete at the end of FY 2020 and as a result Thornton was unable to complete the project by September 30, 2020. With the extension of Thornton’s grant by the STRAC into FY21, both DOR and Thornton PD achieved their projects Quantitative Improvements on March 30, 2021 when Thornton PD and their Record Management System Vendor, Hexagon, electronically transmitted the first DR 3447 Crash Form into the DRIVES System Production Environment.

Progress/Results: The project is active

Colorado Department of Transportation

Project Name: BESDT Dashboard 21-41-09
Grant Amount Requested: \$98,800
Actual Amount Spent: TBD
Performance Measure: Accessibility

Project: This project will develop dashboards on the external CDOT website for users to query CDOT’s BESDT crash database, providing a standard set of reports, graphs, and displays of the queried data. The dashboards will include mapping of summary data such as heat maps, density, the Level of Service of Safety (LOSS) and pattern data, etc.

Progress/Results: The project is active.

Colorado Department of Transportation

Project Name: Roadway MIRE 21-41-10
Grant Amount Requested: \$149,313
Actual Amount Spent: TBD
Performance Measure: Completeness of MIRE FDE

Project: While CDOT already possesses the majority of the required FDEs, it still lacks the median and traffic control data for the OffSystem (local jurisdiction roads). The linework representing Colorado’s roadway network requires cleanup to correct overshoots and undershoots that currently exist at most intersection junctions. CDOT has also identified a tool that will assist in managing intersection FDEs called Intersection Manager. For Intersection Manager to be viable CDOT needs to complete the cleanup to provide the required route connectivity. CDOT has proactively identified all qualifying intersections statewide to obtain an accurate count and location of intersections that require MIRE FDE data and as a baseline for establishing performance measures.

To address this CDOT has identified approximately 10,000 qualifying intersections within the state of Colorado. The identified intersections require collection and data entry of MIRE FDE medians and traffic control devices. The intersection linework topology also needs overshoots and undershoots corrected to provide necessary routing connectivity. The project will be divided into two separate activities that can be accomplished separately and simultaneously since different editing procedures and editing skill levels are required. The topology cleanup will be performed by a combination of trained contract labor and internal network experts due to the complexities involved in managing the LRS’d network.

Progress/Results: The project is active.

Pike Peak Area Council of Governments

Project Name:	PPACG Geocoding	21-41-11
Grant Amount Requested:	\$40,000	
Actual Amount Spent:	TBD	
Performance Measure:	Accuracy and completeness	

Project: Crash reports often contain inadequate or incorrect information related to crash type, location, direction of travel, and other attributes. Off-system crash reports in the Pikes Peak Region don't contain location coordinates, and offset location descriptions ("150 feet from the intersection of...") and variability in spelling street and county road names require further processing of the records before crash data can be mapped and analyzed. This project will use a combination of software analysis and manual review to reliably locate and correct attributes for these records and develop a uniform street-naming convention for the region roadway network.

Progress/Results: The project is active.

Colorado Department of Transportation

Project Name:	FARS Program Support	20-41-05
Grant Amount Requested:	\$12,000	
Actual Amount Spent:	TBD	
Performance Measure:	Improve Crash Timeliness, Accuracy & Completeness	

Project: Supported the ongoing cooperative agreement with NHTSA/NCSA for Colorado to provide an overall measure of highway safety using fatal crash data. FARS (NHTSA) funds most of the costs; this is just supplemental funding.

Progress/Results: The FARS Database for Colorado was completed for 2019 and kept up to date for 2020. All deadlines and data requests were filled on time, and to NHTSA requirements.

Colorado Department of Transportation

Project Name:	Traffic Records Program Support	20-12-04
Grant Amount Requested:	\$120,000	
Actual Amount Spent:	TBD	
Performance Measure:	Improve Traffic Records Knowledge	

Project: 405c Traffic Records Program Support includes but not limited to: Grant and project management, participation in STRAC events and facilitation, operating costs and participation in the Traffic Records Forum.

Progress/Results: The project is active.

COMMITMENT TO THE STRATEGIC PLAN

STRAC MOU

APPENDIX A. 2019 TRAFFIC RECORDS ASSESSMENT

Appendix A: 2019 Traffic Records Assessment Report