State of Connecticut

Strategic Plan

for

Traffic Records

2018 - 2019

Connecticut - Traffic Records Coordinating Committee
# 2018 - 2019 Traffic Records Strategic Plan

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Introduction

Motor vehicle traffic crashes continue to be a major cause of death and injury in the United States. In Connecticut over the past three years, 2015-2017, the State has recorded more than 300,000 reportable motor vehicle crashes, resulting in 854 deaths, and more than 109,500 injuries, nearly 5,000 of them serious. With 100 injuries occurring per day in the State, some of them serious, in addition to the possibility of being killed, a person could expect any of the following if they are involved in a crash:

- A severe laceration resulting in exposure of underlying tissues/muscle/organ or resulting in significant loss of blood,
- Broken or distorted extremity (arm or leg),
- Crush injuries,
- Suspected skull, chest, or abdominal injury other than bruises or minor lacerations,
- Significant burns (second and third degree burns over 10% or more of the body),
- Unconsciousness when taken from the crash scene, or
- Paralysis

Other injury types include injuries that are evident at the scene of a crash, including a lump on the head, abrasions, bruises, minor lacerations, and complaint of pain.

Examples of factors that contribute to motor vehicle crashes, injuries and death include:

- Speeding
- Following too close
- Other aggressive driving
- Failing to yield right-of-way
The vision of the Connecticut Traffic Records Coordinating Committee (TRCC) is a comprehensive Traffic Records System that provides reliable Data critical to the development of policies, and programs that enhance the operation and safety of the Connecticut Highway Transportation (National, State, and Local Roads) System.

Saving Lives and Preventing Injuries

Saving lives and preventing/reducing the number and severity of injuries, by focusing on quality data, integrating safety data systems, and making data driven policy and programmatic changes.

Quality Data is Essential

Quality data is essential in the ever-evolving need to diagnose the contributing factors to crashes and assessment of implemented countermeasures. The data assists in the identification of innovative and targeted strategies in areas that will have the greatest impact on achieving our goals. Documentation in the State’s traffic records system inventory allows for the identification of common variables and provides an understanding of data quality that may affect linkage processes.

Strengthening Partnerships to Integrate Safety Data Systems

Marketing the importance of data linkages and increasing the access and sharing of data. Linking of databases to support in-depth analysis. The State’s traffic records community stands to benefit from the creation of integrative linkages. The resulting integrated datasets enable users to conduct analyses and generate insights impossible to achieve if only using a single data system, such as Crash. The linked systems add detail to the understanding of each crash event, the roadway environment, and the people and vehicles involved.

Safety Data Systems

Connecticut’s traffic records information comprised of Crash, Driver, Vehicle, Roadway, Citation/Adjudication, and Injury Surveillance Data System components, is made up of:

- Traffic deaths and serious injuries
- All reportable traffic crashes
- Driver citations
- Criminal history and judicial outcome data
- Driver licenses and registered vehicles
- Commercial motor vehicles
- Emergency Medical Systems and vital statistics
- Trauma and inpatient hospital records
- Roadway geometrics and features
- Traffic volumes, traffic mix and freight
- Location information via Geographic Information Systems
- Population estimates
Making Data Driven Policy and Programmatic Changes

The information from linked data systems enhances management and accountability in public service by gauging progress toward key measures of performance. Integrative connections of the State’s safety data expand the information available to decision-makers while avoiding the expense, delay, and redundancy associated with collecting the same information separately.

Traffic records information is critical for highway traffic safety decision makers as they seek to develop and evaluate engineering, enforcement, education, and emergency medical services safety countermeasures.

The highway safety office manages programs addressing occupant protection, child passenger safety, impaired driving, distracted driving, motorcycle safety, community traffic safety, senior drivers, teenage drivers, pedestrian safety, and other traffic safety programs. Program managers use data and analyses to identify problems, assign priorities, allocate resources, and measure program effectiveness. The traffic engineering office incorporates a safety management process to address safety analysis problems in countermeasure selection, economic analysis, and project development for the state’s roadway system. As behavioral and engineering safety analyses becomes more comprehensive, it requires datasets that are more integrated.

Integration of Connecticut’s Traffic Records System Components

Benefits of Integrated Datasets

As traffic records system components become more integrated, this benefits the traffic records community. Benefits include:

- Lower costs to achieve a desired level of data content and availability
- Support for multiple perspectives in data analysis and decision making
- Expanded opportunities for data quality validation and error correction
- Additional options for exposure data to form rates and ratio-based comparisons
- Enhanced accuracy and completeness of data describing crash events, the roadway environment, and the involved people and vehicles
• Increased relevance of information available for legislative and policy analysis
• Increased support for advanced methods of problem identification, countermeasure selection, and evaluation of program effectiveness

Traffic Records Coordinating Committee – A Proponent for Integrated Datasets

Connecticut’s TRCC, with its multi-disciplinary membership, has been instrumental in promoting the creation and use of integrated datasets. Related areas of focus for the TRCC include the ongoing development of a traffic records inventory, including necessary data governance, access, and security policies for datasets that include several sources from multiple agencies. Connecticut’s TRCC includes representative data collectors, managers, and users drawn from each of the core traffic records system components. Membership also includes users of integrated datasets formed when data from different component systems are linked.

TRCC website is located at - http://www.ct.gov/dot/cwp/view.asp?a=2094&q=435916

Data Users and Decision-Makers

Creation of linked datasets are an important start. In addition, data users and decision-makers should have access to the resources that support their needs, including skilled analytic personnel and user-friendly access tools. Ideally, these resources are specifically designed to meet a variety of needs, including legislative queries, problem identification, program and countermeasure development, management, and evaluation, as well as meeting all reporting requirements.

Crash Data Repository

Crash Data Repository (CDR) website is located at - http://www.ctcrash.uconn.edu/
Connecticut Transportation Safety Research Center website is located at - http://www.ctsrc.uconn.edu/

The CTSRC, supported by the Department of Transportation (ConnDOT), has been successful in linking motor vehicle crash with roadway and traffic volume data. Current CTSRC data linkage efforts include:

- Roadway and asset data from ConnDOT’s statewide linear referencing system
- State’s toxicology lab results for DUI and drug offenses hosted by the Department of Emergency Services and Public Protection (DESPP)
- Citation, arrest, and adjudication data from Connecticut’s Judicial branch
- EMS, Injury, and treatment outcome data maintained by the Department of Public Health (DPH)
- Driver licensing and motor vehicle information maintained by the Department of Motor Vehicles (DMV)

The CTSRC is working to establish a central repository for each of these databases from each of the state agencies that collect the necessary data. Without data linkage across all of these datasets it is very difficult to evaluate the impacts of engineering, policy, and behavior modification campaigns on safety.

Researchers Need Linked Datasets

Example of an application using linked datasets. To understand how effective DUI laws are in the state …

… researchers need to be able to review: arrests, prosecutions, dispositions, recidivism, toxicology results, driver history, crash history, injuries, treatment, and vehicle information (interlock). Without linking databases, it is difficult to know how many prior DUIs a person had before they were in a DUI crash, or if they have gone through the DUI diversion program and had their first DUI erased from their record.

TRCC Stakeholders

Stakeholders of Connecticut’s system continue to make great strides in their push to implement uniform mobile traffic law enforcement technologies, including citation, crash data collection, and warning tickets. For several years, the emphasis on EMS patient care reporting resulted in nearly all EMS providers in the state achieving electronic reporting, using the National Standard (NEMSIS). More recently, the focus has been on electronic reporting for a motor vehicle crash as well as traffic citation. Crash reporting has advanced with the adoption of the National MMUCC Guideline, which began in 2015. The State has received best practice awards for citation as well as crash reporting at two of the most recent National Forums on Traffic Records Systems.

Management Approach to Highway Traffic Safety

The TRCC maintains a constant focus on the need for a management approach to highway traffic safety, which requires data that is timely, complete, accurate, uniform, integrated and accessible. A data-driven approach to reducing traffic fatalities and injuries focuses on many aspects of the highway traffic safety challenge:

- Occupant Protection
- Impaired Driving
- Motorcycle Safety
- Senior Drivers
- Child Passenger Safety
- Distracted Driving
- Community Traffic Safety
- Teenage Drivers
Quality data is essential in the ever-evolving need to diagnose the contributing factors to motor vehicle crashes and assessment of implemented countermeasures. The data assists in the identification of innovative and targeted strategies in areas that will have the greatest impact on achieving our goals.

**Performance Measures**

Connecticut’s core of its traffic records system includes crash, driver licensing, roadway, health/injury control, vehicle registration and enforcement/adjudication. Acknowledging significant gains in the State’s traffic records system, many opportunities remain for improving core data systems. The TRCC continues to place a high priority on integrating performance measures with any new proposed system improvements. Discussions by the TRCC have included performance measures for previous years that have gone through the NHTSA approval process accompanying each year’s submittal of the Safety Data Improvement Grants.

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<th>Year of Safety Data Grant Application</th>
<th>Performance Measures Receiving NHTSA’s Approval as part of each year’s Safety Data Grant Application</th>
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<td>2009</td>
<td>190,993 Electronic NEMSIS Compliant EMS-PCRs Added to Database - Previous Year: 0</td>
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<td>2010</td>
<td>31,530 Local Road PDO Crashes Added to Database - Previous Year: 0</td>
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<td>2011</td>
<td>2 Years (total) of Hospital and ED Data Linked to Crash Data (CODES)</td>
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<td>2012</td>
<td>From 20.7 to 19.1 Days from Citation Issuance to Database Entry</td>
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<td>2013*</td>
<td>From 19.0 to 15.6 Days from Citation Issuance to Database Entry</td>
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<td>2013</td>
<td>Linkage of Crash, Roadway and Traffic Volume Data for 9 Year Period - Previous: 0</td>
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<td>2014</td>
<td>From 377 to 167 Days from Report of a Crash to Entry into Database (Backlog)</td>
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<td>2015</td>
<td>From 24 to 75 MMUCC Compliant Crash Data Elements Entered into Database</td>
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<tr>
<td>2016</td>
<td>From 104 to 9 Days from Crash Report Arrival at ConnDOT to Entry into Database</td>
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<td>2017</td>
<td>From 97.46% of Citation Records in the CIB Database with no errors in critical data elements during May ’15-April ’16 --- to 98.1% in the May’16-April ’17-time period</td>
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* At the request of NHTSA, two submissions were made in 2013; one during the first quarter, and one in mid-2013, as a ‘catch-up’ to earlier safety data applications submitted.

For the 2018-2019 Safety Data Grant application, the TRCC is focusing on Crash Accessibility as its primary performance measure. Specifically, the recommended performance measure as outlined in the NHTSA Performance Measure White Paper, DOT HS 811 441, is measured in terms of customer satisfaction — an indicator of the perception of principal users of the Crash Data Repository (CDR), of how well the system responds to their requests; a) their ability to obtain the data requested, and b) their satisfaction with the timeliness of the response. An added measure of satisfaction for the principal users is their use and satisfaction of the crash dashboards/data analysis functionality of the CDR.
CDR Data Accessibility and Customer Satisfaction Survey – conducted by the CTSRC

On May 23, 2018, an extensive 22-question (Data Accessibility and Customer Satisfaction) survey was distributed to identified users of the State CDR.

The survey included questions, establishing the names of organizations users worked for, each user’s role, their primary reason for visiting/coupled with their satisfaction with the CDR website, in addition to more detailed questions on –

* Whether principal users were able to find exactly what they were looking for,
* Asking them to rate the usefulness of features/attributes of the CDR website,
* Providing examples of using the data from the CDR,
* Examples of using the CDR emphasis area dashboards, and
* Rating the usefulness of the CDR dashboard features,

Survey questions as well as the results of the Data Accessibility Customer Satisfaction Survey can be found, beginning on page 41.

National TRCC – Association of Transportation Safety Information Professionals

TRCC representatives continue to be active in the National Traffic Records Forum, and on the National TRCC, known as the Association of Transportation Safety Information Professionals (ATSIP), discussing the development and implementation of e-Citations, the Online Disposition System, e-Crash, data integration, and crash data accessibility. At last year’s Governor’s Highway Safety Association (GHSA) Annual Meeting, the Peter K. O’Rourke Special Achievement Award for Highway Safety was presented to the State for its development of the Connecticut Crash Data Repository (CDR).

Connecticut’s Traffic Records Coordinating Committee – Noteworthy Practices

The State TRCC has helped to coordinate efforts with the support of the ConnDOT Highway Safety Office to ensure cooperation with the State’s political subdivisions establishing and implementing a complete and comprehensive traffic records program. The TRCC maintained an active schedule in 2017, and continues in 2018, meeting monthly as a technical advisory committee. The focus of the TRCC continues to be e-Crash, e-Citation, e-Warning, e-Traffic Stop, e-Adjudication, e-EMS and data integration of all of the traffic records’ six-pack component datasets.

Previously recognized in a Noteworthy Practices Guide for TRCCs during a recent Traffic Records Forum, Connecticut’s TRCC continues to function as a single-tier TRCC, with Ad hoc subcommittees formed to address specific projects and initiatives. Over 100 individuals are engaged in the TRCC and their efforts have resulted in updated e-Crash and e-Citation programs, as well as ongoing data integration projects. With Connecticut’s bottom-up approach - it is the responsibility of the TRCC member to report back to their agency to build buy-in and advocate for TRCC projects: The TRCC builds personal relationships with TRCC members and provides support when stakeholders advocate within and between agencies.

The following represent the requested safety data project funding for each of the past five years, submitted as part of the Highway Safety Planning process to the National Highway Traffic Safety Administration (NHTSA). The table at the bottom of page 9 represents the requested funding for safety data improvement projects for the coming fiscal year 2018-2019.
Safety Data Project Funding

2013 – 2014 Projects

Project funding (targeting E-Crash and E-Citation) for the 8th year 2013 Section 405 application.

- Electronic Crash Reporting Using National Standards (E-Crash)  150,000
- E-Crash / 100% Statewide Submission / Assessment and Support  300,000
- E-Citation Processing System / 100% Statewide Submission / Assessment and Support  150,000
- E-Citation Pilots - State Law Enforcement (DPS)  100,000
- E-Citation Pilots - Local Law Enforcement (CRCOG)  50,000
- E-Citation Pilots - Local Law Enforcement (DESPP Application)  50,000

Targeted Section 405 funding request for traffic records improvements  800,000

2014 – 2015 Projects

Project funding (targeting Electronic Crash / Citation Processing / Single Charging, and Injury Outcome Data Linkage) for the 9th fiscal year 2014-2015 Section 405c application.

- Electronic Crash Reporting / National Standards  150,000
- Electronic Crash / Citation Reporting – Local Law Enforcement Agencies  400,000
- Electronic Citation / Summons Arrest / Warning Processing  200,000
- Electronic Charging / Citation / Warning / Summons Arrest  150,000
- Electronic EMS Tracking and Reporting System Data Linkage  100,000

Targeted Section 405c funding request for traffic records improvements  1,000,000

2015 – 2016 Projects

Project funding (targeting Electronic Crash / Charging and Processing for Citation / Warning / Traffic Stops, Crash Injury Outcome / EMS / Trauma / Processing) for the 10th fiscal year 2015-2016 Section 405c application.

- Electronic Crash - Technology/Software Support for Local Law Enforcement  350,000
- Electronic Citation - Complete Installation Statewide for all Local Law Enforcement  150,000
- Electronic Charging - Citation/Warning/Traffic Stop  150,000
- Electronic Processing - Citation/Warning/Traffic Stop  150,000
- Linking Crash/Injury Datasets - Measure Injury Outcomes Assessed by Health Care Providers  50,000
- Electronic EMS / Trauma Registry - Functionality / Dictionary / Process - Documentation  100,000
- Crash Data Repository - Expand Functionality / Web Query Tools / Hot Spot Mapping  150,000

Targeted Section 405c funding request for traffic records improvements  1,100,000
2016 – 2017 Projects

Project funding (Electronic Crash / Charging and Processing for Citation / Warning / Traffic Stops, Crash Injury Outcome / EMS / Trauma - Processing), Data Linkage Planning for the 11th fiscal year 2016-2017 Section 405c app.

- Electronic Crash - Technology / Software Support for Local Law Enforcement 300,000
- Electronic Charging - Warning / Citation / Traffic Stop 150,000
- Electronic Processing - Warning / Citation / Traffic Stop - Online Disposition System 400,000
- Linking Crash / Injury Datasets - Measure Crash Injury Outcomes - Law Enforcement / Health Care Providers 50,000
- EMS / Trauma Registry - Documentation - Data Dictionaries - Updates - Communication 100,000

Targeted Section 405c funding request for traffic records improvements 1,000,000

2017 – 2018 Projects

Project funding (Electronic Crash / Charging and Processing for Citation / Warning / Traffic Stops, Crash Injury Outcome / EMS / Trauma - Processing), Data Linkage Planning for the 12th fiscal year 2017-2018 Section 405c app.

* Judicial - Electronic Citation Processing - Online Dispositions 297,000
* Judicial - Electronic Citation Processing V2 - All Police Departments 180,000
* HSO - Electronic Crash/Citation Technology Support for Local Law Enforcement 300,000
* YNHH - Linking Crash/Injury Datasets - Measure Crash Injury Outcomes 50,000

Targeted Section 405c funding 827,000

2018 – 2019 Projects

Project funding (Electronic Citation Processing / Citation / Warning / Traffic Stops, EMS / Trauma - Processing), Data Linkage Planning for the 13th fiscal year 2018-2019 Section 405c application

* Judicial - Electronic Citation Processing - Adjudication Online Dispositions 300,000
* Judicial - Electronic Citation Processing V2 - All Police Departments 150,000
* Judicial - Electronic Citation Processing - Full Participation by Law Enforcement 40,000
* HSO - Electronic Citation Technology Support for Local Law Enforcement 300,000

Targeted Section 405c funding 790,000

Projects of Interest for TRCC to Follow

- YNHH: Linking Crash/Injury Datasets - Measure Crash Injury Outcomes
- DPH: Emergency Medical Services/Trauma Registry Functionality
- CTSRC: Data Integration Linkage of Six Core Traffic Records Data Systems
- ConnDOT: MIRE FDE Data Collection Plan
- CTSRC: Digitization of Impaired Driving Data from A44 Alcohol Influence Form
- CJIS: Records Management Systems for Law Enforcement Shared Environment
- ConnDOT: Transportation Enterprise Database (TED)
- LEAs: Data Driven Approach to Crime and Traffic Safety
- TRCC: Traffic Records Inventory/Data Integration
New Projects of Interest for TRCC to Follow

**NGA/CDC**

**Action Plan** to strengthen partnerships to integrate safety data systems and make data-driven and programmatic changes to save lives and prevent injuries (Connecticut involved through NGA Learning Lab - improving data linkage systems)

**GHSA/TRB**

**Research** to study the Impact of Enforcement and Adjudication on Highway Safety (Connecticut involved through participation on Expert Panel to oversee research)

**GHSA/TRB**

**Research** on the Implications of Legislation and Enforcement on Electronic Device Use While Driving

* Behavioral Traffic Safety Cooperative Research Program (BTSCRP) is jointly managed by NHTSA and GHSA and executed by the Transportation Research Board (TRB), part of the National Academies of Sciences, Engineering and Medicine

**Program Level Information**

**State Transportation Safety Data System Contact:** Point of contact for questions related to the Strategic Plan or other traffic records-related issues

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Email: joseph.cristalli@ct.gov

**Traffic Records Coordinating Committee (TRCC):** The TRCC has continued to track its progress and manage safety project development by posting documents on its TRCC website. The links on the following pages include other websites encompassing core safety data systems relating to:

- Department of Transportation
- Highway Safety Programs,
- Traffic Records Coordinating Committee
- Connecticut Crash Data Repository,
- Connecticut Transportation Safety Research Center
- Department of Motor Vehicles,
- Department of Public Health,
- Department of Emergency Services & Public Protection
- Connecticut Police Chief’s Association
- Judicial Branch
- Criminal Justice Information System

**ConnDOT - [http://www.ct.gov/dot](http://www.ct.gov/dot) (Department of Transportation)**


- Child Passenger Safety
- Click it or Ticket Enforcement Campaign
- Crash Data Collection Initiatives and Programs (PR-1 and PR-2)
- Distracted Driving Prevention
- DUI Enforcement Program
- Motorcycle Safety - Connecticut Rider Education Program (CONREP)
- Police Traffic Services
- Safe Routes to School
- Traffic Records Coordinating Committee (TRCC)

The Highway Safety Office is represented on its own face book page - https://www.facebook.com/CThighwaysafety

Traffic Records Coordinating Committee


The following represents the current content for the TRCC website.

Traffic Records Coordinating Committee Website

Current Materials

Message to Stakeholders Read This First
TRCC Meeting
TRCC Stakeholders
TRCC Charter
TRCC Traffic Records Strategic Plan
TRCC Data Linkage Subcommittee
TRCC Traffic Enforcement Data Update
TRCC CSP Wrong Way Driver Study

Reference Materials

Traffic Records Program Assessment Advisory 2017
Traffic Records Assessment 2017
MMUCC Guideline Fourth Edition 2012
D16.1 Manual on Classification of Motor Vehicle Crashes
One-Page MMUCC / D16.1 / D20.1 Standards Comparison
Traffic Records System Inventory
DMV - http://www.ct.gov/dmv (Department of Motor Vehicles)

- Online – License Services
- Driver License Suspension Payments
- Check Driver License Status
- Learner’s Permit Test Appointments
- Commercial Driver Self Certification
- Vehicle Services

DPH - http://www.ct.gov/dph (Department of Public Health)

- Connecticut Health Database Compendium
- EMS Patient Care Report Database/Trauma Centers
- Injury Prevention

DESPP - http://www.ct.gov/despp (Department of Emergency Services & Public Protection)

Division of State Police


JUD - http://www.jud.ct.gov/ (Judicial Branch)

- Infraction Ticket Processing
  https://www.jud2.ct.gov/cibepay/

CJIS - www.ct.gov/cjis (Criminal Justice Information System)

- Connecticut Information Sharing System (CISS)

**Authority** – The Connecticut TRCC continues to operate under the authority of and by the appointment of the Administrators of the Connecticut Department of Transportation, Connecticut Department of Motor Vehicles, Connecticut Department of Public Health, and the Judicial Branch who represent the core safety data systems: Motor Vehicle Crash, Roadway, Driver License/History, Vehicle Registration, Injury Surveillance/EMS, and Citation/Adjudication.

Letters of delegation (Administrators listed below) are attached to the Section 405c application.

Letters of delegation from these Administrators designate individual(s) to attend and participate on the TRCC, as their representatives.

**Crash Data and Roadway Data Systems:**
- **Name:** James P. Redeker
- **Title:** Commissioner
- **Agency:** Department of Transportation

**Driver License / History and Vehicle Registration Data Systems:**
- **Name:** Michael Bzdyra
- **Title:** Commissioner
- **Agency:** Department of Motor Vehicles
Injury Surveillance / EMS Data System:
Name: Raul Pino  
Title: Commissioner  
Agency: Department of Public Health

Citation / Adjudication Data System:
Name: Joseph D. D'Alesio  
Title: Executive Director of Operations  
Agency: Superior Court

TRCC (Technical Level) – The Connecticut TRCC, supported by the Highway Safety Office, continues an active, full schedule. In its efforts to seek improvements in the State’s traffic records system, as outlined in this Strategic Plan and reflected in both the 2012 and 2017 Traffic Records Assessments, the TRCC’s emphasis has followed the original recommendations from the Section 408/405c process for measures of improvements — completeness, uniformity, timeliness, accuracy, integration, and accessibility of the data by stakeholders.

The following vision and mission statements, reviewed during TRCC meetings in 2016 and 2017, continue to support the goals and objectives of the TRCC.

**TRCC Vision**

A comprehensive Traffic Records System that provides reliable Data critical to the development of policies, and programs that enhance the operation and safety of the Connecticut Highway Transportation (National, State, and Local Roads) System.

**TRCC Mission**


**Coordination and Cooperation – Helping to Reduce Crashes, Deaths, and Injuries**

Data-driven improvements rely on the State’s traffic records system to identify opportunities to improve highway safety, measure progress, and evaluate countermeasures. Because the data comes from many sources, the process requires coordination and cooperation, best achieved with the establishment of a TRCC and a statewide multiyear traffic records strategic plan.

The Connecticut TRCC shall:

a. Include representatives from highway safety, the highway infrastructure, law enforcement, adjudication, public health, injury control and other State and federal agencies and organizations;

b. Have authority to review the State’s highway safety data and traffic records system and review changes to such systems before the changes are implemented;

c. Provide a forum for the discussion of highway safety data and traffic records system issues and report on such discussions to the agencies and organizations in the State that manage and use highway safety and traffic records system data;
d. Consider and coordinate views of organizations in the State that are involved in the collection, management and use of traffic records system data;

e. Represent the interests of traffic records system agencies and organizations to outside organizations; and

f. Review and evaluate new technologies that have potential application for improving the Timeliness, Accuracy, Completeness, Uniformity and Accessibility of Traffic Records System data.

TRCC Stakeholders – 2018 Roster

Participants on the TRCC (2018 roster attached), which meets monthly, include 15 new stakeholders added this past year, while 22 members left due to changing job assignments or retirement. The TRCC is proud of its multidisciplinary membership, including collectors, managers, operators, and users of traffic records data. Representation includes public health and injury control, highway safety, highway infrastructure, law enforcement, adjudication, driver licensing, motor carrier, research, hospital, insurance, regional planning, university, mental health, and other interested organizations.

Crash Data Systems – MMUCC Audit: The State continued its documentation of the National Guideline MMUCC data elements that are collected and used within the crash data system. In January 2015, the State transitioned to a completely updated electronic crash reporting system using the 4th Edition of the MMUCC Guideline as the basis for its crash data collection. At the 2015 Traffic Records Forum, during the Best Practices presentation for the new crash reporting system, announcement was made that Connecticut’s new MMUCC PR-1 mapped to the National MMUCC Guideline at over 99%.

The new electronic approach for crash reporting has positively impacted the amount of time law enforcement spends reporting motor vehicle crashes, especially crashes resulting in property damage only (PDO). More police departments converting to electronic crash reporting has translated into more timely submission of crash report data to the new CDR, and availability of data for access and analysis.

A new electronic approach for crash reporting based on National MMUCC Guidelines is helping to improve the uniformity of motor vehicle crash reporting; not only between jurisdictions in the state, but between Connecticut and its neighbors in NHTSA Regions I and II as well as with other states in the U.S. also incorporating the National Guidelines.

A combination of improved access and data query tools for the CDR, together with electronic crash reporting, has resulted in timeliness of access to crash data on the State CDR of 89 days or less from the date a crash report is received at ConnDOT. Accessibility to the CDR is made available to all authorized stakeholders in the state.

In addition to electronic crash data elements aligning with the National MMUCC Guideline, the focus has also been on editing procedures for capturing motor vehicle crash data. Emphasis for recording data electronically, has focused on various records management systems used by both state and local law enforcement, and most importantly, the existing training and/or emphasis on motor vehicle crash reporting and the records management system tools that law enforcement has incorporated in the past.
As identified in the Introduction, motor vehicle crash statistics help to focus on many of the highway safety challenges:

- Driver Distraction/Other Factors
- Air Bag Technologies in Vehicles
- Occupant Restraints
- Child Passenger Safety
- Roadway Safety/Hazard Elimination
- Vehicle Safety/Motorcycle Safety
- Impaired Driving/Speed
- Teen/Senior Driving
- Pedestrian/Pedal Cyclist Safety
- Commercial Vehicle Safety

The TRCC agreed to the importance of MMUCC compliance following National Guideline recommendations; focusing on the number of MMUCC data elements that are included in the core of a State crash data repository (CDR). With the statewide implementation of the MMUCC 4th Edition, which began in 2015, several adopted data elements will be critical in providing future linkage between the crash and other traffic records files. MMUCC contains many data elements that are required by the Federal Motor Carrier Safety Administration (FMCSA), for reporting commercial motor vehicle crashes.

The TRCC continues its focus on safety data improvement projects that allow measurement of change/impact in the short term. As noted in the 2007 - 408 application, emphasis was placed on activities like the CVARS project that provided for electronic capture and submittal of commercial vehicle crash data.

**EMS Data Systems – NEMSIS Audit:** The use of NEMSIS was mandated beginning January 2007 and all EMS services provided Toughbook laptop computers were required to have Gold Standard NEMSIS compliant software and be trained in the use of this software. It should be noted, that the number of NEMSIS data elements captured in a Patient Care Report (PCR) depends upon the seriousness of the calls for service.

**NHTSA Go-Team Report**

Summarized during the February 2017 meeting of the TRCC, the Connecticut Trauma Registry and EMS, Go-Team Report described valuable discussions with DPH and other Trauma and Traffic Safety Partners beginning with the Go-Team visit in October 2016. A subset of recommendations to consider:

- Scheduling regular conversations via phone, webinar, or in-person with partner agencies and vendors,
- Establish templates and set deadlines for system documentation for, *User manuals, *Data dictionaries, *Edit checks and validation rules,
- Track communication among partners using the following methods: *Set timelines for returning email and telephone correspondence, *Set timelines for dissemination of system changes, *Establish a formal feedback loop for questions or issues
- Document and disseminate data-sharing parameters (data confidentiality, DPH Institutional Review Board, etc.),
- Track progress of performance measures and update TRCC regularly at meetings,
- Establish a training schedule, either in-person or online, to provide an avenue for the developers to review modifications and updates and to allow an opportunity for users to have question and answer sessions,
- Re-establish annual reports of trauma registry data to help identify trends and to identify potential problems in the data collection and reporting processes,
- Coordinate activities with the State TRCC and any data governance processes that are established for the injury surveillance and traffic records data sources, and
- Develop a report writer to assist EMS agencies and the State with quality metric reporting and aggregate data analyses of the pre-hospital data. Adding analytical resources will enhance the quality of the EMS system as a component of the State Traffic Records Injury Surveillance System.

Discussed during the February and March 2018 meetings of the TRCC, plans are underway for another GO-Team, supported by NHTSA, which will focus on technical assistance with redeployment of the 2017 pre-hospital EMS database, including lack of a Project Manager to oversee the IT process, determine appropriate timelines, oversight, and responsibilities.

**Traffic Records Assessment**: Legislation requires that States have performed a Traffic Records Assessment within the past five years for all grant applications after the first year.

As noted in the 2018 Strategic Plan, a NHTSA approved Traffic Records Assessment was conducted in January - April 2017. A copy of the Assessment is included.

The Traffic Records Assessment provided the following major recommendations, listed below in the first column. Actions taken by the State, either through the TRCC or separately by an individual agency will be continually updated and documented in the second column over the next five years.

### 2017 Traffic Records Assessment

<table>
<thead>
<tr>
<th>Recommendations from 2017 Assessment</th>
<th>Status as of August 2018 ----------------------------------</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  Connecticut is encouraged to create and establish an executive TRCC committee. The executive group provides the opportunity to better understand the importance of traffic records systems in the State's safety programs and gives them the required background when called upon to support funding and resources necessary to maintain the systems.</td>
<td>Designated for its noteworthy practices in a 2015 study by the FHWA, the TRCC takes a bottom-up approach to stress the importance of traffic records initiatives, representing the goals and objectives of the TRCC, and presenting proposed system upgrades to obtain buy-in by individual agency management. New initiative by NGA focusing on data integration, involving agency commissioners and the Governor's Office.</td>
</tr>
<tr>
<td>2  Continue the development of a formal traffic records system inventory, including all traffic records data sources, system custodians, data elements and attributes, linkage variables, linkages useful to the State and data access policies.</td>
<td>As noted in the Traffic Records Assessment, the TRCC is in the process of updating its traffic records system inventory. Current focus includes Data Dictionaries for each of the six core systems. Assessor findings from the Assessment have pointed to strengths and weaknesses in Data Dictionaries for each of the systems. Examples of individual content for each of the Data Dictionaries are being reviewed.</td>
</tr>
<tr>
<td>3  The TRCC is encouraged to implement formal performance measures for each of the six core systems. Once implemented, the performance measure can provide immediate feedback for the TRCC vision, project selection, and evaluation.</td>
<td>For the 2018-2019 safety data improvement 405c grant application, the TRCC is highlighting the performance measure – crash accessibility, specifically the customer satisfaction for principal users of the Crash Data Repository – their ability to obtain the data requested and their satisfaction with the timeliness of the response.</td>
</tr>
<tr>
<td>Recommendations from 2017 Assessment</td>
<td>Status as of August 2018</td>
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</table>
| **4** The TRCC is encouraged to consider the following suggestions to further strengthen its Traffic Records Strategic Plan:  
a. Project timelines  
b. System lifecycle costs, where applicable  
c. Process for coordinating system improvements with federal data systems | As noted in the Traffic Records Assessment, project timelines appear to be established by the agencies sponsoring the projects and through oversight provided by project steering committees.  
Regarding lifecycle costs, the CT-TRCC relies on the agency responsible for the system to determine lifecycle costs.  
CT-TRCC membership includes key federal agency representatives, who help strengthen communications regarding federal data systems. |
<p>| <strong>5</strong> Connecticut is encouraged to explore opportunities for improvement in its crash core data system through data linkages, interfaces and integration with other core datasets of the State’s traffic records system. | Connecticut’s CTSRC has initiated a large-scale traffic records data integration project aimed at ultimately linking all the six core datasets of the State’s traffic records system. |
| <strong>6</strong> Recommendation to improve the vehicle file data dictionary representing a Connecticut specific version (rather than relying on AAMVA and NMVTIS information), limited to the State’s data and definitions and containing data edits and validation rules. | The documentation provided, a data dictionary, NMVTIS manual, and an AAMVA D20 manual, did not contain information about the Connecticut system related to edit checks. No information related to the procedure for applying title brands, nor a copy of the actual brands that are applied in Connecticut, was available for review. |
| <strong>7</strong> Recommendation to address the issue that personal information is not collected in the same format on the vehicle file as it is on the driver file by reviewing current conventions for collecting and recording names. Discrepancies are due to the fact that the files are of varying ages and one has greater capacity than the other. | Personal information is entered into the driver and vehicle systems using different conventions, due to the restrictions of smaller fields in the older driver files. This lack of consistency makes integration of the two files more difficult and makes it difficult for law enforcement officers to find potential vehicle information on suspects. To the extent possible, effective data governance would include methodologies to consistently capture customer names throughout State files to prevent fraud and duplicate records, as well. |
| <strong>8</strong> Recommendation for a Connecticut-specific data dictionary for the driver file (rather than dependence on AAMVA’s D20), to ensure that consistency and uniformity are practiced within the State and that any State-developed data edits and null values are included in the documentation. | The data dictionary, AAMVA D.20 manual, and a sample of additional data dictionary elements indicates field values and data descriptions but does not detail the edit checks within the Connecticut system. Connecticut relies on their vendor Morpho Trust to update system documentation. |
| <strong>9</strong> Improve the data quality control program for the driver data system. | The State does not have a formal, comprehensive data quality management program for the driver system. Instead, it utilizes external tools/resources to improve data quality. |
| <strong>10</strong> Improve the procedures/process flows for the vehicle data system. | Process flows have not been developed for error handling and correction in the Connecticut vehicle data system. The State reports that such diagrams are under development. |</p>
<table>
<thead>
<tr>
<th>Recommendations from 2017 Assessment</th>
<th>Status as of August 2018</th>
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</thead>
<tbody>
<tr>
<td>11</td>
<td>Improve the data quality control program for the vehicle data system.</td>
</tr>
<tr>
<td>12</td>
<td>Linkage between the driver and crash core data systems would provide a great deal of information about what are the qualities of driver behavior that are most often represented in crash involvement.</td>
</tr>
<tr>
<td>13</td>
<td>Connecticut does not provide driver system data quality management reports to the TRCC for regular review. The driver data should be monitored, and performance recorded.</td>
</tr>
<tr>
<td>14</td>
<td>Improve applicable guidelines for the roadway core data system; for example, to include all additional (non-Fundamental Data Element) MIRE data elements for all public roads and document in the State data dictionary?</td>
</tr>
<tr>
<td>15</td>
<td>Recommendation to improve the data quality control program for the roadway core data system.</td>
</tr>
<tr>
<td>16</td>
<td>Recommendation to improve the data dictionary for the citation/adjudication core data system.</td>
</tr>
<tr>
<td>17</td>
<td>Recommendation for the State to be able to track DUI citations.</td>
</tr>
<tr>
<td>18</td>
<td>Improve the interfaces with the citation/adjudication core system data with the other core data systems of the six-pack.</td>
</tr>
<tr>
<td>19</td>
<td>Recommendation to improve the procedures and process flows for the citation/adjudication core system to reflect best practices identified in the TR Advisory.</td>
</tr>
<tr>
<td>20</td>
<td>Recommendation to improve the data quality control program for the citation/adjudication core data system.</td>
</tr>
</tbody>
</table>
### Recommendations from 2017 Assessment

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Status as of August 2018</th>
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</thead>
<tbody>
<tr>
<td>19 Recommendation from 2017 Assessment</td>
<td>performance measure to monitor the percentage of citations where the uniform violation codes are incorrect.</td>
</tr>
<tr>
<td>21 Recommendation for injury surveillance system (ISS) component system to have formal documentation regarding the collection, management, and maintenance of data. Priority should be given to the restoration of the trauma registry.</td>
<td>The State has been unable to collect trauma registry data after 2011 and existing data was lost for several years. The State is working on gathering lost data and restoring trauma registry functionality so that hospitals can begin submitting data again. No formal process has been in place to provide feedback to the data collectors and managers.</td>
</tr>
<tr>
<td>22 Recommendation to improve the data quality control program for the injury surveillance system (ISS) component systems to have edit checks and validation rules for data entering the system.</td>
<td>The State is preparing to adopt NEMSIS version 3.4.0., and in the process of developing a data dictionary, working towards that standard. Aside from a data dictionary, which includes variable names, definitions and code lists, the ED dataset has no formal documentation that summarizes the dataset or how it is managed.</td>
</tr>
<tr>
<td>23 Recommendation for injury surveillance system (ISS) component system to have formal performance measures that enable them to track and quantify performance within their system.</td>
<td>No performance measures have been established for EMS or other ISS component system data. The vital records system in Connecticut is currently paper-based. As such, there is no capability for inclusion of automated editing and error-checking. No information was available on how the data managers may identify or correct errors.</td>
</tr>
<tr>
<td>24 Recommendation for the State to create interfaces between EMS data and trauma registry data, as well as other ISS component systems.</td>
<td>The State plans to create an interface in the new EMS and trauma data systems. No interface currently exists between the vital statistics and hospital discharge databases.</td>
</tr>
<tr>
<td>25 Recommendation for each component system within the injury surveillance system (ISS) to have the opportunity to regularly share data with the TRCC to help identify potential collaborations.</td>
<td>All the ISS component systems have established procedures for making aggregate data available to outside parties, creating advocacy for development and improvement in the ISS datasets. The State's privacy laws appear to be in alignment with HIPAA. The statutes do not appear to pose a barrier to the sharing of data among State agencies for analysis and integration.</td>
</tr>
<tr>
<td>26 Recommendation to integrate all the traffic records core data systems.</td>
<td>As noted previously, the State’s CTSRC has initiated a large-scale traffic records data integration project aimed at ultimately linking all the six core datasets of the State’s traffic records system. The State has compiled a partial traffic records inventory of its available traffic records data system components. The inventory includes the sources and data custodians but does not provide the details of the individual data systems themselves. Follow-up from the traffic records assessment should provide a number of those documents.</td>
</tr>
</tbody>
</table>
Deficiency Description

This section contains brief descriptions of system deficiencies. The following represents brief statements of traffic records system deficiencies previously identified. Deficiencies are described according to their respective traffic records system core areas with reference to a specific performance area (timeliness, uniformity, completeness, accuracy, accessibility, and integration) that is to be addressed by improving the system deficiency.

Note: In 2006, the NHTSA review team categorized and documented on its web site (43) deficiencies for Connecticut’s traffic records system from the information provided in the 2006-2007 Section 408 Application. The deficiency ID numbers introduced by the NHTSA Team have been maintained for their reference and update; however, the deficiencies have been reordered by Core System Area and by priority of safety data improvement projects. Notations have also been made in instances where identified deficiencies were duplicated, such as #3 and #7, which represent the same deficiency.

Deficiencies identified in the recent Traffic Records Assessment, noted in the above referenced recommendations, include:

- Lack of performance measures, data linkages, data dictionaries, applicable guidelines, procedures and process flows, and data quality control programs for each of the traffic records six-pack core datasets,
- Lack of data linkages for each of the component datasets of the Injury Surveillance System,
- Data dictionaries that are ‘Connecticut-Specific,’ and
- Personal information that is collected differently on the Vehicle File, compared to the Driver File.
### Deficiency by Core System Area

#### Injury Surveillance – EMS Run Reporting System

<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT-D-00050</td>
<td>Completeness/Timeliness/Uniformity</td>
<td>Injury Surveillance/EMS</td>
<td>Specific focus</td>
<td>July 1, 2008 OEMS began receipt of electronic EMS PCR data</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**
Lack of program documentation, including data dictionary; server location used to work with data at OEMS in question at DPH. Non-linkage of EMS and Trauma data. Continued long range focus of OEMS will be all ISS related data systems, including linking the various system components – Refer to NHTSA Go-Team Report, page 15, and 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.

#### Crash System

<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT-D-00011</td>
<td>Completeness</td>
<td>Crash</td>
<td>Specific focus</td>
<td>Electronic reporting key</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**
Local road PDO reports were previously not entered into the ConnDOT crash file. Local road PDO crash data was entered into the ConnDOT Crash file for 2007-2010, excluded for 2011, and reinstated in 2012. Current MMUCC PR-1 system does include local road PDO crash data in the statewide database.

<table>
<thead>
<tr>
<th>Deficiency ID</th>
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<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
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</thead>
<tbody>
<tr>
<td>CT-D-00041</td>
<td>Completeness</td>
<td>Crash</td>
<td>Specific focus</td>
<td>Electronic reporting key</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**
Crash data lacking for Local roads, PDO crashes and all crashes. Current MMUCC PR-1 system includes a broader collection of crash data elements, based on the National MMUCC Guideline, for all reportable crashes in the statewide database. Relates to CT-D-00011.

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<thead>
<tr>
<th>Deficiency ID</th>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT-D-00012</td>
<td>Completeness</td>
<td>Crash</td>
<td>Specific focus</td>
<td>Electronic reporting key</td>
<td>7-01-18</td>
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</tbody>
</table>
Deficiency Description
Two-thirds of the data elements from all reportable crashes not entered into the ConnDOT crash file. With the implementation of the MMUCC PR-1 crash system, which began in 2015, 75 of the 77 at crash scene/recommended MMUCC 4th Edition data elements are now being entered into the State Crash Data Repository (CDR) at the Connecticut Transportation Safety Research Center (CTSRC).

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<thead>
<tr>
<th>Deficiency ID</th>
<th>CT-D-00015</th>
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<tbody>
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<td>Performance Area</td>
<td>System</td>
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<tr>
<td></td>
<td>Basic Description</td>
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<tr>
<td>Timeliness</td>
<td>Crash</td>
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</tbody>
</table>

Deficiency Description
Delays in obtaining the crash data. This is addressed in several of the main projects submitted through ten years of Section 408/405c applications. With the implementation of the MMUCC PR-1 crash system, which began in 2015, and crash data now being entered into the State CDR at UConn; 13th year safety data improvements funding is being dedicated to support local law enforcement as they adopt electronic reporting and move away from paper, and pdf reporting.

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<tr>
<th>Deficiency ID</th>
<th>CT-D-00016</th>
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<tr>
<td>Performance Area</td>
<td>System</td>
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<td></td>
<td>Basic Description</td>
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<tr>
<td>Integration</td>
<td>Crash</td>
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</table>

Deficiency Description
Legacy crash data system can't accommodate electronic transmission of crash reports. The State CDR at UConn is now accepting electronic crash reporting from State and local law enforcement. Electronic reporting of the MMUCC PR-1, which began in January 2015, continues to improve, achieving a current timeliness benchmark (# of days from date report is received at ConnDOT to date of entry into the state database) - 9 days.

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<thead>
<tr>
<th>Deficiency ID</th>
<th>CT-D-00017</th>
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<td>Performance Area</td>
<td>System</td>
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<tr>
<td></td>
<td>Basic Description</td>
</tr>
<tr>
<td>Integration</td>
<td>Crash</td>
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</tbody>
</table>

Deficiency Description
Legacy crash data system can't accommodate electronic transmission of crash reports. The State CDR at UConn is now accepting electronic crash reporting from State and local law enforcement. Electronic reporting of the MMUCC PR-1, which began in January 2015, continues to improve. Through the CDR, crash data has been linked with roadway and traffic volume data. The CDR is establishing a repository for toxicology lab results and traffic citation data.
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<th>Deficiency ID</th>
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<tr>
<td>CT-D-00018</td>
<td>Performance Area:</td>
<td>System:</td>
<td>Basic Description:</td>
<td>Status:</td>
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<tr>
<td></td>
<td>Accessibility:</td>
<td>Crash:</td>
<td>Specific focus:</td>
<td>Crash data</td>
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<td></td>
<td></td>
<td></td>
<td>repository key</td>
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<td>Last Update:</td>
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<td>7-01-18</td>
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</table>

**Deficiency Description**

Legacy crash data system had poor user access. Refer to description for CT-D-00017. The State CDR is meeting the needs of many users for direct online data query and analysis tools; provides web-based access/analysis tools to research crash statistics by town, county, compared to statewide.

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<tbody>
<tr>
<td>CT-D-00019</td>
<td>Performance Area:</td>
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<td>Status:</td>
</tr>
<tr>
<td></td>
<td>Integration:</td>
<td>Crash:</td>
<td>Specific focus:</td>
<td>Crash data</td>
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<td>repository key</td>
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<td>7-01-18</td>
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</table>

**Deficiency Description**

Legacy crash data system has no capabilities to link to other systems. Refer to description for CT-D-00017. The State CDR is meeting the needs of many users for linked data involving crash, roadway and traffic volume data for State, Interstate and U.S. Routes. The CDR is establishing a repository for toxicology lab results and traffic citation data. Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.

<table>
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<tr>
<th>Deficiency ID</th>
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<tbody>
<tr>
<td>CT-D-00020</td>
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<td>System:</td>
<td>Basic Description:</td>
<td>Status:</td>
</tr>
<tr>
<td></td>
<td>Completeness:</td>
<td>Crash/Vehicle:</td>
<td>Specific focus:</td>
<td>Electronic</td>
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<td></td>
<td>reporting key</td>
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<td>Last Update:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**

Reporting of commercial motor vehicle (CMV) crashes was incomplete and inconsistent. Through funding from the Federal Motor Carrier Safety Administration (FMCSA), the Commercial Vehicle Safety Division (CVSD) of the Department of Motor Vehicles has achieved 100 percent electronic citation and crash reporting, with direct upload to the Federal SafetyNet System.

| Deficiency ID     |                      |                      |                      |                      |
|------------------|----------------------|----------------------|----------------------|                      |
| CT-D-00035       | Performance Area:    | System:              | Basic Description:   | Status:              |
|                  | Timeliness:          | Crash/Vehicle:       | Specific:            | CVARS                |
|                  |                      |                      |                      | Last Update:         |
|                  |                      |                      |                      | 7-01-18              |

**Deficiency Description**

The capture and upload of CMV crash data for SafetyNet is now automated.
### Deficiency ID

**CT-D-00036**

<table>
<thead>
<tr>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timeliness</td>
<td>Crash</td>
<td>Specific</td>
<td>FARS</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**

FARS-information regarding alcohol or drugs (crash related) can be delayed. TRCC is very supportive of the FARS Office in focusing on this important issue. CDR is dedicating a position to working with law enforcement and ConnDOT FARS to alleviate the recurring delay each year in providing important fatal crash data in a timely manner.

---

**CT-D-00037**

<table>
<thead>
<tr>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timeliness</td>
<td>Crash</td>
<td>Specific</td>
<td>FARS</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**

Submission of FARS data can be delayed if there are extenuating circumstances such as delays in obtaining BAC data. NHTSA continues to stress this initiative, and the TRCC is very supportive of the Connecticut FARS office in addressing this important issue. Refer to CT-D-00036 - CDR is dedicating a position to working with law enforcement and ConnDOT FARS to alleviate these delays.

---

**CT-D-00001**

<table>
<thead>
<tr>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completeness</td>
<td>Crash</td>
<td>General</td>
<td>Electronic reporting key</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**

Incomplete reports – this is a general description. It is not targeted specifically in any of the ongoing safety data projects; however, through electronic roadside data capture for the new MMUCC PR-1 crash reporting system (with built in edit and validity checks), this deficiency is being addressed.

---

**CT-D-00002**

<table>
<thead>
<tr>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessibility</td>
<td>Crash</td>
<td>General</td>
<td>Crash data repository key</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**

Refer to CT-D-00018, the State CDR is meeting the needs of many users for direct online data query and analysis tools. Refer to CDR highlights - provides web-based access/analysis tools to research crash statistics by town, county, compared to statewide.

The CDR is becoming more of a one-stop shop for local law enforcement, implementing the new MMUCC PR-1 crash reporting system. The CDR continues to upgrade data query tools as well as canned output reports for local law enforcement and other users.
<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>CT-D-00003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Area</td>
<td>System</td>
</tr>
<tr>
<td>Uniformity</td>
<td>Crash/Roadway</td>
</tr>
<tr>
<td>Basic Description</td>
<td>Specific focus</td>
</tr>
<tr>
<td>Status</td>
<td>Electronic reporting with GPS key</td>
</tr>
<tr>
<td>Last Update</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**

The crash location is usually determined by reference to the narrative, and if included, GPS coordinates provided on the MMUCC PR-1 by the investigating officer. This deficiency also relates to the Roadway Core System. Future State efforts to establish/implement a GIS base map that can be integrated with electronic reporting is also an important initiative in addressing this deficiency. Parallel efforts by law enforcement to enhance location reporting using the lat/long of a crash event, and ConnDOT’s effort to establish a State GIS Base Map should help to improve the consistency of location data.

<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>CT-D-00004</th>
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</thead>
<tbody>
<tr>
<td>Performance Area</td>
<td>System</td>
</tr>
<tr>
<td>Completeness</td>
<td>Crash</td>
</tr>
<tr>
<td>Basic Description</td>
<td>General</td>
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<tr>
<td>Status</td>
<td>Electronic reporting key</td>
</tr>
<tr>
<td>Last Update</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**

Alcohol, contributing circumstances, other data often not recorded. Implementation of new MMUCC PR-1 crash reporting system is helping to address this deficiency.

<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>CT-D-00005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Area</td>
<td>System</td>
</tr>
<tr>
<td>Uniformity</td>
<td>Crash</td>
</tr>
<tr>
<td>Basic Description</td>
<td>Specific focus</td>
</tr>
<tr>
<td>Status</td>
<td>MMUCC PR-1 crash reporting</td>
</tr>
<tr>
<td>Last Update</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**

Data not compatible/comparable with other states. Implementation of new MMUCC PR-1 crash reporting system, which began in January 2015, is helping to address this deficiency. As previously mentioned 75 out of 77 MMUCC 4th Edition at scene recommended crash data elements are now being entered into the State CDR at UConn.

<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>CT-D-00006</th>
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</thead>
<tbody>
<tr>
<td>Performance Area</td>
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<tr>
<td>Timeliness</td>
<td>Crash/Roadway</td>
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<tr>
<td>Basic Description</td>
<td>Specific</td>
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<tr>
<td>Status</td>
<td>Electronic reporting with GPS key</td>
</tr>
<tr>
<td>Last Update</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**

Identifying crash location on a State reference map from field information is time consuming. Future State efforts to establish/implement GIS base map that can be integrated with electronic reporting is critical. Refer to CT-D-00003 on the previous page – State GIS base map.
<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
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</thead>
<tbody>
<tr>
<td>CT-D-00007</td>
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<td>Crash/Roadway</td>
<td>Specific focus</td>
<td>Electronic reporting with GPS key</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**
Location data is inconsistent. This is a repeat of CT-D-00003. Parallel developments involving law enforcement with the new MMUCC PR-1 crash reporting system and the ConnDOT GIS base map development effort.

<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT-D-00009</td>
<td>Accuracy</td>
<td>Crash</td>
<td>General</td>
<td>Electronic reporting key</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**
Copy errors. Being addressed in the new electronic MMUCC PR-1 crash reporting system implemented in January 2015.

<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
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<tbody>
<tr>
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<td>Completeness</td>
<td>Crash</td>
<td>General</td>
<td>Electronic reporting key</td>
<td>7-01-18</td>
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</tbody>
</table>

**Deficiency Description**
Incomplete reports. This is a repeat of CT-D-00001. Being addressed in the new electronic MMUCC PR-1 crash reporting system implemented in January 2015.

<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
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<tbody>
<tr>
<td>CT-D-00013</td>
<td>Accuracy</td>
<td>Crash</td>
<td>General</td>
<td>Crash data repository key</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**
Duplication of data entry at State and Local levels. State CDR accepts data from the new MMUCC PR-1 crash reporting system, alleviating the need for local law enforcement to maintain a duplicate data entry process.
<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
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</thead>
<tbody>
<tr>
<td>CT-D-00014</td>
<td>Accuracy</td>
<td>Crash</td>
<td>General</td>
<td>Electronic reporting key</td>
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<tr>
<td></td>
<td>Deficiency Description</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Transposition errors made in preparing the finished report. Addressed in the new electronic MMUCC PR-1 crash reporting system implemented, January 2015.</td>
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<tr>
<td>CT-D-00021</td>
<td>Completeness</td>
<td>Crash/Citation/Adjudication</td>
<td>General</td>
<td>Electronic reporting key</td>
<td>7-01-18</td>
</tr>
<tr>
<td></td>
<td>Deficiency Description</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Officers tend not to indicate contributing circumstances or other factors if driver is not cited. Relates to CT-D-00004. Being addressed in the new electronic MMUCC PR-1 crash reporting system, which began in 2015.</td>
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<tr>
<td>CT-D-00044</td>
<td>All areas</td>
<td>Crash</td>
<td>General</td>
<td>Training/feedback key</td>
<td>7-01-18</td>
</tr>
<tr>
<td></td>
<td>Deficiency Description</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feeling by law enforcement that crash reporting is only for insurance purposes and court use. Being addressed in the new electronic MMUCC PR-1 crash reporting system, implemented in 2015.</td>
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<tr>
<td>CT-D-00045</td>
<td>Accuracy/Uniformity</td>
<td>Crash</td>
<td>General</td>
<td>Training/feedback key</td>
<td>7-01-18</td>
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<tr>
<td></td>
<td>Deficiency Description</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Confusion at times by law enforcement concerning classification of motor vehicle crashes. Being addressed in the new electronic MMUCC PR-1 crash reporting system, implemented in 2015.</td>
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</tbody>
</table>
### Traffic Safety Information System - Improvements - Section 405c Application

<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
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<tbody>
<tr>
<td>CT-D-00046</td>
<td>All areas</td>
<td>Crash</td>
<td>General</td>
<td>Training/feedback key</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**

Lack of feedback to law enforcement as to the value of and how data is used for highway traffic safety planning. Being addresses in the new electronic MMUCC PR-1 crash reporting system, through online videos and newsletters, and follow-up training initiatives, with the support of the CTSRC at UConn.

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<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
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<tbody>
<tr>
<td>CT-D-00047</td>
<td>All areas</td>
<td>Crash/Citation/Adjudication</td>
<td>General</td>
<td>Training/feedback key</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**

Feeling by law enforcement that they are forced to become data entry operators. Being addressed in the new electronic MMUCC PR-1 crash reporting system, which began in January 2015.

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### Citation/Adjudication System

<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
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<td>Citation/Adjudication</td>
<td>General</td>
<td>e-Citation/CiDRIS</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**

Too much radio time between dispatch and officer in the field conducting an enforcement stop. Impacts from an electronic citation processing system and Impaired Driver Records Information System (CiDRIS) will continue to have measurable impacts in 2018 - 2019. 13th Year efforts will continue the development of an online infraction disposition system. Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.

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<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
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<tbody>
<tr>
<td>CT-D-00027</td>
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<td>Citation/Adjudication</td>
<td>General</td>
<td>e-Citation/CiDRIS</td>
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**Deficiency Description**

### Deficiency ID: CT-D-00032

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<tbody>
<tr>
<td>Accessibility</td>
<td>Citation/Adjudication</td>
<td>General</td>
<td>e-Citation/CIDRIS</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

#### Deficiency Description
Lack of real time access to critical data “24-7”. Measurable impacts expected in 2018 - 2019. 13th Year efforts will also focus on the continued development of an online disposition system.

### Deficiency ID: CT-D-00033

<table>
<thead>
<tr>
<th>Performance Area</th>
<th>System</th>
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<th>Status</th>
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<tbody>
<tr>
<td>Uniformity</td>
<td>Citation/Adjudication</td>
<td>General</td>
<td>e-Citation/CIDRIS</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

#### Deficiency Description
Lack of standards to permit better sharing of justice information. Measurable impacts expected in 2018 - 2019. 13th Year efforts will also focus on the continued development of an online infraction disposition system.

### Deficiency ID: CT-D-00034

<table>
<thead>
<tr>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>Uniformity</td>
<td>Citation/Adjudication</td>
<td>General</td>
<td>e-Citation/CIDRIS</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

#### Deficiency Description
Delays in obtaining data. Measurable impacts expected in 2018 - 2019. 13th Year efforts will also focus on the continued development of an online infraction disposition system.

### Deficiency ID: CT-D-00054

<table>
<thead>
<tr>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>Citation/Adjudication</td>
<td>General</td>
<td>e-Citation/CIDRIS</td>
<td>7-01-18</td>
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#### Deficiency Description

### Deficiency ID: CT-D-00055

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</tr>
</thead>
<tbody>
<tr>
<td>Integration</td>
<td>Citation/Adjudication</td>
<td>General</td>
<td>e-Citation/CIDRIS</td>
<td>7-01-18</td>
</tr>
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</table>

#### Deficiency Description
### Traffic Safety Information System Improvements - Section 405c Application

#### Deficiency Description

<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>Performance Area</th>
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<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Completeness</td>
<td>Citation/Adjudication</td>
<td>General</td>
<td>e-Citation/CIDRIS</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

Handwritten reports sometimes difficult to read; copying errors; incomplete reports. Measurable impacts expected in 2018 - 2019. 13th Year efforts will also focus on the continued development of an online infraction disposition system.

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**Driver License/History System**

<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT-D-00022</td>
<td>Integration</td>
<td>Driver License/History</td>
<td>General</td>
<td>CIVLS project underway</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

Lack of a customer account number to tie related driver and vehicle information together. DMV is addressing this with a major system re-design (Connecticut Integrated Vehicle and Licensing System). Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.

---

<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT-D-00023</td>
<td>Integration</td>
<td>Driver License/History</td>
<td>General</td>
<td>CIVLS Enterprise Modernization Project key</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

DMV files are more stand-alone, not linked files. DMV is addressing this in a new system re-design (CIVLS).

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<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT-D-00024</td>
<td>Accuracy</td>
<td>Driver License/History</td>
<td>General</td>
<td>Electronic field reporting with link to DMV Driver files</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

Data on DL, such as driver address can be outdated. TRCC sponsored E-Citation project and a real-time interface to DMV’s information system for most current customer information on file will ultimately impact this issue. Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.
### Deficiency ID

<table>
<thead>
<tr>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timeliness</td>
<td>Driver License/History</td>
<td>General</td>
<td>CIVLS Enterprise Modernization Project key</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

#### Deficiency Description

Some processed DMV data not timely. DMV is addressing this in a new system re-design.

---

### Deficiency ID

<table>
<thead>
<tr>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
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<tbody>
<tr>
<td>Completeness</td>
<td>Driver License/History</td>
<td>General</td>
<td>CIVLS Enterprise Modernization Project key</td>
<td>7-01-18</td>
</tr>
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</table>

#### Deficiency Description

Lack of DL data on drivers with serious driving offenses from previous state of record. Currently, the Commercial Driver License Information System (CDLIS) provides DMV with the driving history record of a former out of state CDL operator that is seeking a CT credential. The violation information is recorded in DMV’s driver history system and is available to law enforcement via DMV’s driver history file through the COLLECT system. With regard to non-CDL operators, DMV performs a National Driver Registry (NDR) and Problem Driver Pointer System (PDPS) check prior to issuance. PDPS will record and store open/pending actions on a motorist due to traffic offenses recorded in the other state and where administrative action was taken by that jurisdiction’s motor vehicle agency. In addition, DMV will not permit an operator found within that system to obtain a CT credential unless the problem is resolved with the prior state. There is no national electronic system available to DMV for non-CDL operators, such as CDLIS is for commercial drivers, to check for serious offenses in which the operator’s credential was restored.

---

### Deficiency ID

<table>
<thead>
<tr>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completeness</td>
<td>Driver License/History</td>
<td>General</td>
<td>No integration planned between DMV’s non-CDL credential/vehicle information and the collection of crash data by law enforcement.</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

#### Deficiency Description

Lack of driver crash data for driver control and improvement. ConnDOT is the entity responsible for the collection of crash related data. Since DMV is not authorized to collect crash data for non-CDL types of activities there is no integration planned. Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.
<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT-D-00057</td>
<td>Integration</td>
<td>Driver License/History</td>
<td>CIVLS Enterprise Modernization Project key</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

**Deficiency Description**

Lack of features incorporated into a real-time system, such as - NMVTIS, an electronic lien system, and integration with the driver system. DMV’s driving history is a record of offenses and violations by an operator and as such, does not record vehicle-related information such as NMVTIS and ELT. However, CIVLS will have a unique customer (i.e., customer centric system) that is planned on linking a customer’s vehicle, title, credential, and sanction-related information. Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.

**Roadway System**

<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT-D-00028</td>
<td>Completeness</td>
<td>Roadway</td>
<td>General</td>
<td>Roadway inventory system</td>
</tr>
</tbody>
</table>

**Deficiency Description**

State lacks a standardized location reference system. State efforts initiated to establish and implement GIS base map that can be integrated with electronic field reporting, providing latitude and longitude coordinates. Another State initiative is developing a linear referencing system that will link to other roadway systems. Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.

<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT-D-00029</td>
<td>Uniformity</td>
<td>Roadway</td>
<td>General</td>
<td>Roadway inventory system</td>
</tr>
</tbody>
</table>

**Deficiency Description**

Roadway inventory data not standardized or automated for gathering, analysis and dissemination. State initiative to develop a roadway inventory system, containing roadway characteristics data has been implemented.

<table>
<thead>
<tr>
<th>Deficiency ID</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT-D-00030</td>
<td>Completeness</td>
<td>Roadway</td>
<td>General</td>
<td>Local data key</td>
</tr>
</tbody>
</table>

**Deficiency Description**

Roadway inventory for local roadways is deficient compared to the inventory of the State’s system. Possible future application for new FHWA MIRE Guideline – Model Inventory of Roadway Elements. Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.
The State safety improvement programs are linked to upgrading the extant, outdated legacy reporting system. A State Crash Data Repository was implemented at the University of Connecticut, with support from the Department of Transportation. Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.

Injury Surveillance/EMS System

There continues to be limited resources for injury surveillance and data analysis including a lack of human resources and funding. Refer to CT-D-00050, lack of program documentation, including data dictionaries; non-linkage of EMS and Trauma data. Continued long range focus will be all ISS related data systems, including linking the various system components.

Past focus was developing an EMS Patient Care Report as well as provision of data for the Crash Outcome Data Evaluation System (CODES). Refer to NHTSA Go-Team Report for State Trauma Registry and EMS Systems, page 15.

Dependency on crash, location identification and other traffic record system data require significant improvements. Many other related system improvements are described in the 2006 Strategic Plan.
<table>
<thead>
<tr>
<th>Deficiency Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPH seeking technical assistance with the redeployment of the Trauma Registry and report writer as one of the prerequisites for successful integration of pre-hospital EMS data with hospital data entered into the Trauma Registry. Refer to NHTSA Go-Team Report for State Trauma Registry and EMS Systems, page 15.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Deficiency ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT-D-00052</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uniformity</td>
<td>Injury Surveillance/EMS</td>
<td>General</td>
<td>NEMSIS data element standard providing momentum</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Deficiency Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Patient Name/SSN exists in all databases to track a patient/victim from the scene of a crash through the healthcare system. Availability of these data allows for the use of deterministic linkage between databases. CODES System linkage/data analysis is an excellent tool for promoting patient tracking systems development, but no funding is available for this purpose.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Deficiency ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT-D-00053</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessibility</td>
<td>Injury Surveillance/EMS</td>
<td>General</td>
<td>Previously, a CODES Advisory Board - in place</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Deficiency Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of access to comprehensive medical and healthcare data files by authorized data partners. Refer to 2017 Assessment/Actions Taken by TRCC, page 16.</td>
</tr>
</tbody>
</table>

**All Core Component Areas - TRCC**

<table>
<thead>
<tr>
<th>Deficiency ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT-D-00040</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Performance Area</th>
<th>System</th>
<th>Basic Description</th>
<th>Status</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>All areas</td>
<td>All systems</td>
<td>General</td>
<td>Focus of 408/405c Programs</td>
<td>7-01-18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Deficiency Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecticut's TRCC was recognized during the 2015 National Traffic Records Forum as one of six states in a Noteworthy Practices Guide for TRCCs. Ad hoc subcommittees are formed to address specific projects and initiatives; Over 100 individuals are engaged in the TRCC and their efforts have resulted in updated eCrash and eCitation programs, as well as ongoing data integration projects; Connecticut uses a bottom-up approach - it is the responsibility of the TRCC member to report back to their agency to build buy-in and advocate for TRCC projects; The TRCC builds personal relationships with TRCC members and provides support when stakeholders advocate within and between agencies. Highway Safety Office is fully committed to support of the TRCC. Refer to 2017 Assessment/Actions Taken by TRCC, page 16.</td>
</tr>
</tbody>
</table>
Safety Data Projects

Project Prioritization: (Legislation requires that States document how they prioritized projects).

For the 2006 Section 408 Application, projects were selected and prioritized using a combination of factors. Part 1 of the 2006 Application – Deficiency Analysis and Major Strategies, page 2 – used the criteria defined below. The following program areas were listed based on a ranking of priorities by a two-thirds representation of the TRCC. For detail of each of these program areas, refer to the 2006 Strategic Plan.

1. Crash Data Content – Adopted National MMUCC Guideline data element recommendations
2. Location Reference System (LRS) – ConnDOT’s Integrated Enterprise Base Map and LRS
3. Crash e-Data Capture – MMUCC PR-1 electronic crash reporting system – implemented 2015
4. Crash Data Clearinghouse (CDR) – refer to CTSRC large scale data integration effort – page 4
5. Crash Report Training – Train-the-Trainer / provided in parallel with new crash system rollout
6. Driver/Vehicle – Modernization project – CIVLS
7. Citation/Adjudication – CIDRIS (Integration efforts between DMV, DCJ, DPS, Judicial)
8. TRCC – Leadership, Financial Assistance, Executive Level Oversight
9. Roadway – Road Inventory major component of new ConnDOT Base Map and LRS initiative
10. CVARS – Commercial Vehicle Safety Division – complete electronic crash and citation reporting
11. FARS – Model system; need for continual emphasis in complete and timely reporting
12. ISS/EMS – Efforts underway to review/strengthen data capture/linkage within ISS/EMS
13. Data Analysis – HSO uses outside support for highway safety planning; as noted above, CDR continually improving data query and analysis capabilities (refer to CTSRC highlights – page 6)

These program areas were reviewed in comparison to the major recommendations of the 2012 and 2017 Traffic Records Assessments, and as previously stated, there did not appear to be any substantive change to the emphases currently being pursued by the TRCC.

Identified in the 2006 Strategic Plan, a challenge for the State has continued to be the lack of a State crash data repository to be able to accommodate/accept the electronic transmission of PR-1 crash reports from law enforcement agencies statewide. Rated high in the Strategic Plan, the planning for a crash data repository received less attention during the 2006 Section 408 Application, after the state was advised to submit projects that could show quick results.

This year the TRCC continues to place greater emphasis in this area; Crash Data Repository (CDR) has become a web-based query and data analysis center, with public and private access to crash data. Users can analyze crash data/statistics in their own neighborhoods, towns, counties, as well as comparing statewide totals.

Previously, the focus of the TRCC on safety data improvement projects that would show change/impact in the short term directed it to consider/benefit from the success of CVARS and to implement projects that included electronic crash data collection. The decision was also made to learn from the success of electronic collection of EMS Patient Care Report (PCR) data, already underway. In 2006, the NHTSA review team cataloged seven projects from the information provided in the 2006 Section 408 Application. The project ID numbers have been maintained for reference and update by the NHTSA Team.

In 2018, projects were prioritized, by reviewing, discussing, and building on the 2017 application, in which most of the emphasis had been placed on both E-Crash and E-Citation projects. The TRCC determined through consensus to continue this trend into the thirteenth year Section 405c applications, to a large degree because a major focus is to strategize how to enhance efforts to go statewide with both of these important and related safety data improvement initiatives.

Note: The same project reference numbering initiated by NHTSA during the first year of the Section 408 funding is still being used for the 2018 applications.
### Four Box Analysis - Section 405c Application

<table>
<thead>
<tr>
<th>Project ID #</th>
<th>COST</th>
<th>DURA</th>
<th>COORDINATION</th>
<th>AFFECT PROGRAM GOALS</th>
<th>LIKELIHOOD OF SYSTEM IMPACT</th>
<th>COSTS/RISKS ASSOCIATED W/FAILURE</th>
<th>FOUR-BOX CELL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short (1-2Yr) or longer</td>
<td>Challenges, uncertainties?</td>
<td>Affect to the core system improvement, development?</td>
<td>How likely to achieve impact?</td>
<td>Costs/risks associated with failure?</td>
<td>2(a), (b), (c), (d)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electronic Citation Processing - Online Dispositions</td>
<td>Medium</td>
<td>Long</td>
<td>Coordination with State and Local LEAs; DMV; Judicial; Courts</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>d</td>
</tr>
<tr>
<td>Electronic Citation Processing V2 - All Police Departments</td>
<td>Medium</td>
<td>Long</td>
<td>Coordination with State and Local LEAs; DMV, Judicial; Courts</td>
<td>Medium</td>
<td>Medium</td>
<td>Medium</td>
<td>d</td>
</tr>
<tr>
<td>Electronic Crash/Citation Technology Support for Local Law Enforcement</td>
<td>High</td>
<td>Medium</td>
<td>Multiple stakeholder – LEAs in varying states of preparedness (technology/software)</td>
<td>Medium to high depending on the funding received and participation by LEAs</td>
<td>High</td>
<td>Medium</td>
<td>a ~ d</td>
</tr>
<tr>
<td>Linking Crash/Injury Datasets – Measure Crash Injury Outcomes</td>
<td>Low</td>
<td>Short</td>
<td>Big change for law enforcement, recording injury status – from old PR-1 to new MMUCV4.</td>
<td>Higher emphasis by FHWA &amp; NHTSA – using serious injuries as a metric for Highway Safety.</td>
<td>High</td>
<td>Low</td>
<td>a</td>
</tr>
<tr>
<td>Digitization of Impaired Driving Data from A44 Alcohol Influence Form</td>
<td>Low</td>
<td>Short</td>
<td>Coordination with DMV, HSO, and CTSRC</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
<td>a</td>
</tr>
<tr>
<td>Emergency Medical Services/Trauma Registry Functionality</td>
<td>Low</td>
<td>Medium</td>
<td>Linking Crash, EMS, Trauma, and CHIME data</td>
<td>Medium to high, pending percentage, etc.</td>
<td>Medium</td>
<td>Low</td>
<td>a</td>
</tr>
<tr>
<td>Data Integration Linkage of Six Core Traffic Records Data Systems</td>
<td>Low</td>
<td>Medium</td>
<td>Coordination with multiple stakeholder agencies; address confidentiality issues</td>
<td>High</td>
<td>High</td>
<td>Medium</td>
<td>d</td>
</tr>
</tbody>
</table>

### Four Box Analysis Chart – Cell Rating

- (a) Low Cost – High Payoff
- (b) Low Cost – Low Payoff
- (c) High Cost – Low Payoff
- (d) High Cost – High Payoff

1) $500k or less (Low), $500-999k (Med), $1Million or greater (High)
2) Cell - ‘a’ (Low cost – high payoff) – recommended first
3) Key is to build in funding stream
Safety Data Project Selection:
In making project selections for the July 2018 405c submission, input from TRCC stakeholders was obtained during TRCC meetings from January 2018 to June 2018, e-mails and follow-up phone calls focusing on the TRCC website, 2017 Traffic Records Assessment, the emerging Strategic Plan, and the importance of reaching consensus for the thirteenth year of the Section 405c funding. Other factors included building on the priority of the 2018 Section 405c project selections, a continued focus on the new MMUCC PR-1 e-Crash system as well as expanding e-Citation statewide, coupled with an online disposition system, reestablishing functionality as well as building a base for linking crash with EMS, trauma, and hospital information.

The following represent the proposed projects for the July 2018 Section 405c application. From the involvement and influence of representatives from the law enforcement, judicial, public health, engineering, highway safety, and research communities, at the state and local levels, electronic roadside data capture of citation information together with motor vehicle crash, an online infraction disposition system, emergency response and hospital information, strengthening of data repositories and a large scale integration project – including six core traffic records data systems (NHTSA recommended six-pack) are seen as top priority objectives the TRCC seeks to achieve. Other projects included, not necessarily supported through 405c funding include a Roadway Inventory dataset for ConnDOT, the Connecticut Information Sharing System (CISS), data driven approach to crime and traffic safety for law enforcement, and TRCC working groups to focus on key recommendations from the Traffic Records Assessment.

Traffic Records Projects
for Fiscal Year 2018 - 2019

Proposed 405c Funded Projects

<table>
<thead>
<tr>
<th>Agency</th>
<th>Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Judicial</td>
<td>- Electronic Citation Processing - Electronic Adjudication/Online Dispositions</td>
</tr>
<tr>
<td>Judicial</td>
<td>- Electronic Citation Processing V2 - All Police Departments</td>
</tr>
<tr>
<td>Judicial</td>
<td>- Electronic Citation Processing - Full Participation by Law Enforcement</td>
</tr>
<tr>
<td>HSO</td>
<td>- Electronic Citation Technology/Software Support for Local Law Enforcement</td>
</tr>
<tr>
<td>YNHH</td>
<td>- Linking Crash/Injury Datasets - Measure Crash Injury Outcomes</td>
</tr>
<tr>
<td>DPH</td>
<td>- Emergency Medical Services/Trauma Registry Functionality</td>
</tr>
<tr>
<td>CTSRC</td>
<td>- Data Integration Linkage of Six Core Traffic Records Data Systems</td>
</tr>
<tr>
<td>ConnDOT</td>
<td>- MIRE Fundamental Data Elements (FDE) Data Collection Plan</td>
</tr>
<tr>
<td>TRCC</td>
<td>- Continued Focus on a Traffic Records Inventory / Data Integration</td>
</tr>
<tr>
<td>CJS</td>
<td>- Digitization of Impaired Driving Data from A44 Alcohol Influence Form</td>
</tr>
<tr>
<td>LEAs</td>
<td>- Data Driven Approach to Crime and Traffic Safety</td>
</tr>
<tr>
<td>ConnDOT</td>
<td>- Transportation Enterprise Database (TED)</td>
</tr>
</tbody>
</table>

Other Projects of Interest for TRCC to Follow

<table>
<thead>
<tr>
<th>Agency</th>
<th>Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGA/CDC/CT</td>
<td>- Action Plan - Connecticut to strengthen partnerships to integrate safety data systems and make data-driven policy and programmatic changes to save lives and prevent injuries</td>
</tr>
<tr>
<td>*GHSA/TRB/CT</td>
<td>- Expert Panel - Impact of Enforcement and Adjudication on Highway Safety. Panel of Subject-Matter Experts (Connecticut participating) to guide Research</td>
</tr>
<tr>
<td>*GHSA/TRB</td>
<td>- Research - Implications of Legislation and Enforcement on Electronic Device Use While Driving</td>
</tr>
</tbody>
</table>

*Jointly managed by NHTSA and GHSA / executed by the Transportation Research Board (TRB), part of the National Academies of Sciences, Engineering and Medicine
Performance Measures and Goals

In listing performance measures, the same reference numbers that were documented by the NHTSA review team for the 2006 Section 408 application for Connecticut have been included for referencing and update purposes. Some of the measures are duplications (such as 03 and 04). Additional performance measures (18-22) have been included that were proposed for the first-year Section 408 funding.

Performance Measures by Performance Area vs. Safety Data Core System

<table>
<thead>
<tr>
<th>Crash</th>
<th>Citation/Adjudication</th>
<th>Driver</th>
<th>Vehicle</th>
<th>Roadway</th>
<th>Injury Control/EMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completeness</td>
<td>01, 16, 22, 06</td>
<td>06</td>
<td>18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uniformity</td>
<td>08, 21 (MMU/CC)</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timeliness</td>
<td>07, 15, 17, 20 (Crash)</td>
<td>02, 09, 10, 11</td>
<td>11</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Integration</td>
<td>24 (Crash/Roadway)</td>
<td>03, 04, 12, 13, 14</td>
<td>24 (Crash/Roadway)</td>
<td>23 (Hospital/Emergency Dept Data)</td>
<td></td>
</tr>
<tr>
<td>Accessibility</td>
<td>26 (Crash Data Center)</td>
<td>05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accuracy</td>
<td>25 (Citation)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The (17) performance measures documented by the NHTSA team from Connecticut’s 2006 Section 408 application are presented using the NHTSA assigned reference numbers. They have been re-ordered, however, to reflect the priority records system improvement efforts pursued by the TRCC beginning with the Injury Control/EMS Core System area.

Measures that relate to Citation/Adjudication are listed together following the Crash and EMS emphasis areas. Measures #11 (Citation/Adjudication and Driver), #20 (Crash and Vehicle), and #6 (Crash and Roadway) represent initiatives that relate to more than one core system area.

For reference to #06 (Crash/CSP – Completeness), #15 (Crash/CAPTAIN – Timeliness), #20 (Crash/CVARS – Timeliness), and #17 (Crash – Timeliness/this performance measure, documented by the NHTSA review team in 2006, and already included in CT-M-00007, CT-M-00015, and CT-M-00020), refer to the 2007 Traffic Records Strategic Plan.

Accessibility of Crash Records in the CDR - Determination of Measurable Progress

The TRCC’s focus is on Crash Accessibility of crash records in the Crash Data Repository (CDR) for its primary performance measure for the 2018-2019 Safety Data Grant application. Specifically, the recommended performance measure as outlined in the NHTSA Performance Measure White Paper, DOT HS 811 441, is the percentage of success for principal users – accessibility of crash records in the CDR.

Measure of accessibility achieved – Improvement of the accessibility from 93.5 percent of accessibility of the CDR by Principal Users during July 2016-June 2017, to 96.0 percent during July 2017-June 2018. Refer to the next two pages for the Interim Progress Report, submitted as a requirement for the State Traffic Safety Information System Improvements Grant. This report details the actual 12-month baseline and performance period comparison of the crash accessibility measure used for this year’s grant application.
## State Traffic Safety Information System Improvements Grant
### Interim Progress Report

<table>
<thead>
<tr>
<th>System to be Impacted</th>
<th><em>x</em> CRASH __DRIVER __VEHICLE __ROADWAY __CITATION/ADJUDICATION __EMS/INJURY __OTHER specify:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Area(s) to be Impacted</td>
<td><em>x</em> ACCURACY ____TIMELINESS ____COMPLETENESS <em>x</em> ACCESSIBILITY ____UNIFORMITY ____INTEGRATION __OTHER specify:</td>
</tr>
</tbody>
</table>

#### Narrative Description of the Measure
Assessment of the principal users of the crash database to determine their success in accessing the database.

#### Relevant Project(s) in the State's Strategic Plan
Title, number, and Strategic Plan (2017) page reference for each Traffic Records System improvement project to which this performance measure relates.

**Title:** Crash Data Repository (CDR) – Data Integration Linkage of Six Core Traffic Records Data Systems, page 179.

**Project Background:**
Expand CDR functionality, query tool/canned output reports for individual departments; trends/ranking in the state/crash factors; add functionality including GIS tools, allow for retrieval of geospatial data for DDACTS/other applications. This project established a repository structure which provides users online access to these repositories through a common integrated portal.

Analysis of highway safety is probably the most data-intensive activity carried out by highway and transportation agencies. It requires more than just archiving police crash reports. To be effective, information recorded on the crash reports must be captured into a searchable database. Roadway inventory, traffic volumes and even land use information are all critical for evaluating the safety of any road segment or intersection. These were added as part of phase 3 of the CDR. However, other safety analysis exercises require data such as driver history, motor vehicle registration information, and vehicle miles traveled (VMT).

Data linkage is an efficient strategy for expanding the data available, while avoiding the expense, delay and redundancy associated with collecting the same information separately. System states that link data from each of the six components of the traffic records system provide important new sources of data that can be used to identify risk factors, design strategies to address these risk factors, and evaluate the strategies once implemented. Understanding the facilitators and barriers to an effective and useful linkage system can optimize the system's utility for public health and transportation safety.

Data integration linkages of the six-pack components of a traffic records system support in-depth analysis impossible to achieve if based solely on the contents of any singular data system. The Connecticut Transportation Safety Research Center (CTSRC), supported by the State Department of Transportation (ConnDOT), has been successful in linking motor vehicle crash with roadway and traffic volume data.

Current CTSRC efforts include establishing a repository for the state's toxicology lab results to be able to track DUI and drug offenses with relation to crashes, and a citation data repository to aid in the evaluation of state programs on driver behavior. Plans by the CTSRC include opportunities to link other databases, e.g., injury and treatment outcome data to aid in the evaluation of crash outcomes, and the linkage of all related roadway databases into a linear referencing system.

**Expected Impact:**
Real-time on-line capability to access data from the Crash Data Repository (CDR).

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**Note:** For documentation regarding the method of data collection for this performance measure, please refer to 2018 Data Accessibility and Customer Satisfaction Survey, page 41 in the 2018 Traffic Records Strategic Plan.
The following represents the – Data Accessibility and Customer Satisfaction Survey, distributed on May 23, 2018, to identified users of the State CDR. The survey, distributed by the Connecticut Transportation Safety Research Center (CTSRC), was designed to measure accessibility and customer satisfaction for the Connecticut Crash Data Repository; the broader intent was to project a focus on customer satisfaction and to solicit feedback on ways the CTSRC Crash Data Repository could be improved.
Connecticut Crash Data Repository - Accessibility and Customer Satisfaction Survey

This survey is designed to measure accessibility and customer satisfaction for Connecticut Crash Data Repository.

Thank you for taking time to participate in this survey measuring accessibility and customer satisfaction for Connecticut Crash Data Repository. Your response will assist us in evaluating current performance and identifying areas for future improvements.

The survey should take less than 5 minutes to complete. Be assured that all answers you provide will be kept confidential.

If you have any questions, please contact:

Dr. Eric Jackson at eric.d.jackson@uconn.edu

or

Dr. Smruti Vartak at smruti.vartak@uconn.edu

Please click ‘next’ to begin.

There are 22 questions in this survey

**Personal Information**

1 Name of the organization you work for: *

Please write your answer here:


2 What is your role within the organization? *

Please write your answer here:


Website satisfaction questions

3 How satisfied are you with our website? *
Please choose only one of the following:
- Very Satisfied
- Somewhat Satisfied
- Neutral
- Somewhat Dissatisfied
- Very Dissatisfied

4 How did you learn about our website? Check all that apply.
Please choose all that apply:
- Workshop, presentation or other event
- Internet search engine
- Referred by an organization or professional
- News story (tv, radio, newspaper etc.)
- Referred by another website
- Other: __________________________

5 What is your primary reason for visiting our website? Check all that apply.
Please choose all that apply:
- I'm looking for information on grants
- I'm looking for information on DUI contributing factors
- I'm looking for information on crash specific factors
- I'm looking for data for future analysis
- I'm looking for town or county specific crash information
- I'm looking for roadway data
- I'm a professional looking for resources
- Other: __________________________
6 How often do you visit our website? *

Please choose only one of the following:

- Visited 1-2 times before
- Regularly (at least once a week)
- Monthly (1-2 times a month)
- Quarterly (3-4 times a year)
- Annually (1-2 times a year)
- Other (Please Specify)

7 Which part(s) of website is/are most frequently visited by you? Select all that apply.

Please choose all that apply:

- Basic Report Tool
- Advance Data Query Tool
- Crash Dashboard/ Crash Emphasis Area Dashboard

8 Were you satisfied with the speed of the response to your latest request?

Please choose only one of the following:

- Yes, fully
- Yes, for the most part
- Only partially
- No

9 Which of the following is true?

Please choose only one of the following:

- I was able to find exactly what I was looking for
- I was able to find a part of what I was looking for
- I was able to find something better than what I was looking for
- I had no specific agenda in mind when I visited
- I was not able to find what I was looking for
### 10 Please rate usefulness of the following website features *

Please choose the appropriate response for each item:

<table>
<thead>
<tr>
<th>Feature</th>
<th>No Comment</th>
<th>Not Useful</th>
<th>Somewhat Useful</th>
<th>Very Useful</th>
<th>Extremely Useful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic report tool</td>
<td></td>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Advance data query tool</td>
<td></td>
<td>○</td>
<td>○</td>
<td></td>
<td>○</td>
</tr>
<tr>
<td>Crash dashboard</td>
<td></td>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Map tool</td>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Heat map</td>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Ability to download data</td>
<td></td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Crashes by routes, towns and counties</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

### 11 Please rate following attributes of our website. *

Please choose the appropriate response for each item:

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Poor</th>
<th>Below Average</th>
<th>Average</th>
<th>Good</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of Navigation</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Quality of content</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Layout/Design</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Organization of information</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Accuracy of information</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Quantity of content</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Meeting my needs</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
12. Please provide a specific example where you used the crash data repository in your work.

(e.g. collected data on pedestrian crashes. This data was used to develop a list of sites where pedestrian treatments should be considered to increase safety.)

Please write your answer here:


13. What do you like about our website? Select all that apply.

Please choose all that apply:

☐ The website contains the information that I need
☐ Information is comprehensive
☐ Information is interesting
☐ Information is easy to find
☐ Information is easy to understand
☐ Graphic design is attractive
☐ Links and tabs help me move around information easily
☐ Speed of response is fast
☐ Other (Please Specify):


14. What is your overall rating of our website? *

Please choose only one of the following:

☐ Excellent
☐ Very good
☐ Good
☐ Fair
☐ Poor
15 How likely are you to recommend our website to a friend or colleague in the future?

Please choose only one of the following:

☐ Very likely
☐ Somewhat likely
☐ Neutral
☐ Somewhat unlikely
☐ Very unlikely

16 How likely are you to visit our website in the future?

Please choose only one of the following:

☐ Very likely
☐ Somewhat likely
☐ Neutral
☐ Somewhat unlikely
☐ Very unlikely

17 What can we do to improve your experience?

Please write your answer here:
18. Please provide a specific example where you used the crash emphasis area dashboard data in your work.

(e.g. Examined DUI data from 2015-present. This data was used to develop advertising campaign against drunk driving.)

Only answer this question if the following conditions are met:
' Answer was at question 7 [7] (Which part(s) of website is/are most frequently visited by you? Select all that apply.)

Please write your answer here:

19. Please rate usefulness of the following crashboard features. *

Only answer this question if the following conditions are met:
' Answer was at question 7 [7] (Which part(s) of website is/are most frequently visited by you? Select all that apply.)

Please choose the appropriate response for each item:

<table>
<thead>
<tr>
<th>Feature</th>
<th>No comment</th>
<th>Not Useful</th>
<th>Somewhat Useful</th>
<th>Very Useful</th>
<th>Extremely Useful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Format and organization</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ease of navigation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Timeliness of data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applicability of queries/filters</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ability to download data</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speed of responses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graphics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dashboard tabs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
20 Which area(s) of crash emphasis dashboard is/are used by you? Select all that apply.

* Only answer this question if the following conditions are met:

* Answer was at question 7 [7] (Which part(s) of website is/are most frequently visited by you? Select all that apply.)

Please choose the appropriate response for each item:

<table>
<thead>
<tr>
<th>Crash Type</th>
<th>Used</th>
<th>Never Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>All crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Fatal crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>DUI crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Young drivers</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Motorcycle crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Non-motorist crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Pedestrian crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Bicyclist crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Work zone crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>School bus crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>ATV crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Intersection crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Roadway departure crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Railroad crossing crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Transit bus crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>FMCSA qualifying crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Motor coach crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Wrong way driver crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Motorcycle rider only crashes</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
### 21 How satisfied was your experience with crash emphasis dashboard?

Only answer this question if the following conditions are met:

* Answer was at question 7? (Which part(s) of website is/are most frequently visited by you? Select all that apply.)

Please choose the appropriate response for each item:

<table>
<thead>
<tr>
<th>Category</th>
<th>Very Dissatisfied</th>
<th>Somewhat Dissatisfied</th>
<th>Neutral</th>
<th>Somewhat Satisfied</th>
<th>Very Satisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>All crashes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Fatal crashes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>DUI crashes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Young drivers</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Motorcycle crashes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Non-motorist crashes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Pedestrian crashes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Bicyclist crashes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Work zone crashes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>School bus crashes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>ATV crashes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Intersection crashes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Roadway departure crashes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Railroad crossing crashes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Transit bus crashes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>FMCSA qualifying crashes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Wrong way driver crashes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Motorcycle rider only crashes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
NHTSA Approved Performance Measures for Previous Years

Citation – Accuracy – Interim Progress Report

In 2017, Connecticut’s application for Determination of Measurable Progress was based on:

The accuracy of Citation Records in the Central Infractions Bureau (CIB), as evidenced by the increase in the percentage of citation records with no errors in critical data elements from 97.46% during May 2015-April 2016 to 98.1% during May 2016-April 2017, one year later.

Motor Vehicle Crash – Timeliness – Performance Measure

In 2016, Connecticut’s application for Determination of Measurable Progress was based on:

The timeliness of Motor Vehicle Crash reporting, as evidenced by the decrease in the mean number of days from date of crash report arrival at ConnDOT to entry into the State Crash Records database from 104 days in April 2015 to 9 days, one year later.

Motor Vehicle Crash – Uniformity – Performance Measure

In 2015, Connecticut’s application for Determination of Measurable Progress was based on:

The uniformity of the Motor Vehicle Crash database improved, as evidenced by the increase from 24 MMUCC-compliant crash data elements reported by both State and Local law enforcement and entered into the crash database for the years leading up to and ending December 31, 2014, to 75 MMUCC-compliant data elements entered into the State CDR (crash database), beginning January 2015.

Connecticut’s April 2014 Determination of Measurable Progress was based on:

The timeliness of the Motor Vehicle Crash database improved, as evidenced by the decrease, from 377 days (backlog of crash report processing) during April-March 2013, to 167 days during April-March 2014, in the number of days from the report of a motor vehicle crash to entry into the ConnDOT database. Because this improvement occurred within the 12 months immediately preceding the FY 2014 due date for applications for State Traffic Safety Information System Improvements Grants in FY 2014, it was determined to be a demonstration of current progress.

Citation/Adjudication – Timeliness – Interim Progress Report

Connecticut’s March 2013 Determination of Measurable Progress was based on:

The timeliness of the Citation/Adjudication database improved, as evidenced by the decrease, from 19.03 days during July-September 2012, to 15.61 days during October-December 2012, in the average number of days from citation issuance by the Connecticut State Police to entry of the citation record into the Centralized Infractions Bureau database. Because this improvement occurred within the 12 months immediately preceding the FY 2013 due date for applications for State Traffic Safety Information System Improvements Grants in FY 2013, it was determined to be a demonstration of current progress.

Performance Measures by
Performance Area vs. Safety Data Core System

<table>
<thead>
<tr>
<th>Measure ID: CT-M-00019</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Injury Surveillance/EMS – Uniformity</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Status</th>
<th>Performance Area</th>
<th>System</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-1-07 Required EMS PCR software EMS providers to be Gold NEMSIS compliant.</td>
<td>Uniformity</td>
<td>Injury Surveillance/EMS</td>
<td>Increase</td>
</tr>
</tbody>
</table>

**Measurement**

Improve the uniformity of the Injury Surveillance/EMS core system in terms of an increase in the percent of PCRs in compliance with Gold NEMSIS data requirements where the baseline level was zero before first year funding and goal levels are as presented below.

**Measurement Method**

All NEMSIS data is be collected with Gold standard software. In actuality, the number of NEMSIS data elements captured in each case will depend on the seriousness of the 911 call for service.

**Measure Description**

Number and percent of PCRs where NEMSIS data elements are collected recognizing collection of NEMSIS data is dependent upon the seriousness of the 911 call for service.

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal</td>
<td>400,000/100%</td>
<td>400,000/100%</td>
<td>400,000/100%</td>
<td>500,000/100%</td>
<td>500,000/100%</td>
</tr>
</tbody>
</table>
The TRCC’s second proposed set of safety data project(s) for performance measurement is in the Crash core system area and the performance areas to be addressed include uniformity, and timeliness.

The roll out of the new MMUCC PR-1 crash reporting system began in January 2015. First routed to the crash data base at ConnDOT, the new MMUCC PR-1 data is being entered into the State CDR at UConn. The accessibility as well as the data query/canned output reporting tools continue to improve for the CDR.

<table>
<thead>
<tr>
<th>Crash – Uniformity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure ID: CT-M-00021</td>
</tr>
<tr>
<td>Status</td>
</tr>
<tr>
<td>On January 1, 2015, the roll out of the new MMUCC PR-1 crash reporting system began. The new MMUCC PR-1 data is being entered into the State CDR at UConn.</td>
</tr>
</tbody>
</table>

**Measurement**

Measure the improvement in the uniformity of the Motor Vehicle Crash database. Prior to January 2015, only 24 MMUCC-compliant data elements were added to the ConnDOT crash data base. Beginning in January 2015, the number of MMUCC-compliant data elements increased to 75 in the new State CDR. The focus for this comparison was the (77) data elements recommended in MMUCC for law enforcement to collect at the scene of a crash.

**Measurement Method**

Using the basis of the (77) data elements recommended in MMUCC for law enforcement to collect at the scene of a crash, measure totals from the previous PR-1 crash report to the new MMUCC PR-1, implemented beginning in January 2015.

**Measure Description**

Number and MMUCC-compliant data elements added to the State crash data base.

<table>
<thead>
<tr>
<th>Goal CY</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
</tr>
<tr>
<td>24 MMUCC compliant data elements added to ConnDOT database</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Crash/ConnDOT – Timeliness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure ID: CT-M-00001</td>
</tr>
<tr>
<td>Status</td>
</tr>
<tr>
<td>In January 2015, the roll out of the new MMUCC PR-1 crash reporting system</td>
</tr>
</tbody>
</table>
began. The new MMUCC PR-1 data is being entered into the State CDR at UConn.

<table>
<thead>
<tr>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve the timeliness of the crash system in terms of a decrease in the mean number of days from date of crash report (by both State and Local law enforcement) arrival at ConnDOT to date of crash report entry into the State Crash Records database.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measurement Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean number of days from date of crash report (by both State and Local law enforcement) arrival at ConnDOT to date of crash report entry into the State Crash Records database for April 15, 2016, ending a twelve-month period, compared to April 15, 2015, ending the same time period a year ago.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measure Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean number of days from the date of crash report arrival at ConnDOT to date of crash report entry into the State Crash Records database.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measure</td>
<td>167</td>
<td>104</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

---

**Citation/Adjudication – Timeliness**

**Measure ID:** CT-M-00009

<table>
<thead>
<tr>
<th>Status</th>
<th>Performance Area</th>
<th>System</th>
<th>Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underway</td>
<td>Timeliness</td>
<td>Citation/Adjudication</td>
<td>Increase</td>
</tr>
</tbody>
</table>

**Measurement**

Improve the timeliness of the citation/adjudication data system in terms of an increase in the percent of citations received by CIB/the courts within 14 days of any electronically issued citation *(related to CT-M-00002).* 13th Year efforts will continue to focus on the development of an online infraction disposition system.

**Measure Description**

Percent of electronic citations received by the CIB/courts within 14 days.

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
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<tr>
<td>Goal CY</td>
<td>99%</td>
<td>99%</td>
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**Citation/Adjudication – Integration**

**Measure ID:** CT-M-00003

<table>
<thead>
<tr>
<th>Status</th>
<th>Performance Area</th>
<th>System</th>
<th>Direction</th>
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</thead>
<tbody>
<tr>
<td>Underway</td>
<td>Integration</td>
<td>Citation/Adjudication</td>
<td>Increase</td>
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</tbody>
</table>

**Measurement**

Improve the integration of the citation/adjudication system in terms of an increase in the percent of TCAS citation data linked to DMV license information.
<table>
<thead>
<tr>
<th>Measure Description</th>
<th>Citation/Adjudication – Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent of TCAS citation data linked to DMV license information.</td>
<td>Measure ID: CT-M-00004</td>
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<tr>
<td><strong>Status</strong></td>
<td><strong>Performance Area</strong></td>
</tr>
<tr>
<td>Underway</td>
<td>Integration</td>
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<tr>
<td><strong>Measurement</strong></td>
<td></td>
</tr>
<tr>
<td>Improve the integration of the citation/adjudication system in terms of an increase in the percent of TCAS citation data linked to CIB. 13th Year efforts will continue to focus on the development of an online infraction disposition system.</td>
<td></td>
</tr>
<tr>
<td><strong>Measure Description</strong></td>
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<tr>
<td>Percent of TCAS citation data linked to the CIB.</td>
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</table>

<table>
<thead>
<tr>
<th>Measure Description</th>
<th>Citation/Adjudication/Crash – Integration</th>
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<tbody>
<tr>
<td>Percent of crash related citation data linked to crash data.</td>
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<tr>
<td><strong>Status</strong></td>
<td><strong>Performance Area</strong></td>
</tr>
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<td>Underway</td>
<td>Integration</td>
</tr>
<tr>
<td><strong>Measurement</strong></td>
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</tr>
<tr>
<td>Improve the integration of the citation/adjudication system in terms of an increase in the percent of crash related citation data linked to crash data.</td>
<td></td>
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<tr>
<td><strong>Measure Description</strong></td>
<td></td>
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<tr>
<td>Percent of crash related citation data linked to crash data.</td>
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</table>

<table>
<thead>
<tr>
<th>Measure Description</th>
<th>Citation/Adjudication – Integration</th>
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<tbody>
<tr>
<td>Percent of vehicular misdemeanors and arrests linked to the CRMVS.</td>
<td>Measure ID: CT-M-00014</td>
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<tr>
<td><strong>Status</strong></td>
<td><strong>Performance Area</strong></td>
</tr>
<tr>
<td>Underway</td>
<td>Integration</td>
</tr>
<tr>
<td><strong>Measurement</strong></td>
<td></td>
</tr>
<tr>
<td>Improve the integration of the citation/adjudication system in terms of an increase in the percent of vehicular misdemeanors and arrests linked to the criminal record and motor vehicle system (CRMVS). 13th Year efforts will continue to focus on the development of an online infraction disposition system.</td>
<td></td>
</tr>
<tr>
<td><strong>Measure Description</strong></td>
<td></td>
</tr>
<tr>
<td>Percent of vehicular misdemeanors and arrests linked to the CRMVS.</td>
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<tr>
<td>Status</td>
<td>Performance Area</td>
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</tr>
<tr>
<td>Underway</td>
<td>Accessibility</td>
</tr>
</tbody>
</table>

**Measurement**

Improve the accessibility of the citation/adjudication system in terms of an increase in the percent of data and system availability. 13th Year efforts will continue to focus on the development of an online infraction disposition system.

**Measure Description**

Percent of data and system availability.
Project Summaries / 10th Year (2015 – 2016)

Emphasis for traffic records system improvements continues with a focus on mobile reporting of traffic citation and motor vehicle crash data, in addition to electronic linkage of injury outcome data, tracking person specific crash and injury records from a crash event to emergency medical services, trauma, emergency department, and hospital information management and exchange.

Projects proposed by the TRCC for the 10th year Section 405c application include:

- Electronic Crash - Technology / Software Support for Local Law Enforcement
- Electronic Citation - Complete Installation Statewide for Local Law Enforcement
- Electronic Charging - Citation / Warning / Summons Arrest
- Electronic Processing - Citation / Warning / Summons Arrest
- Linking Crash / Injury Datasets - Measure Injury Outcomes Assessed by Health Care Providers
- Crash Data Repository (CDR) / Expand Functionality - Query Tools /Canned Output Reports
- Electronic EMS Tracking and Reporting System
Electronic Crash - Technology / Software Support for Local Law Enforcement

Project ID: CT-P-00016

Core System:

- Crash
- Citation/Adjudication

Performance Area:

- Completeness
- Accuracy
- Timeliness
- Uniformity
- Linkage
- Accessibility

Project Title: Electronic Crash - Technology / Software Support / Local Law Enforcement

Lead Agency: Capitol Region Council of Governments

Partner Agencies/Association:

- Connecticut Department of Transportation
- State and Local Law Enforcement
- State Judicial Department
- Traffic Records Coordinating Committee (TRCC)

Project Director/Primary Contact:

Name: Cheryl Assis
Title: Director of Public Safety
Agency: CRCOG
Office: Headquarters
Address: 241 Main Street
City, ZIP: Hartford, CT 06106
Phone: 860-522-2217, extension 236
Email: cassis@crcog.org

Project Description/Basis:

In January 2015, the State began the transition to a completely updated electronic crash reporting system using the MMUCC Guideline, 4th Edition as the basis for its crash data collection. This project encompasses multiple initiatives aimed at serving a segment of the law enforcement community. The focus is to help local police departments acquire public safety equipment. Some departments don’t have computers or mobile data terminals (MDTs) in their vehicles, hindering their abilities for selective enforcement. Better tools/resources, including technology as well as software support where warranted, would enable local police departments to better implement new E-Crash investigation and enforcement initiatives.

Equipment as well as software support will be provided to support local law enforcement agencies in implementing E-Crash MMUCC PR-1. Equipment/software support will be specifically awarded to those agencies requesting assistance for the purchase and installation of computers, printers, or other mobile
technology, as well as software applications. Evaluating applications and making award decisions will be based on established criteria.

The need for planning and coordination among law enforcement agencies is critical to the success of this effort. This E-Crash support initiative will be interfaced with the ConnDOT/UConn Crash Data Repository (CDR). Electronic crash and citation reporting will reduce data input errors and improve the completeness of the collected data. It should also improve police officer efficiency by reducing the amount of time that officers spend collecting crash and citation data and decrease the time it takes this data to be received by the appropriate State agency.

Background:

The crash reporting system existing prior to January 2015 was based on the accident report form PR-1, which had been largely unchanged for more than twenty years. The legacy system had extensive mainframe based edits which were difficult to enforce in a manual environment. The old PR-1 form did not meet the recommendations of the National MMUCC Guideline.

Expected Impact:

- Expand management information and targeted enforcement activities in equipped municipalities;
- Improve timeliness, accuracy, completeness and availability of both crash and citation data; and
- Provide new opportunities for focused policy initiatives that might result in stronger sanctions on recurrent violators and greater attention to locations of frequent crashes and significant injuries.

Project Status:

The need for planning and coordination with the 100% submission / assessment and support initiative for E-Citations is also critical as efforts to assess law enforcement agencies’ capabilities, and their ability to adopt to E-Citations as well as E-Crash will be interrelated.
Electronic Citation - Complete Installation Statewide for Local Law Enforcement

Project ID: CT-P-00009

Core System:

- Citation/Adjudication
- Crash

Performance Area:

- Completeness
- Accuracy
- Uniformity
- Timeliness

Project Title: Electronic Citation - Complete Installation for Local Law Enforcement

Lead Agency: State of Connecticut Judicial Branch – Court Operations, Centralized Infractions Bureau

Partner Agencies:

- Connecticut Police Chief’s Association (CPCA)
- State and Local Law Enforcement Agencies
- Connecticut Department of Transportation
- Traffic Records Coordinating Committee (TRCC)

Project Director/Primary Contact:

Name: Stacey B. Manware
Title: Deputy Director, Centralized Infractions Bureau
Agency: State of Connecticut Judicial Branch
Office: Centralized Infractions Bureau
Address: 225 Spring Street
City, ZIP: Wethersfield 06109
Phone: 860-263-2750
Email: Stacey.Manware@jud.ct.gov

Project Description:

The citation system in Connecticut was a manual system, vulnerable to human error. Information from handwritten tickets was data entered and subsequently transmitted to various entities. Exception processing was time consuming. An electronic method of creating tickets and populating the CIB database is leading to improved processing times and accuracy of the information processed.

This project is dedicated to completing the installation of e-Citation statewide for all local law enforcement agencies; and to begin phase-out of ticket books as P.D.s switch to the electronic format.

- Background - CIB; Unified Court System; 250 LE Agencies; 425,000 Tickets per Year; Lock Box Payment;
- Project Focus - Timeliness; Accuracy; Technical Agility to Respond to Public Policy Changes; Better Performance Measures;
• Manual Limitations - Ticket Inventory; Road Conditions; Legislative Change; Legibility; Arithmetic Errors;

• Timeframe - Analysis for Ticket Returns;

• Ticket Errors - Wrong Amount Due; Wrong Infraction Number; Wrong Amount for Infraction;

• Successes - Collaboration; Proof of Concept Widely Accepted; First Utilization of e-Signature Impetus for e-Pay/Plead; and

• Challenges - Broaden User Base; Demand for Multi-Uses for Mobile Printer; Crash Info Exchange, Summons, Parking Tickets, Warnings.

Project Tasks:

1. Identify additional candidate law enforcement agencies to implement E-Citation;
2. Identify agencies’ needs for programming and other assistance;
3. Research/develop funding proposals to support agencies as needed;
4. Roll-out to additional candidates;
5. Identify late adopters and/or potential non-adopter law enforcement agencies;
6. Develop additional and alternative methods to support E-Citation solutions for late- and non-adopters;
7. Research/develop budget and timeline for aiding late- and non-adopter support for E-Citation solutions; and
8. Implement alternative solutions for the remaining law enforcement agencies.

Application:

Overview - Software; In-Car Equipment; Data Communications Network; Citation Forms/Zebra Printer;

Rollout - # Printers; LE Agencies; Thermal Paper; Train-the-Trainer; Feedback from Pilot;

Mgmt Reports; Monthly by Officer; by Violation Type; by Location; Separate Data Set – Map Based Analysis;

Preparation for Each Agency; Equipment/Software in Vehicle; Regis ORI with e-Citation; Test System; Train Officers;

CRCOG Users/e-Citation; Windows Style e-Citation Interface; Main Menu Functions;

New Citation; Citation Search; Print; User Preferences; Clear Search Queues;

Process; Demographics; License/Vehicle; Specifics; Infractions/Fines; Notes; Preview; Sign-Save-Print;

Successes; User Accepts; App Sharing Across Jurisdictions; Potential for Other Mobile Ticket Apps; and

Challenges; Budget Limits Broader Rollout; Towns Slow to Rollout “Seed” Units; Long Term Issue of Replacement Costs; Revenue Sharing to Cover Costs - Strong Potential.
Status:

The Electronic Citation Processing System is creating efficiencies in several areas. The receipt of electronically captured citation data by the CIB, is leading to the data being automatically populated into the CIB automated system.

In Phase One, officer handwriting was replaced by type-written characters, therefore eliminating entry errors. Fewer entry errors are resulting in less exception processing, which improve the timeliness of downstream processing transmissions to the Courts and the Department of Motor Vehicles.

Phase Two, including activities allowing for direct population of the CIB database, further minimizes data entry, key stroke errors, and exception processing.

Phase Three will allow for the expansion of e-Citation processing, further developing the application to accommodate Commercial Citations, and the electronic viewing and disposition of citations in court locations. This phase will also begin the development of an e-Citation paperless courtroom with dedicated dockets for citations and will enhance the availability of electronic, self-pay opportunities.

Performance Measures

- Total tickets issued: 425,000
- Total tickets issued electronically: 45,000
- Total tickets entered electronically: 2,100
- Pre-Program: Average number of days from issuance to receipt – 28 days
- Pre-Program: Error rate – 11%
- Phase I: Average number of days from issuance to receipt – 4 days
- Phase I: Error rate – 5%
- Phase II: Average number of days from issuance to receipt – 4 days
- Phase II: Error rate – 1.5%
- Phase III: Average number of days from receipt to data entry – 7 per 1,000 tickets (anticipated)
- Phase III: Average number of minutes from receipt to data entry – 120 per 1,000 tickets

Interim Progress Report (submitted for 8th Year Project funding)

Based on an Interim Progress Report, submitted to NHTSA - January 2013 for Section 405 application - Connecticut’s March 2013 Determination of Measurable Progress by Connecticut was based on:

The timeliness of the Citation/Adjudication database improved, as evidenced by the decrease, from 19.03 days during July-September 2012, to 15.61 days during October-December 2012, in the average number of days from citation issuance by the Connecticut State Police to entry of the citation record into the Centralized Infractions Bureau database. Because this improvement occurred within the 12 months immediately preceding the FY 2013 due date for applications for State Traffic Safety Information System Improvements Grants in FY 2013, it was determined to be a demonstration of current progress.
Electronic Charging / Citation / Warning / Summons Arrest

Project ID: CT-P-00025

Core System:
- Citation/Adjudication

Performance Area:
- Completeness
- Accuracy
- Timeliness

Project Title: Electronic Charging / Citation / Warning / Summons Arrest

Lead Agency: Capitol Region Council of Governments

Partner Agencies:
- State Judicial Department
- State Department of Transportation (ConnDOT)
- Traffic Records Coordinating Committee (TRCC)
- Connecticut State Police (CSP)
- Central Connecticut State University (CCSU)
- Connecticut Police Chief's Association (CPCA)

Project Director/Primary Contact:
- Name: Cheryl Assis
- Title: Director of Public Safety
- Agency: CRCOG
- Office: Headquarters
- Address: 241 Main Street
- City, ZIP: Hartford, CT 06106
- Phone: 860-522-2217, extension 236
- Email: cassis@crcog.org

Project Description/Basis:

This project proposes to extend previous as well as current efforts on electronic document and data collection. Strategies include weaving paperless data transfer from point of data collection to final repository without intermediate human intervention.

Learning from prior experience with ConnDOT’s award winning e-citation collaboration and more recently with e-crash, and e-traffic stop, we will extend field data collection to two additional enforcement means; e-warning tickets and initiate a framework for an entry in to the juvenile justice arena with e-juvenile summons notices. We believe these are the natural supplement to the prior information technology initiatives. Moreover, they round out the suite of enforcement data collection for the field police officer and relieve those officers of the burden of redundant data entry and the need for manual and multiple sets of forms.

Our approach extends beyond the paper-centric notion of a single charging document and instead provides a single charging approach that correctly routes enforcement data to the correct storage and
processing facility. In doing so, we propose to move further away from the legacy paper based systems of the prior century and closer to the connected mode of the 21st century.

Benefits of a connected strategy for data collection and retrieval:

- Errors are radically reduced,
- Supervisory review is simplified, and more easily facilitated,
- Activity metrics can be near current,
- Data transfer is real time,
- Overall costs are reduced,
- System efficiency is increased for agencies upstream from the law enforcement organization,
- Provides real time data for charging violators and offenders, and
- Opens the door to advanced policy options, including stepped sanctions based on violator history, or by geographic location based on crash history.

It may be possible to extend beyond mere electronic charging (warning, citation, summons arrest) to “smart charging” by hot spots based on spatial and temporal crash metrics in much the same way as work zone violations.

Given the potential availability of expanded crash and violation data coupled with temporal and spatial analysis tools, the Connecticut General Assembly would have for the first time an innovative means of determining the following:

- Revenue required for administration and operation of the traffic law enforcement and adjudication system;
- Hazardous traffic violation true costs (using epidemiology research);
- Payment history, violator recidivism, and opportunities for improvement;
- Enforcement activity trends based on changes in fee amounts;
- Effectiveness of electronic printers in police vehicles;
- Reduction in crashes and crash severity based on sanction adjustments and investments in focused interventions on a hypothetical basis followed by a pilot program.

Background:

Police efficiency is substantially hampered by the inability to cite violators associated with crashes and selective enforcement in an automated fashion. Moreover, this presents a systemic challenge to the enforcement system in that it compels substantial and delayed ticket entry and disposition by the state’s judicial system. While improvements can be incremental, an electronic citation system is best accomplished as a cradle to grave ticketing system involving all parties from the outset.

In conjunction with the leadership of the Traffic Records Coordinating Committee, the State of Connecticut Judicial Department initiated a pilot electronic citation program. This program has the support of the Department of Public Safety (DPS) and the Department of Transportation (ConnDOT) along with local law enforcement. In the past few years, the Judicial Department has resolved issues regarding an electronic citation format and the paper document upon which the citation will be printed. Moreover, mobile printers and scanners have been identified and tested. While these may seem like small migratory tasks, they are vital steps toward the development of an all-electronic citation/adjudication system that will provide not only automated ticketing and docketing, but eventually full payment and Department of Motor Vehicles’ (DMV) adjudication of the infractions.

Expected Outputs:

- Electronic warning ticket data collection and in-vehicle printing of notice to operators,
• Enhancement of e-citation data collection to include local ordinances so that the utility of the process for citing violators can be extended to assist municipal officers in meeting their local enforcement obligation,
• All enforcement media fully integrated into the e-crash application,
• Certain application enhancements to e-Crash as requested by the user community, and
• Design of the juvenile summons procedure in electronic form with eventual extension to criminal summons procedure in conjunction with the Judicial Branch.

Assuming that ConnDOT is successful in its efforts to develop a functional geographic information system for the Connecticut user community, the state should be able to connect the dots of crash location and enforcement so that education and engineering improvements may be better targeted and planned. Collaboration and partnering must continue in order for our success to mature into an expectation rather than mere potential. The table will be set for improving those policies in ways that were not even possible just a few years ago. A connected Connecticut crash and enforcement system will mean a safer Connecticut.

Technical Objectives:

This project builds on prior investments of the State Department of Transportation (ConnDOT).

1. The electronic citation application provides the ability to:
   • Reference the motor vehicle statute files maintained by the Connecticut Judicial Department,
   • Swipe or scan operator license information from crash participants or violators,
   • Integrate DMV operator and registration information to the citation, and
   • Print a citation for the violator; forward an electronic citation to the Judicial Department’s Central Infractions Bureau; and as an interim step, print a hard copy of the citation.

2. Using existing hardware and communications facilities, this system will provide a GPS reference on all electronic crash records, citations, summons arrests, and warnings.

3. Development of a Traffic Law Enforcement Policy and Data Model

Critical path tasks for this project include:

1. Authorization and executive support to enable e-Warning from the Judicial Branch and the Department of Motor Vehicles (approved);
2. Authorization and executive support to design the e-Summons procedure for juvenile matters from the judicial Branch;
3. Definition of functional requirements for each product;
4. Management reporting and application quality and integrity controls based on common or State cloud hosting;
5. Integration with existing applications including e-Citation and e-Crash;
6. Application architecture and detail design with options for connected and unconnected services; and
7. Further development of real-time video-based training and support products associated with the CAPTAIN mobile data system, the CT: CHIEF records management crash, citation, e-warning, racial profiling, and potential e-juvenile summons procedure.

Strategic Benefits: While extending the efforts from previous electronic document and data collection for both e-citation and e-crash, this initiative represents a new approach to enhance electronic field data collection for e-warning tickets and initiates a framework for an entry in to the juvenile justice arena with e-juvenile summons notices.
Electronic Processing - Citation / Warning / Summons Arrest

Project ID: CT-P-00009

Core System:

- Citation/Adjudication
- Crash

Performance Area:

- Completeness
- Uniformity
- Timeliness

Project Title: Electronic Processing - Citation / Warning / Summons Arrest

Lead Agency: State of Connecticut Judicial Branch – Court Operations, Centralized Infractions Bureau

Partner Agencies:

- Connecticut Police Chief’s Association (CPCA)
- State and Local Law Enforcement Agencies
- Connecticut Department of Transportation
- Traffic Records Coordinating Committee (TRCC)
- Central Connecticut State University (CCSU)

Project Director/Primary Contact:

Name: Stacey B. Manware
Title: Deputy Director, Centralized Infractions Bureau
Agency: State of Connecticut Judicial Branch
Office: Centralized Infractions Bureau
Address: 225 Spring Street
City, ZIP: Wethersfield 06109
Phone: 860-263-2750
Email: Stacey.Manware@jud.ct.gov

Project Description:

Prior to the implementation of Electronic Citation (E-Citation) Processing, Connecticut’s traffic violation citation system was completely manual; vulnerable to human error at many points in the process. Handwritten documents required multiple entry in numerous and varied systems causing inconsistencies and inaccuracies in data. This sometimes led to agencies that relied on the system, such as the Department of Motor Vehicles (DMV), receiving erroneous information, which in some cases resulted in a failure to consistently and accurately apply conviction information to driver history files. In addition to creating opportunities for inaccurate and conflicting data to be entered into the system, reliance upon handwritten citations and multiple points of data entry often resulted in processing delays and time-consuming exceptions processing.

A statewide systematic effort was undertaken to address these problems, with the Judicial Branch E-Citation Processing System project developed in coordination with Citation projects involving the Capitol Region Council of Government (CRCOG) and the Department of Public Safety (DPS). This resulted in the development of a statewide electronic roadside data capture system for the issuing and reporting of traffic citations.
This project is dedicated to the continued development of an application that enables the receipt / availability of citation, juvenile summons notices, and warning data for the courts. The project serves as a complement to all law enforcement e-Charging pilot efforts statewide through ultimately building a back-end process for receiving and processing electronic traffic citations, juvenile summons notices, and warning tickets.

- **Background -** CIB; Unified Court System; 250 LE Agencies; 425,000 Tickets per Year; Lock Box Payment,
- **Project Focus -** Improved Timeliness; Accuracy; Technical Agility to Respond to Public Policy Changes; Better Performance Measures,
- **Manual Limitations -** Ticket Inventory; Road Conditions; Legislative Change; Legibility; Arithmetic Errors,
- **Timeframe -** Analysis for Ticket Returns,
- **Ticket Errors -** Wrong Amount Due; Wrong Infraction Number; Wrong Amount for Infraction,
- **Successes -** Collaboration; Proof of Concept Widely Accepted; First Utilization of e-Signature Impetus for e-Pay/Plead, and
- **Challenges -** Broaden User Base; Demand for Multi-Uses for Mobile Printer; Crash Info Exchange, Parking Tickets.

**Goal:**

Create an application that enables the Judicial Branch to electronically receive traffic citation, juvenile summons notices, and warning data from law enforcement agencies; automatically store, process and supply required information to the courts.

**Objective:** Design and implement an on-demand, centralized, web-based records management system (RMS) for law enforcement agencies to do the following:

- Query agency-specific data related to the issuance of citations, juvenile summons notices and warning tickets,
- Generate various reports related to agency activity in conjunction with the issuance of citations, etc., (e.g., by street, officer, charge and defendant),
- Provide for the management of data, such as approval process for citations, etc., prior to submission to CIB,
- Allow for cross-agency searching on citations, summons notices, and warnings,
- Allow agencies to export data in a variety of formats for use in spreadsheets and/or other applications, and
- Provide a web-service interface for querying of data by other applications.

**Objective:** Continue efforts to enable the e-citation / juvenile summons arrest / warning processing application to allow electronic viewing and disposition of required data in court locations.

**Objective:** Continue efforts to enable the e-citation / juvenile summons / warning application to provide a “paperless courtroom.”
Purpose:

- Streamline citation / juvenile summons arrest / warning processing system process through applied technology,
- Increase revenue,
- Increase uniformity of event processing,
- Utilize staff more efficiently, and
- Assist law enforcement initiatives.

Tasks/Milestones:

1. Submit/finalize HS-1 grant application to ConnDOT, Highway Safety Office,
2. Production of electronic-citation / juvenile summons arrest / warning ticket data submitted by law enforcement resulting in automatic population into Judicial database,
3. Document volumes and define hardware/software needs,
4. Web services application,
5. Continued streamlining of CIB workflow,
6. Creation of more e-Infractions courts,
7. Continue coordination with CPCA in their assessment of law enforcement agencies' capabilities, current vendors, ability to adopt electronic citation / juvenile summons / warning ticket,
8. Continue to identify candidate law enforcement agencies to pilot test / implement electronic citation / juvenile summons arrest / warning processing,
9. Identify needs of candidate agencies for programming and other assistance,
10. Research/develop funding proposals to support candidate agencies as needed, and
11. Roll-out to candidate agencies.

Application:

Overview - Software; In-Car Equipment; Data Communications Network; Citation Forms/Zebra Printer; Summons Arrest Forms; Warning Tickets;

Rollout - # Printers; LE Agencies; Thermal Paper; Train-the-Trainer; Feedback from Pilot;

Mgmt Reports; Monthly by Officer; by Violation Type; by Location; Separate Data Set – Map Based Analysis;

Preparation for Each Agency; Equipment/Software in Vehicle; Regis ORI with e-Citation; Test System; Train Officers;

CRCOG Users/e-Citation/e-Summons/e-Warning; Windows Style Interface; Main Menu Functions;

New Citation / Juvenile Summons / Warning; Event Search; Print; User Preferences; Clear Search Queues;

Process; Demographics; License/Vehicle; Specifics; Infractions/Fines; Notes; Preview; Sign-Save-Print; Successes; User Accepts; App Sharing Across Jurisdictions; Potential for Other Mobile Ticket Apps; and
Challenges; Budget Limits Broader Rollout; Towns Slow to Rollout “Seed” Units; Long Term Issue of Replacement Costs; Revenue Sharing to Cover Costs - Strong Potential.

Status:

The Electronic Citation / Juvenile Summons / Warning Processing System will build on the Electronic Citation Processing System, which is creating efficiencies in several areas. The receipt of electronically captured citation data by the CIB, is leading to the data being automatically populated into the CIB automated system.

In Phase One, vendors for pilot site law enforcement agencies developed in-car electronic citation systems while the Judicial Branch defined hardware and transmission requirements that would allow information created in police vehicles to be received and processed by the Judicial Branch CIB. Officer handwriting was replaced by type-written characters, therefore eliminating entry errors. Fewer entry errors are resulting in less exception processing, which improves the timeliness of downstream processing transmissions to the Courts and the Department of Motor Vehicles (DMV).

In Phase Two, the Judicial Branch created the interface which allowed for the direct population of the electronic citation transmissions from law enforcement into the CIB automated processing system, further minimizing data entry, key stroke errors, and exception processing.

In Phase Three, the Judicial Branch implemented regional electronic dockets and also included commercial electronic citations, and the electronic viewing and disposition of citations in court locations. This phase also began the development of an e-Citation paperless courtroom with dedicated dockets for citations, enhancing the availability of electronic, self-pay opportunities.

In Phase Four, the Judicial Branch implemented a direct web interface between the CIB and the Cheshire Police Department pilot site.

In Phase Five, the focus shifted to 100 percent statewide integration of E-Citations, including:

- Continued enhancement and expansion of the web interface version to electronically receive traffic citation information from law enforcement agencies,
- Automatic storing of information in the CIB citation database, allowing the electronic production of citations,
- Extracts to law enforcement agencies of citation data to enable in house record keeping and reporting,
- Refined web product to interface with the DMV,
- Enhancements as requested by pilot police departments,
- Informational seminars for police departments on the options for participating in E-Citation, Juvenile Summons / Warning processing initiative,
- Printers for pilot police departments, and
- Scanning equipment and hardware as needed for the receipt of increased numbers of E-Citations at CIB.

Progress:

Activities have been completed and coordinated in conjunction with the DPS, CRCOG and CIDRIS initiatives.

As highlighted, in regards to recent pilot-testing involving State and Local law enforcement, progress includes:
- Prototype for e-Citation back-end process/system has been developed,
- System being developed as a real-time/web-based application,
- CIB still debugging production problems as they occur from DPS,
- CIB beginning development on streamlining the citation workflow. This involves taking the e-Citations received and automatically uploading them into the legacy system, and
- E-Pay component, a web-based automated system to electronically accept credit card payments for infractions and certain payable violations, allows violators to pay multiple tickets, rather than requiring individual transactions per ticket.

Interim Progress Report (submitted for 8th Year Project funding)

Based on an Interim Progress Report, submitted to NHTSA in 2013 for Section 405c application -

Connecticut's March 2013 Determination of Measurable Progress by Connecticut was based on:

The timeliness of the Citation/Adjudication database improved, as evidenced by the decrease, from 19.03 days during July-September 2012, to 15.61 days during October-December 2012, in the average number of days from citation issuance by the Connecticut State Police to entry of the citation record into the Centralized Infractions Bureau database. Because this improvement occurred within the 12 months immediately preceding the FY 2013 due date for applications for State Traffic Safety Information System Improvements Grants in FY 2013, it was determined to be a demonstration of current progress.
Linking Crash / Injury Datasets – Measure Injury Outcomes Assessed by Health Care Providers

Project ID: CT-P-00020

Core System:
- Crash
- EMS/Injury

Performance Area:
- Uniformity
- Accuracy
- Linkage

Project Title: Linking Crash / Injury Datasets – Measure Injury Outcomes Assessed by Health Care Providers

Lead Agency: Yale-New Haven Hospital

Partner Agencies:
- State Department of Transportation (ConnDOT)
- State and Local Law Enforcement
- University of Connecticut (UConn)
- Department of Public Health
- Traffic Records Coordinating Committee (TRCC)

Project Director/Primary Contact:
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Project Description/Basis:

The focus of this project is to integrate crash and injury data to derive more precise injury outcomes. In question – is the disparity between officer assessments of personal injury as recorded on the previous PR-1, prior to 2015; the new MMUCC PR-1 crash reporting system, which began on January 1, 2015 and actual outcomes assessed by health care providers. Project explores a data integration solution that provides more accurate injury severity information for persons involved in crashes. Steps include acquiring disparate datasets, performing linking functions, managing the resulting dataset, and conducting in-depth analyses on the linked data.

Officers using the PR-1 crash report, prior to 2015, recorded typical injury assessment based on the KABCO scale, a measure of the functional injury level of the victim at the crash scene.
Codes were selected based on the on-site judgment of the investigating police officer completing the crash report PR-1. Small explanations were provided in the Investigator's Guide for A, B and C – injuries.

(K) Fatal Injury,  
(A) Incapacitating Injury (Prevents Return to Normal Activity)  
(B) Non-Incapacitating Evident Injury  
(C) Possible Injury (Claim of Non-Evident Injury)  
(O) Property Damage Only

The D16.1 Classification Manual of Motor Vehicle Traffic Accidents - was available, and also provided guidance using the KABCO scale, but it is unknown whether any law enforcement agencies in Connecticut ever used the D16.1 Manual. The following is an example of the detail provided by the D16.1 Manual for an (A) Injury, also referred to as an Incapacitating Injury.

(A) Incapacitating Injury: An incapacitating injury is any injury, other than a fatal injury, which prevents the injured person from walking, driving or normally continuing the activities the person was capable of performing before the injury occurred.

Inclusions: Severe laceration, broken or distorted limb, skull or chest injury, abdominal injury, unconsciousness at, or when taken from the accident scene, unable to leave the accident scene without assistance.

The MMUCC Guideline 4th Edition – was adopted by the State and has formed the basis for the development of the new MMUCC PR-1 crash reporting system. This new system was rolled out and began replacing the legacy PR-1 on January 1, 2015.

One of the areas the MMUCC Guideline emphasized in the update in 2012 from the previous Third Edition of MMUCC, was a revision to the KABCO attributes and definitions for Fatal, as well as A, B, and C injury types. Here is the comparable example of the detail provided in the MMUCC Guideline for an (A) Injury, referred to as a Suspected Serious Injury.

A Suspected Serious Injury is any injury other than fatal which results in one or more of the following:

- Severe laceration resulting in exposure or underlying tissues/muscle/organs or resulting in significant loss of blood
- Broken or distorted extremity (arm or leg)
- Crush injuries
- Suspected skull, chest or abdominal injury other than bruises or minor lacerations
- Significant burns (second and third degree burns over 10% or more of the body)
- Unconsciousness when taken from the crash scene
- Paralysis

Activities/Tasks:

- Submit / finalize HS-1 grant application with ConnDOT, Highway Safety Office;
- Meet with Highway Safety Office to finalize details of crash/injury integration/research efforts;
- Meet with/seek input from Data Integration Subcommittee of the TRCC;
- Determine which datasets to pursue, including previous legacy PR-1 crash data; new 2015 MMUCC PR-1 crash data; appropriate injury surveillance system (ISS) data;
- Sign appropriate research agreements to be able to protect/acquire appropriate data;
- Acquire disparate datasets;
- Make determinations of approach to linking different datasets;
- Perform data linkage between datasets;
- Manage the resulting dataset(s);
- Conduct in-depth analyses on the linked data;
- Present preliminary findings to TRCC/Highway Safety Office;
- Present findings/seek feedback to representatives of DPH/ISS system;
- Present findings/seek feedback to representatives from law enforcement
- Present final assessment/findings to Highway Safety Office
Crash Data Repository (CDR) / Expand Functionality – Query Tools / Canned Output Reports

**Project ID:** CT-P-00003

**Core System:** Crash

**Performance Area:**
- Timeliness
- Complementeness
- Accuracy
- Uniformity
- Integration
- Accessibility

**Project Title:** Crash Data Repository (CDR) / Expand Functionality – Query Tools / Canned Output Reports

**Lead Agency:** University of Connecticut

**Partner Agencies:**
All stakeholder agencies listed on the Traffic Records Coordinating Committee

**Project Director/Primary Contact:**

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**Project Description:**
Expand CDR functionality, query tools/canned output reports for individual departments; trends/ranking in the state/crash factors; add functionality including GIS tools, allow for retrieval of geospatial data for DDACTS/other applications.

**Basis for Project:**

Analysis of highway safety is probably the most data-intensive activity carried out by highway and transportation agencies. It requires more than just archiving police accident reports. To be effective, information recorded on the accident reports must be captured into a searchable database. Roadway inventory, traffic volumes and even land use information are all critical for evaluating the safety of any road segment or intersection. These were added as part of phase 3 of the CTCDR. However, other safety analysis exercises require data such as driver history, motor vehicle registration information, and vehicle miles traveled (VMT).

Other institutional databases such as patient care reporting and treatment received on the scene and at the hospital are important to understanding the full impact of a crash. Due to the sensitive nature of these types of data, discussions need to take place early and often to identify the potential risks and benefits to such an integrated database. These types of discussions will be a key part of phase 3 of the CTCDR; so
that a future version of the repository may include such linkages to allow for a complete crash analysis from time of impact to release from hospital for injury crashes.

Phase 1 and 2 of this project established a repository structure which provides users online access to these repositories through a common integrated portal. As part of the Crash Data Improvement Program (CDIP) review performed at ConnDOT in October of 2011, the need for performance measures was identified. These measures would track elements such as timeliness, completeness and accuracy. These tools will be built into the next generation of the CTCDR.

Phase 1 and 2 of this project provided users with access to the crash data. However, the data entered into the repository from ConnDOT is not timely. There is currently a 14-month backlog of paper PR-1 reports at the DOT. Phase 2 established an XML feed from DPS to get data into the repository in a timelier fashion. However, this feed only contains data from the state police. In an effort to get more data submitted electronically local police departments need the ability to submit data via an XML data feed. The research team will pick 5 pilot towns at a minimum to aid in their submission of electronic PR-1 data. This would involve the research team assessing a local PDs current system and creating a custom application to generate an XML feed directly and securely to the crash data repository.

A recent initiative at the DOT is the transition to a 100% MMUCC compliant uniform police report. This initiative also includes an effort to move to 100% electronic reporting.

Vision for the Future:

Future advancements of the established repository will be proposed in subsequent years if funding is available. There are large amounts of non-highway information maintained by other State agencies such as the Department of Motor Vehicles or the Department of Public Health that could populate a fourth or fifth repository at UConn. Future phases of this research could work to link or merge the Patient Care Reporting (PCR) software and DMV driving records to the crash data repository. This would allow users access to not only crash data but limited generalized summaries of injury reports detailing the care provided to and the severity of the injuries to crash victims.

Users may also be able to generate summaries of crashes based on a driver’s driving records obtained from the DMV. For example, this type of system would allow for analysis of a driver’s DUI convictions and associated alcohol related crash frequency or potential. However, there are many privacy concerns with this type of data. Significant effort and resources will be needed to meet Health Insurance Portability and Accountability Act (HIPAA) requirements.

Expected Impact:

Completion of Phase 3 of this project will enhance the crash data repository created in Phase 1 and 2. This enhanced repository will provide members of the traffic-safety community with timely, uniform and complete crash data, within 30 days of the crash event, by expanding the data options in the repository established at the University of Connecticut. Furthermore, the integration of local police department xml data feeds will provide users with more timely data and aid in the reduction of the paper PR-1 backlog.
Electronic EMS Tracking and Reporting System

Project ID: CT-P-00018

Core System:
- Injury Control

Performance Area:
- Integration

Project Title: Electronic EMS Tracking and Reporting System

Lead Agency: Department of Public Health (DPH)

Partner Agencies:
- Department of Transportation (ConnDOT)
- Transportation Safety Research Center (TSRC)
- Connecticut Hospital Association

Project Director/Primary Contact:
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Project Description:
The Connecticut EMS Tracking and Reporting System project will focus on the basis for linking motor vehicle crash, pre-hospital EMS, trauma and Connecticut Hospital Information and Management Exchange (CHIME) data, laying the foundation for an integrated system, avoiding unnecessary duplication of costs and personnel administration. By linking the records of different agencies for each patient encounter, a complete picture can be created (one record for each patient from the point of injury to the point of hospital discharge). Identifying priority needs based on this complete picture will enable better analysis of patient outcome in terms of mortality, injury, severity, and health care costs.

Basis for Project:
Previously, the Crash Outcome Data Evaluation System (CODES) Project had been working on similar goals. This basis for this project will be to:
- Identify priority needs for improving pre-hospital care and patient outcomes,
- Support public health and traffic safety decision makers, and
- Support public health and traffic safety legislation; and to educate the public.

Project Impact:
Impact of linking Crash, EMS, Trauma and CHIME databases includes:
• Creating a complete picture of each patient encounter in one database;
• Increasing the use of integrated data to identify traffic safety problems, support traffic safety decision makers, support traffic safety legislation, and educate the public (previously a CODES Project goal); and
• Increasing accessibility to integrated data for DPH personnel and partner agencies to perform data analysis for public health and traffic safety.

Goals/Objectives:

Objective is to provide a basis for data linkage between Crash, EMS, Trauma, and CHIME databases.

Project will be designed to foster and cultivate the integration of multi-agency databases, and facilitate participation in the project. NHTSA and DPH/OEMS will work together to:

1. Develop, implement and manage an integrated multi-stakeholder system leveraging necessary resources (time, money, personnel, and equipment) as needed;
2. Support the integration of multiple data sets for public health and traffic safety using state-of-the-art software, equipment, and training;
3. Establish a foundation for data sharing with key stakeholders – NHTSA, DPH/OEMS, FARS, Highway Safety Office, TRCC, and other potential data users;
4. Create greater demand for linked data by continuing to educate State government officials on the power, benefit and application of project efforts in a “real world” context; and
5. Assess the medical and economic impact of injuries to develop State best practices and policy changes.

Tasks/Milestones:

• Submit/finalize HS-1 grant application to ConnDOT, Highway Safety Office;
• Identify agency stakeholders;
• Develop memorandums of understanding (MOU) from all agency stakeholders;
• Provide further detail for project timeline;
• Assess need for/acquire software development support;
• Develop and maintain a written general data release policy for use of the project data that is compatible with State confidentiality and data access policies;
• Develop and maintain written documentation of the linkage processes;
• Participate in special studies designed by NHTSA by contributing data specific to the study as coordinated by NHTSA; and
• Contribute, when feasible, by serving as mentors, trainers, and technical support to others in the linkage project.

Project Status:

The following information was contained in an Interim Progress Report, submitted in March 2011 for the Section 408 application – Health care system databases linked to the crash database by the Department of Public Health (DPH).

Performance Measure used to track Improvements: Number and years of health care system databases linked to the crash database by the Department of Public Health (DPH) Crash Outcome Data Evaluation System (CODES) Project.
Improvements Achieved or Anticipated: Integration of the crash database to hospitalization and emergency department visit databases from 10 data years of linked data as of June 2010 to include an additional data year for hospitalization data and emergency department visit data as of March 2011.

Specification of how Measure is calculated: Number(s) of data years for hospitalization and emergency department visits linked through the CODES 2000 software.

Date and Baseline Value for the Measure:

Number of data years for hospitalization and emergency department visits linked as of June 2009

<table>
<thead>
<tr>
<th>Dataset integrated with crash</th>
<th>Years linked</th>
<th># of data years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitalization</td>
<td>2002-2006</td>
<td>5</td>
</tr>
<tr>
<td>Emergency department visit</td>
<td>2002-2006</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total = 10</td>
</tr>
</tbody>
</table>

Date and Current Value for the Measure:

Number of additional data years for hospitalization and emergency department visits linked as of March 2011

<table>
<thead>
<tr>
<th>Dataset integrated with crash</th>
<th>Year linked</th>
<th># of data years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitalization</td>
<td>2007</td>
<td>1</td>
</tr>
<tr>
<td>Emergency department visit</td>
<td>2007</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total = 2</td>
</tr>
</tbody>
</table>

Note: The DPH CODES Project made progress in integrating hospitalization and emergency department visit data to the crash data.
Project Summaries / 11th Year (2016 – 2017)

Emphasis for traffic records system improvements continues with a focus on mobile reporting of traffic citation and motor vehicle crash data, in addition to electronic linkage of injury outcome data, tracking person specific crash and injury records from a crash event to emergency medical services, trauma, emergency department, and hospital information management and exchange.

Projects proposed by the TRCC for the 11th year Section 405c application include:

- Electronic Crash / Citation - Technology / Software Support for Local Law Enforcement
- Electronic Charging - Warning / Citation / Traffic Stop
- Electronic Processing - Warning / Citation / Traffic Stop - Online Disposition System
- Linking Crash / Injury Datasets - Measure Crash Injury Outcomes - Law Enforcement / Health Care Providers
- EMS / Trauma Registry - Documentation - Data Dictionaries - Updates - Communication
- Traffic Records System Data Linkage Roadmap - Long Range Plan
Electronic Crash / Citation - Technology / Software Support for Local Law Enforcement

Project ID: CT-P-00016

Core System:
- Crash
- Citation/Adjudication

Performance Area:
- Completeness
- Accuracy
- Timeliness
- Uniformity
- Linkage
- Accessibility

Project Title: Electronic Crash / Citation - Technology / Software Support / Local Law Enforcement

Lead Agency: Capitol Region Council of Governments

Partner Agencies/Association:
- Connecticut Department of Transportation
- State and Local Law Enforcement
- State Judicial Department
- Traffic Records Coordinating Committee (TRCC)

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Project Description/Basis:
The State has made significant progress in implementing uniform mobile traffic law enforcement technologies over the past six years. These include citation, crash data collection, and warning tickets. Both the electronic citation application and the transition to a completely updated electronic crash reporting system using the MMUCC Guideline won best practices awards at two of the most recent National Traffic Records Forums.

This project encompasses multiple initiatives aimed at serving a segment of the law enforcement community. The focus is to help local police departments acquire public safety equipment. Some departments don’t have computers or mobile data terminals (MDTs) in their vehicles, hindering their abilities for selective enforcement. Better tools/resources, including technology as well as software
support where warranted, would enable local police departments to better implement new mobile traffic
tlaw enforcement technology initiatives.

Equipment as well as software support will be provided to support local law enforcement agencies.
Equipment/software support will be specifically awarded to those agencies requesting assistance for the
purchase and installation of computers, printers, or other mobile technology, as well as software
applications. Evaluating applications and making award decisions will be based on established criteria.

The need for planning and coordination among law enforcement agencies is critical to the success of this
effort. This mobile technology support initiative will be interfaced with the ConnDOT/UConn Crash Data
Repository (CDR). Electronic crash and citation reporting will reduce data input errors and improve the
completeness of the collected data. It should also improve police officer efficiency by reducing the
amount of time that officers spend collecting crash and citation data and decrease the time it takes this
data to be received by the appropriate State agency.

**Expected Impact:**

- Expand management information and targeted enforcement activities in equipped municipalities;
- Improve timeliness, accuracy, completeness and availability of both crash and citation data; and
- Provide new opportunities for focused policy initiatives that might result in stronger sanctions on
  recurrent violators and greater attention to locations of frequent crashes and significant injuries.

**Project Status:**

The need for planning and coordination with the 100% submission / assessment and support initiative for
E-Citations is also critical as efforts to assess law enforcement agencies’ capabilities, and their ability to
adopt to E-Citations as well as E-Crash will be interrelated.
Electronic Charging / Warning / Citation / Traffic Stop

Project ID: CT-P-00025

Core System:
- Citation/Adjudication

Performance Area:
- Completeness
- Accuracy
- Timeliness

Project Title: Electronic Charging / Warning / Citation / Traffic Stop

Lead Agency: Capitol Region Council of Governments

Partner Agencies:
- State Judicial Department
- State Department of Transportation (ConnDOT)
- Traffic Records Coordinating Committee (TRCC)
- Connecticut State Police (CSP)
- Central Connecticut State University (CCSU)
- Connecticut Police Chief's Association (CPCA)

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Project Description/Basis:

This project proposes to extend previous as well as current efforts on electronic document and data collection. Strategies include weaving paperless data transfer from point of data collection to final repository without intermediate human intervention.

Learning from prior experience with ConnDOT’s award winning e-citation collaboration and more recently with e-crash, and e-traffic stop, we will extend field data collection to two additional enforcement means; e-warning tickets and make user requested changes to several critical applications. We believe these are the natural supplement to the prior information technology initiatives. Moreover, they round out the suite of enforcement data collection for the field police officer and relieve those officers of the burden of redundant data entry and the need for manual and multiple sets of forms.

Our approach extends beyond the paper-centric notion of a single charging document and instead provides a unified approach to field data collection that correctly routes enforcement data to the correct storage and processing facility. In doing so, we propose to move further away from the legacy paper-based systems of the prior century and closer to the connected mode of the 21st century.
Benefits of a connected strategy for data collection and retrieval:

- Errors are radically reduced;
- Supervisory review is simplified, and more easily facilitated;
- Activity metrics can be near current;
- Data transfer is real time;
- Overall costs are reduced;
- System efficiency is increased for agencies upstream from the law enforcement organization;
- Provides real time data for charging violators and offenders;
- Helps Judicial in its efforts to establish an online infraction disposition system; and
- Opens the door to advanced policy options, including stepped sanctions based on violator history, or by geographic location based on crash history.

It may be possible to extend beyond mere electronic charging (warning, citation, traffic stop) to “smart charging” by hot spots based on spatial and temporal crash metrics in much the same way as work zone violations.

Given the potential availability of expanded crash and violation data coupled with temporal and spatial analysis tools, the Connecticut General Assembly would have for the first time an innovative means of determining the following:

- Revenue required for administration and operation of the traffic law enforcement and adjudication system;
- Hazardous traffic violation true costs (using epidemiology research);
- Payment history, violator recidivism, and opportunities for improvement;
- Enforcement activity trends based on changes in fee amounts;
- Effectiveness of electronic printers in police vehicles; and
- Reduction in crashes and crash severity based on sanction adjustments and investments in focused interventions on a hypothetical basis followed by a pilot program.

Background:

Police efficiency is substantially hampered by the inability to cite violators associated with crashes and selective enforcement in an automated fashion. Moreover, this presents a systemic challenge to the enforcement system in that it compels substantial and delayed ticket entry and disposition by the state’s judicial system. While improvements can be incremental, an electronic citation system is best accomplished as a cradle to grave ticketing system involving all parties from the outset.

In conjunction with the leadership of the Traffic Records Coordinating Committee, the State of Connecticut Judicial Department initiated a pilot electronic citation program. This program has the support of the Department of Public Safety (DPS) and the Department of Transportation (ConnDOT) along with local law enforcement. In the past few years; the Judicial Department has resolved issues regarding an electronic citation format and the paper document upon which the citation will be printed. Moreover, mobile printers and scanners have been identified and tested. While these may seem like small migratory tasks, they are vital steps toward the development of an all-electronic citation/adjudication system that will provide not only automated ticketing and docketing, but eventually full payment and Department of Motor Vehicles’ (DMV) adjudication of the infractions.

Expected Outputs:

- Electronic warning ticket data collection and in-vehicle printing of notice to operators;
- Electronic insurance interchange among drivers involved in crashes;
- Enhancement of e-citation data collection to include local ordinances so that the utility of the process for citing violators can be extended to assist municipal officers in meeting their local enforcement obligation;
- All enforcement media fully integrated into the e-crash application;
- Certain application enhancements to e-Crash as requested by the user community;
- Development of a small but timely set of management reports for the user towns; and
- Changes to the mobile data application to include a pilot “speech to text and text to audio” capability.

Assuming that ConnDOT is successful in its efforts to develop a functional geographic information system for the Connecticut user community, the state should be able to connect the dots of crash location and enforcement so that education and engineering improvements may be better targeted and planned. Collaboration and partnering must continue for our success to mature into an expectation rather than mere potential. The table will be set for improving those policies in ways that were not even possible just a few years ago. A connected Connecticut crash and enforcement system will mean a safer Connecticut.

**Technical Objectives:**

This project builds on prior investments of the State Department of Transportation (ConnDOT).

1. The electronic citation application provides the ability to:
   - Reference the motor vehicle statute files maintained by the Connecticut Judicial Department;
   - Swipe or scan operator license information from crash participants or violators;
   - Integrate DMV operator and registration information to the citation;
   - Print a citation for the violator; forward an electronic citation to the Judicial Department’s Central Infractions Bureau; and as an interim step, print a hard copy of the citation; and
   - Build on the timeliness in the citation/adjudication process, in concert with the development of an online disposition system.

2. Using existing hardware and communications facilities, this system will provide a GPS reference on all electronic crash records, citations, and warnings.

3. Development of a Traffic Law Enforcement Policy and Data Model

**Critical path tasks for this project include:**

1. Authorization and executive support to enable e-Warning from the Judicial Branch and the Department of Motor Vehicles (approved);
2. Definition of functional requirements for each product;
3. Management reporting and application quality and integrity controls based on common or State cloud hosting;
4. Integration with existing applications including e-Citation and e-Crash;
5. Application architecture and detail design with options for connected and unconnected services; and
6. Further development of real-time video based training and support products associated with the CAPTAIN mobile data system, the CT: CHIEF records management crash, citation, e-warning, racial profiling, and potential e-juvenile summons procedure.

**Strategic Benefits:** While extending the efforts from previous electronic document and data collection for both e-citation and e-crash, this initiative represents a new approach to enhance electronic field data collection for e-warning tickets and initiates a framework for an entry in to the juvenile justice arena with e-juvenile summons notices.
Electronic Processing - Warning / Citation / Traffic Stop - Online Disposition System

Project ID: CT-P-00009

Core System:
- Citation/Adjudication
- Crash

Performance Area:
- Completeness
- Uniformity
- Timeliness

Project Title: Electronic Processing - Warning / Citation / Traffic Stop - Online Disposition System

Lead Agency: State of Connecticut Judicial Branch – Court Operations, Centralized Infractions Bureau

Partner Agencies:
- Connecticut Police Chief’s Association (CPCA)
- State and Local Law Enforcement Agencies
- Connecticut Department of Transportation
- Traffic Records Coordinating Committee (TRCC)
- Central Connecticut State University (CCSU)

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Project Description:
Prior to the implementation of Electronic Citation (E-Citation) Processing, Connecticut’s traffic violation citation disposition system was completely manual; vulnerable to human error at many points in the process. Handwritten documents required multiple entry in numerous and varied systems causing inconsistencies and inaccuracies in data. This sometimes led to agencies that relied on the system, such as the Department of Motor Vehicles (DMV), receiving erroneous information, which in some cases resulted in a failure to consistently and accurately apply conviction information to driver history files.

The paper driven manual process for adjudicating traffic violations is labor intensive. Recipients of traffic infractions respond either with payment or a not guilty plea. Some do not respond at all. A not guilty plea received at the CIB can either result in a nolle (decision by the state’s attorney to not prosecute the infraction), or a transfer to the court of jurisdiction. Once at the court, the case may be reviewed and nolled or scheduled for an infraction hearing. Once scheduled, outcomes are varied and can include payment, substitution of charges, charitable contributions, nolles, and dismissals, etc.
In addition to creating opportunities for inaccurate and conflicting data to be entered into the system, reliance upon a system based on paper and multiple points of data entry often results in processing delays and time consuming exceptions processing.

A statewide systematic effort was undertaken to address these problems, with the Judicial Branch E-Citation Processing System project developed in coordination with Citation projects involving the Capitol Region Council of Government (CRCOG) and the Department of Public Safety (DPS). This resulted in the development of a statewide electronic roadside data capture system for the issuing and reporting of traffic citations.

Building on the E-Citation initiative, Judicial is proposing an on-line disposition system whereby the recipient of an infraction could elect to have their case reviewed and adjudicated on-line. This would allow prosecutors to review most, if not all not guilty pleas entered by defendants and reach resolution without the necessity of the recipient coming to court. If the defendant requests a trial, those cases would be heard in the court of jurisdiction.

This combined project is dedicated to the continued development of an application that enables the receipt / availability of citation, warning, and traffic stop data, and an online disposition system to help streamline the backend.

- **Background** - CIB; Unified Court System; 250 LE Agencies; 400,000 Tickets per Year; Lock Box Payment;
- **Project Focus** - Improved Timeliness; Accuracy; Technical Agility to Respond to Public Policy Changes; Better Performance Measures;
- **Manual Limitations** - Ticket Inventory; Road Conditions; Legislative Change; Legibility; Arithmetic Errors;
- **Timeframe** - Analysis for Ticket Returns;
- **Ticket Errors** - Wrong Amount Due; Wrong Infraction Number; Wrong Amount for Infraction;
- **Successes** - Collaboration; Proof of Concept Widely Accepted; First Utilization of e-Signature Impetus for e-Pay/Plead; and
- **Challenges** - Broaden User Base; Demand for Multi-Uses for Mobile Printer; Crash Info Exchange, Parking Tickets.

**Goal:**

Create an application that enables the Judicial Branch to electronically receive traffic citation, warning and traffic stop data from law enforcement agencies; automatically store, process and supply required information to the courts. An on-line disposition system replaces the manual labor intensive backend process.

**Objective:** Design and implement an on-demand, centralized, web-based records management system (RMS) for law enforcement agencies to do the following:

- Query agency-specific data related to the issuance of citations, warning tickets, and traffic stops;
Generate various reports related to agency activity in conjunction with the issuance of citations, etc., (e.g., by street, officer, charge and defendant);

Provide for the management of data, such as approval process for citations, etc., prior to submission to CIB;

Allow for cross-agency searching on citations, warnings, and traffic stop data;

Allow agencies to export data in a variety of formats for use in spreadsheets and/or other applications; and

Provide a web-service interface for querying of data by other applications.

Objective: Continue efforts to enable the e-citation / warning / traffic stop processing application to allow electronic viewing and disposition of required data in court locations.

Objective: Continue efforts to enable the e-citation / warning / traffic stop application to provide a “paperless courtroom.”

Objective: Enhance the backend process through the development of an online disposition system.

Purpose:

Streamline citation / warning / traffic stop processing system through applied technology;
Increase revenue;
Increase uniformity of event processing;
Utilize staff more efficiently;
Assist law enforcement initiatives; and
Work in conjunction with the Office of the Chief State’s Attorney in implementing an online disposition system.

Tasks/Milestones:

1. Submit/finalize HS-1 grant application to ConnDOT, Highway Safety Office;
2. Production of electronic-citation / warning / traffic stop data submitted by law enforcement resulting in automatic population into Judicial database;
3. Document volumes and define hardware/software needs;
4. Web services application;
5. Continued streamlining of CIB workflow;
6. Creation of more e-Infractions courts;
7. Continue coordination with CPCA in their assessment of law enforcement agencies’ capabilities, current vendors, ability to adopt electronic citation / warning ticket / traffic stop data;
8. Continue to identify candidate law enforcement agencies to pilot test / implement electronic citation / warning / traffic stop processing;
9. Identify needs of candidate agencies for programming and other assistance;
10. Research/develop funding proposals to support candidate agencies as needed;
11. Roll-out to candidate agencies; and
12. Design, develop and implement the online disposition system / run in pilot test mode during the first year of this expanded project initiative.

Application:

Overview - Software; In-Car Equipment; Data Communications Network; Citation Forms/Zebra Printer; Summons Arrest Forms; Warning Tickets;
Rollout - # Printers; LE Agencies; Thermal Paper; Train-the-Trainer; Feedback from Pilot;

Mgmt Reports; Monthly by Officer; by Violation Type; by Location; Separate Data Set – Map Based Analysis;

Preparation for Each Agency; Equipment/Software in Vehicle; Regis ORI with e-Citation; Test System; Train Officers;

CRCOG Users/e-Citation/e-Summons/e-Warning; Windows Style Interface; Main Menu Functions;

New Citation / Juvenile Summons / Warning; Event Search; Print; User Preferences; Clear Search Queues;

Process; Demographics; License/Vehicle; Specifics; Infractions/Fines; Notes; Preview; Sign-Save-Print;

Successes; User Accepts; App Sharing Across Jurisdictions; Potential for Other Mobile Ticket Apps; and

Challenges; Budget Limits Broader Rollout; Towns Slow to Rollout “Seed” Units; Long Term Issue of Replacement Costs; Revenue Sharing to Cover Costs - Strong Potential.

Status:

The Electronic Citation / Warning/ Traffic Stop and On-line Disposition Processing System will build on the Electronic Citation Processing System, which is creating efficiencies in several areas. The receipt of electronically captured citation data by the CIB, is leading to the data being automatically populated into the CIB automated system.

In Phase One, vendors for pilot site law enforcement agencies developed in-car electronic citation systems while the Judicial Branch defined hardware and transmission requirements that would allow information created in police vehicles to be received and processed by the Judicial Branch CIB. Officer handwriting was replaced by type-written characters, therefore eliminating entry errors. Fewer entry errors have resulted in less exception processing, improving the timeliness of downstream processing transmissions to the Courts and the Department of Motor Vehicles (DMV).

In Phase Two, the Judicial Branch created the interface which allowed for the direct population of the electronic citation transmissions from law enforcement into the CIB automated processing system, further minimizing data entry, key stroke errors, and exception processing.

In Phase Three, the Judicial Branch implemented regional electronic dockets and also included commercial electronic citations, and the electronic viewing and disposition of citations in court locations. This phase also began the development of an e-Citation paperless courtroom with dedicated dockets for citations, enhancing the availability of electronic, self-pay opportunities.

In Phase Four, the Judicial Branch implemented a direct web interface between the CIB and the Cheshire Police Department pilot site.

In Phase Five, the focus continues the drive for 100 percent statewide integration of E-Citations, including:

- Continued enhancement and expansion of the web interface version to electronically receive traffic citation information from law enforcement agencies;
- Automatic storing of information in the CIB citation database, allowing the electronic production of citations;
• Extracts to law enforcement agencies of citation data to enable in house record keeping and reporting;
• Refined web product to interface with the DMV;
• Enhancements as requested by pilot police departments;
• Informational seminars for police departments on the options for participating in E-Citation, Warning, and Traffic Stop processing initiative;
• Printers for pilot police departments; and
• Scanning equipment and hardware as needed for the receipt of increased numbers of E-Citations at CIB.

Enhancement to the system this next year will focus on the development of an on-line disposition system. Benefits include:

• **Timeliness** - Each step in the current process contributes to a delay in the adjudication of the infractions, and therefore a delay in the attachment of relevant disposition information to a driver’s history and subsequent availability to law enforcement. An on-line disposition system could significantly reduce the number of days from issuance to adjudication, and placement when appropriate on the driver’s history;
• **Uniformity** - Currently, infractions are reviewed by prosecutors in 15 different locations. The ability for a smaller group of prosecutors to review on a global scale all infractions could yield more uniformity in dispositions. The ability to communicate large scale enforcement efforts such as “Click it or Ticket” would be enhanced;
• **Personnel** - Due to recent staff reductions, there are less employees to dedicate to the current labor intensive, manual paper driven process. Conceptually, infractions could be processed at any time of day, and would not be limited to traditional court dockets of 10am and 2pm. Less individuals coming to the courts could alleviate security issues that arise when a large number of people are assembled; and
• **Public Convenience** - The public would be able to be heard on matters without taking time off from work (unless they opted to come to court or elected a trial). The new system would be synced with the current e-pay system, allowing individuals the convenience of paying on-line in a contemporaneous fashion. Those who receive alternative dispositions could print or have the results emailed, eliminating the need and expense of paper notices.
Linking Crash / Injury Datasets - Measure Crash Injury Outcomes - Law Enforcement / Health Care Providers

**Project ID:** CT-P-00020

**Core System:**
- Crash
- EMS/Injury

**Performance Area:**
- Uniformity
- Accuracy
- Linkage

**Project Title:** Linking Crash / Injury Datasets – Measure Injury Outcomes Assessed by Health Care Providers

**Lead Agency:** Yale-New Haven Hospital

**Partner Agencies:**
- State Department of Transportation (ConnDOT)
- State and Local Law Enforcement
- University of Connecticut (UConn)
- Department of Public Health
- Traffic Records Coordinating Committee (TRCC)

**Project Director/Primary Contact:**

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PhD, MSPH, RN-BC, CCRN, CPS-T  
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Email:  Pina.Violano@ynhh.org

**Project Description/Basis:**

A much higher emphasis has been placed on using serious injuries as a metric for highway safety. Research is ongoing nationally as to how best to define a serious injury as well as how to measure serious injuries in motor vehicle crashes.

In Connecticut, injury severity decisions in motor vehicle crashes are made by law enforcement officers using the KABCO scale, based on conditions they observe at the scene of a crash. In their reporting, officers indicate a measure of the functional injury level of the victim as either an A, B, or C injury. Prior to the adoption of the **Model Minimum Uniform Crash Criteria (MMUCC) Guideline** in the new MMUCC PR-1 Crash Reporting System in January 2015, the Investigator’s Guide for the old PR-1 instructed officers using KABCN, where “N” represented “not injured.” Small explanations were provided in the Investigator’s Guide for A, B and C – injuries.
According to the KABCN Scale used for the legacy PR-1, the guidance an officer received for an “A” injury, was -

(A) Incapacitating injury (prevents return to normal activity)

The MMUCC Guideline 4th Edition was adopted by the State, forming the basis for the development of the new MMUCC PR-1 crash reporting system. This new system was rolled out and began replacing the legacy PR-1 in January 2015. The new MMUCC PR-1 provides greater detail/examples for an officer to review in determining whether a crash victim’s injury is serious or not.

Serious Injury according to the MMUCC Guideline -

(A) Suspected Serious Injury is any injury other than fatal which results in one or more of the following:

- Severe laceration resulting in exposure or underlying tissues/muscle/organs or resulting in significant loss of blood;
- Broken or distorted extremity (arm or leg);
- Crush injuries;
- Suspected skull, chest or abdominal injury other than bruises or minor lacerations;
- Significant burns (second and third degree burns over 10% or more of the body);
- Unconsciousness when taken from the crash scene; or
- Paralysis.

The D16.1 Classification Manual of Motor Vehicle Traffic Accidents - was available in Connecticut prior to the MMUCC Guideline, and also provided guidance using the KABCO scale, but it is unknown whether any law enforcement agencies in Connecticut ever used the D16.1 Manual. The following is an example of the detail provided by the D16.1 Manual for an (A) Injury, also referred to as an Incapacitating Injury.

(A) Incapacitating Injury: An incapacitating injury is any injury, other than a fatal injury, which prevents the injured person from walking, driving or normally continuing the activities the person was capable of performing before the injury occurred.

Inclusions: Severe laceration, broken or distorted limb, skull or chest injury, abdominal injury, unconsciousness at, or when taken from the accident scene, unable to leave the accident scene without assistance.

Health Care Professionals assessing injury severity of crash victims –

The Abbreviated Injury Scale (AIS) is used for coding injury types and injury severity, based upon an in-hospital clinical assessment.

In hospital administrative databases, injuries are coded using the International Classification of Disease (ICD) classification system. Connecticut, like many other states is in transition between using ICD-9 and a newer revision, ICD-10.
Project Objective:

The focus of this project is to integrate crash and injury data to be able to derive more precise injury outcomes. In question – is the disparity between officer assessments of personal injury as recorded on the previous PR-1, prior to 2015; the new MMUCC PR-1 crash reporting system, which began in January 2015 and actual outcomes assessed by health care providers. Project explores a data integration solution that provides more accurate injury severity information for persons involved in crashes. Steps include acquiring disparate datasets, performing linking functions, managing the resulting dataset, and conducting in-depth analyses on the linked data.

Initial efforts in 2016, focus on a subset of crash and injury data for New Haven, Connecticut. Crash data integrated with Yale-New Haven Hospital Trauma Registry data will be used to compare crash victim injury assessments by law enforcement with health care professionals.

One assumption is that if patterns can be documented of over reporting or under reporting of injury severity along with the actions by officers in select motor vehicle crash types, e.g., fender benders, and pedal cyclist and pedestrian crashes, enhanced guidance to MMUCC can be provided to officers in improving their injury severity assessments of motor vehicle crash victims.

Ultimately, if a permanent linkage could be established between motor vehicle crash, emergency medical services and hospital trauma data, this could possibly lead to a reduction in the amount of time officers would spend in determining injury severity of motor vehicle crash victims, and at the same time provide better injury status assessment data on the State Crash Data Repository (CDR).

Activities/Tasks:

- Submit / finalize HS-1 grant application with ConnDOT, Highway Safety Office;
- Meet with Highway Safety Office to finalize details of crash/injury integration/research efforts;
- Meet with/seek input from Data Integration Subcommittee of the TRCC;
- Determine which datasets to pursue, including previous legacy PR-1 crash data; new 2015 MMUCC PR-1 crash data; appropriate injury surveillance system (ISS) data;
- Sign appropriate research agreements to be able to protect/acquire appropriate data;
- Acquire disparate datasets;
- Make determinations of approach to linking different datasets;
- Perform data linkage between datasets;
- Manage the resulting dataset(s);
- Conduct in-depth analyses on the linked data;
- Present preliminary findings to TRCC/Highway Safety Office;
- Present findings/seek feedback to representatives of DPH/ISS system;
- Present findings/seek feedback to representatives from law enforcement; and
- Present final assessment/findings to Highway Safety Office.
EMS / Trauma Registry - Documentation - Data Dictionaries - Updates - Communication

Project ID: CT-P-00018

Core System:
- Injury Control

Performance Area:
- Integration

Project Title: EMS / Trauma Registry - Documentation - Data Dictionaries - Updates - Communication

Lead Agency: Department of Public Health (DPH)

Partner Agencies:
- Department of Transportation (ConnDOT)
- Transportation Safety Research Center (TSRC)
- Connecticut Hospital Association

Project Director/Primary Contact:

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Email: Ann.Kloter@ct.gov

Project Description:

Injury surveillance system (ISS) data from emergency medical services (EMS), hospital emergency departments, hospital discharge, trauma registries, insurance claims and mortality files can be used with roadway and motor vehicle crash data for prevention and cost control evaluation of motor vehicle crashes. Data collection systems documentation and integration of reporting mechanisms are needed in order to link data for analyses and outcome evaluation, for making public policy and for appropriately allocating resources that effect best practices in prevention and health care cost reduction.

The State Trauma Registry database collected hospital data from 2007 through 2011. In June of 2012, the data portal for hospitals was closed to the participating trauma centers. Trauma registry system updates and a report writer were created but have not been moved to production. No formal reports have been made to hospitals or other stakeholders, nor is aggregated trauma data currently accessible by either the trauma centers or the Office of EMS.

The lack of data reports to stakeholders and non-linkage of EMS and Trauma data were cited in the 2013 Office of EMS assessment by NHTSA. In a State EMS Plan for 2015-2020, data collection was identified as a critical area; but the Plan stated that, “although a statewide data collection system for both EMS and trauma exists, the ability of the lead agency and stakeholders to utilize those systems for evaluation purposes is greatly limited due to insufficient resources.”
Project Focus:

The State requests technical assistance with redeployment of the Trauma Registry and report writer as one of the prerequisites for successful integration of pre-hospital emergency medical services (EMS) data with hospital data entered into the Trauma Registry.

Technical Challenges/Objectives:

- Department of Public Health (DPH) access to the Trauma Registry is not currently operational;
- Location of data previously collected is unknown; import from hospitals needs to be repeated;
- Lack documentation of processes for collecting, correcting, and reporting data;
- Lack a complete Trauma data dictionary;
- Need to identify fields to be able to link EMS to Trauma data;
- Hospitals have no access to Trauma Registry or ability to submit trauma data;
- Identify all processes needed to redeploy, use and evaluate Trauma Registry and report writer;
- Determine if newer updates should be implemented;
- Determine whether a new update includes required ICD10 fields;
- Identify all maintenance steps and costs needed for specific DPH-IT and BEST activities;
- Create a timeline of activities and deliverables for redeployment and maintenance;
- Create a realistic timeline for training hospitals and the Office of EMS; and
- Complete EMS data dictionary which includes linkage fields (linkage to Trauma data).

In addressing the above objectives, additional steps will include:

- Submit/finalize HS-1 grant application to ConnDOT, Highway Safety Office;
- Meet with Highway Safety Office to finalize details of project;
- Meet with/seek input from EMS Data Quality Committee;
- Meet with/seek input from Trauma Stakeholder Committee; and
- Meet with/seek input from TRCC Committee.

Status of Previous (Related) Project:

The following information was contained in an Interim Progress Report, submitted in March 2011 for the Section 408 application – Health care system databases linked to the crash database by the Department of Public Health (DPH).

Performance Measure used to track Improvements: Number and years of health care system databases linked to the crash database by the Department of Public Health (DPH) Crash Outcome Data Evaluation System (CODES) Project.

Improvements Achieved or Anticipated: Integration of the crash database to hospitalization and emergency department visit databases from 10 data years of linked data as of June 2010 to include an additional data year for hospitalization data and emergency department visit data as of March 2011.

Specification of how Measure is calculated: Number(s) of data years for hospitalization and emergency department visits linked through the CODES 2000 software.

Date and Baseline Value for the Measure:

Number of data years for hospitalization and emergency department visits linked as of June 2009

<table>
<thead>
<tr>
<th>Dataset integrated with crash</th>
<th>Years linked</th>
<th># of data years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitalization</td>
<td>2002-2006</td>
<td>5</td>
</tr>
</tbody>
</table>
Emergency department visit | 2002-2006 | 5 | Total = 10

Date and Current Value for the Measure:

<table>
<thead>
<tr>
<th>Dataset integrated with crash</th>
<th>Year linked</th>
<th># of data years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitalization</td>
<td>2007</td>
<td>1</td>
</tr>
<tr>
<td>Emergency department visit</td>
<td>2007</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Total = 2</td>
</tr>
</tbody>
</table>

Number of additional data years for hospitalization and emergency department visits linked as of March 2011

Note: The DPH CODES Project made progress in integrating hospitalization and emergency department visit data to the crash data.
Traffic Records System Data Linkage Roadmap - Long Range Plan

Project ID: CT-P-00003

Core System:

- Crash
- Driver
- Vehicle
- Roadway
- Citation/Adjudication
- Health/Injury Control

Performance Area:

- Integration

Project Title: Traffic Records System Data Linkage Roadmap - Long Range Plan

Lead Agency: UConn/ConnDOT - Connecticut Transportation Safety Research Center (CTSRC)

Partner Agencies:

- All Stakeholder Agencies on the TRCC

Project Director/Primary Contact:

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Project Background:

Data linkage is an efficient strategy for expanding the data available, while avoiding the expense, delay and redundancy associated with collecting the same information separately. State systems that link data from each of the components of the traffic records system provide important new sources of data that can be used to identify risk factors, design strategies to address these risk factors, and evaluate the strategies once implemented. Understanding the facilitators and barriers to an effective and useful linkage system can optimize the system’s utility for public health and transportation safety.


d Interface linkages of traffic records system components represent a seamless, on-demand connectivity and a high degree of interoperability between systems that support critical business processes.

Data integration linkages of the six-pack components of a traffic records system support in-depth analysis impossible to achieve if based solely on the contents of any singular data system (examples of each of these linkage types – pages 2 & 3 in the Introduction).

In meetings of its Data Linkage working group, the TRCC has touted the need to prioritize data linkage among all of the components of a traffic records system. The TRCC has discussed the need for a long-
range plan for data linkage coupled with the Committee’s ongoing development of a traffic records inventory as referenced in the Traffic Records Program Assessment Advisory.

The Connecticut Transportation Safety Research Center (CTSRC), supported by the State Department of Transportation (ConnDOT), has been successful in linking motor vehicle crash with roadway and traffic volume data.

The State Department of Public Health (DPH), was successful in linking hospitalization and emergency department visit data to crash data for calendar years 2002 - 2007, through the CODES Project, using probabilistic linkage.

Current CTSRC efforts include establishing a repository for the state’s toxicology lab results to be able to track DUI and drug offenses with relation to crashes, and a citation data repository to aid in the evaluation of state programs on driver behavior. Plans by the CTSRC include opportunities to link other databases, e.g., injury and treatment outcome data to aid in the evaluation of crash outcomes, and the linkage of all related roadway databases into a linear referencing system.

While the TRCC has discussed ultimately linking all of the component datasets of a traffic records system, only the above three, crash, roadway, and health/injury control have seen measurable success. As the next section points out, challenges exist to reaching the next level of achievement for improving the State’s traffic records system through data linkage.

**Project Challenges/Benefits:**

As pointed out in the Traffic Records Program Assessment Advisory, data integration/linkage of traffic records datasets can be challenging for many reasons, including high costs, legislative restrictions, potential liabilities, and custodial resistance. Compounding the challenges, advantages to integration are not always clear and the methods of integrating datasets may be unfamiliar to data managers and decision-makers. The effectiveness of decision-making, however, can depend on high-quality and accessible analysis that is enhanced when enriched through integrating multiple traffic records data components. Benefits of integrated or linked data include:

- Lower costs to achieve a desired level of data content and availability;
- Support for multiple perspectives in data analysis and decision-making;
- Expanded opportunities for data quality validation and error correction;
- Additional options for exposure data to form rates and ratio-based comparisons;
- Enhanced accuracy and completeness of data describing crash events, the roadway environment, and the involved people and vehicles;
- Increasing the relevance of information available for legislative and policy analysis; and
- Increased support for advanced methods of problem identification, countermeasure selection, and evaluation of program effectiveness.

**Roadmap to Linked Traffic Records Data - Project Plan (proposed steps)**

1. Organize collaboration among agencies;
2. Document/catalog all available relevant databases;
3. Incorporate existing/established data linkages;
4. Map out a long-term plan based on databases to be linked;
5. Determine the availability of variables in existing databases to aid linkage;
6. Determine the method/mechanism for linking the specific databases under consideration;
7. Determine where the linked databases are to be stored;
8. Place importance on data elements in linked databases conforming to a common schema;
9. Pilot test on a small scale to help find/fix problems; and
10. Expand the efforts from the pilot into a full-scale linkage initiative.

Tasks/Milestones:

- Submit/finalize HS-1 grant application to ConnDOT, Highway Safety Office;
- Meet with/seek input from TRCC Committee;
- Consider the formation of a separate Data Linkage Workgroup;
- Develop Data Linkage Plan; and
- Provide further detail for project timeline.
Project Summaries / 12th Year (2017 – 2018)

Emphasis for traffic records system improvements continues with a focus on eCitation processing/online dispositions, eCitation/version 2 for all police departments, technology/software support for law enforcement, a policy and data model for mobile enforcement, electronic linkage of injury outcome data for motor vehicle crash victims, digitization of impaired driving data from the A44 form, tracking person specific crash and injury records from a crash event through the injury surveillance system, data integration of the traffic records six-pack, establishing a subset of MIRE for safety analysis, and rolling out RMSs for law enforcement in a shared environment.

Projects proposed by the TRCC for the 12th year Section 405c application include:

<table>
<thead>
<tr>
<th></th>
<th>Projects Targeted for 405c Funding in 2017-2018</th>
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</thead>
<tbody>
<tr>
<td>Judicial</td>
<td>Electronic Citation Processing - Online Dispositions</td>
</tr>
<tr>
<td>Judicial</td>
<td>Electronic Citation Processing V2 - All Police Departments</td>
</tr>
<tr>
<td>HSO</td>
<td>Electronic Crash/Citation Technology Support for Local Law Enforcement</td>
</tr>
<tr>
<td>CRCOG</td>
<td>Electronic Charging/Policy and Data Model for Mobile Enforcement</td>
</tr>
<tr>
<td>YNHH</td>
<td>Linking Crash/Injury Datasets - Measure Crash Injury Outcomes</td>
</tr>
<tr>
<td>CTSRC</td>
<td>Digitization of Impaired Driving Data from the DMV’s A44 Form</td>
</tr>
<tr>
<td>DPH</td>
<td>Emergency Medical Services/Trauma Registry Functionality</td>
</tr>
<tr>
<td>ConnDOT</td>
<td>Data Integration Linkage of Six Core Traffic Records Data Systems</td>
</tr>
<tr>
<td>TRCC</td>
<td>Work Group to Focus on a Traffic Records Inventory / Data Integration - Traffic Records Six-Pack</td>
</tr>
<tr>
<td>CJIS</td>
<td>Records Management Systems for Law Enforcement in a Shared Environment</td>
</tr>
<tr>
<td>LEAs</td>
<td>Data Driven Approach to Crime and Traffic Safety</td>
</tr>
</tbody>
</table>

Other Projects of Interest for 2017-2018

- Data Integration Linkage of Six Core Traffic Records Data Systems
- MIRE FDE Data Collection Plan
- Work Group to Focus on a Traffic Records Inventory / Data Integration - Traffic Records Six-Pack
- Records Management Systems for Law Enforcement in a Shared Environment
- Data Driven Approach to Crime and Traffic Safety
Electronic Citation Processing - Online Dispositions

Project ID: CT-P-00009

Core System:

- Citation/Adjudication
- Crash

Performance Area:

- Completeness
- Uniformity
- Timeliness

Project Title: Electronic Citation Processing System - Online Dispositions

Lead Agency: State of Connecticut - Judicial Branch

Partner Agencies:

- Connecticut Police Chief’s Association (CPCA)
- State and Local Law Enforcement Agencies
- Connecticut Department of Transportation
- Traffic Records Coordinating Committee (TRCC)
- Central Connecticut State University (CCSU)

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Email: Stacey.Manware@jud.ct.gov

Project Description:

Prior to the implementation of Electronic Citation (E-Citation) Processing, Connecticut’s traffic violation citation disposition system was completely manual; vulnerable to human error at many points in the process. Handwritten documents required multiple entry in numerous and varied systems causing inconsistencies and inaccuracies in data. This sometimes led to agencies that relied on the system, such as the Department of Motor Vehicles (DMV), receiving erroneous information, which in some cases resulted in a failure to consistently and accurately apply conviction information to driver history files.

The paper driven manual process for adjudicating traffic violations is labor intensive. Recipients of traffic infractions respond either with payment or a not guilty plea. Some do not respond at all. A not guilty plea received at the CIB can either result in a nolle (decision by the state’s attorney to not prosecute the infraction), or a transfer to the court of jurisdiction. Once at the court, the case may be reviewed and nolled or scheduled for an infraction hearing. Once scheduled, outcomes are varied and can include payment, substitution of charges, charitable contributions, nolles, and dismissals, etc.
In addition to creating opportunities for inaccurate and conflicting data to be entered into the system, reliance upon a system based on paper and multiple points of data entry often results in processing delays and time-consuming exceptions processing.

A statewide systematic effort was undertaken to address these problems, with the Judicial Branch E-Citation Processing System project developed in coordination with Citation projects involving the Capitol Region Council of Government (CRCOG) and the Department of Public Safety (DPS). This resulted in the development of a statewide electronic roadside data capture system for the issuing and reporting of traffic citations.

Building on the E-Citation initiative, Judicial is proposing an on-line disposition system whereby the recipient of an infraction could elect to have their case reviewed and adjudicated on-line. This would allow prosecutors to review most, if not all not guilty pleas entered by defendants and reach resolution without the necessity of the recipient coming to court. If the defendant requests a trial, those cases would be heard in the court of jurisdiction.

This combined project is dedicated to the continued development of an application that enables the receipt/availability of citation, warning, and traffic stop data, and an online disposition system to help streamline the backend.

- Background - CIB; Unified Court System; 250 LE Agencies; 400,000 Tickets per Year; Lock Box Payment;
- Project Focus - Improved Timeliness; Accuracy; Technical Agility to Respond to Public Policy Changes; Better Performance Measures;
- Manual Limitations - Ticket Inventory; Road Conditions; Legislative Change; Legibility; Arithmetic Errors;
- Timeframe - Analysis for Ticket Returns;
- Ticket Errors - Wrong Amount Due; Wrong Infraction Number; Wrong Amount for Infraction;
- Successes - Collaboration; Proof of Concept Widely Accepted; First Utilization of e-Signature Impetus for e-Pay/Plead; and
- Challenges - Broaden User Base; Demand for Multi-Uses for Mobile Printer; Crash Info Exchange, Parking Tickets.

**Goal:**

Create an application that enables the Judicial Branch to electronically receive traffic citation, warning and traffic stop data from law enforcement agencies; automatically store, process and supply required information to the courts. Implement an on-line disposition system that will allow for the electronic adjudication of infractions.

**Objective:** Design and implement an on-demand, centralized, web-based records management system (RMS) for law enforcement agencies to do the following:

- Query agency-specific data related to the issuance of citations, warning tickets, and traffic stops;
- Generate various reports related to agency activity in conjunction with the issuance of citations, etc. (e.g., by street, officer, charge and defendant);
- Provide for the management of data, such as approval process for citations, etc., prior to submission to CIB;
- Allow for cross-agency searching on citations, warnings, and traffic stop data;
- Allow agencies to export data in a variety of formats for use in spreadsheets and/or other applications; and
- Provide a web-service interface for querying of data by other applications.

Objective: Continue efforts to enable the e-citation / warning / traffic stop processing application to allow electronic viewing and disposition of required data in court locations.

Objective: Continue efforts to enable the e-citation / warning / traffic stop application to provide a “paperless courtroom.”

Objective: Design, develop, build, test, and make operational the computer infrastructure necessary to support the operation of the online disposition system.

Objective: Develop and put in place the business and legal processes necessary to support the operation of the online disposition system.

Objective: Develop and put in place the policies and procedures necessary to support the operation of the online disposition system.

Objective: Train criminal justice system staff in the use of the online disposition system.

Objective: Undertake an outreach effort to increase public awareness of the online disposition system.

Purpose:

- Streamline citation / warning / traffic stop processing system through applied technology;
- Increase revenue;
- Increase uniformity of event processing;
- Utilize staff more efficiently;
- Assist law enforcement initiatives; and
- Work in conjunction with the Office of the Chief State’s Attorney in implementing an online disposition system.

By moving to an online disposition system, the recipient of an infraction could elect to have his or her case reviewed and adjudicated online. This will significantly streamline the adjudication process for both the individual and the criminal justice system. In addition to removing the requirement for the defendant to appear in court, the online disposition system will allow prosecutors to review most, if not all, “not guilty” pleas entered by defendants and reach resolution at a more central location, without the necessity of physically appearing in court, helping to conserve the limited resources of the criminal justice system.

Additional Benefits – Online Disposition System

Timeliness – Each step in the current process contributes to a delay in the adjudication of the infraction and therefore a delay in the attachment of relevant disposition information to a driver history and its subsequent availability to law enforcement. The online disposition system will significantly reduce the number of days from issuance to adjudication and placement, when appropriate, on the driver history.
Uniformity – Currently, infractions are reviewed by prosecutors in fifteen (15) different locations. The ability for a smaller group of prosecutors to review all infractions from a central source would contribute to increased consistency in dispositions across all locations.

Convenience and Efficiency – Individuals will be able to be heard on matters related to infractions without them having to take time off from work or school, eliminating the time and expense incurred while traveling to court, unless an individual elects for a trial.

Tasks/Milestones:

1. Submit/finalize HS-1 grant application to ConnDOT, Highway Safety Office;
2. Production of electronic-citation / warning / traffic stop data submitted by law enforcement resulting in automatic population into Judicial database;
3. Document volumes and define hardware/software needs;
4. Web services application;
5. Continued streamlining of CIB workflow;
6. Creation of more e-Infractions courts;
7. Continue coordination with CPCA in their assessment of law enforcement agencies’ capabilities, current vendors, ability to adopt electronic citation / warning ticket / traffic stop data;
8. Continue to identify candidate law enforcement agencies to pilot test / implement electronic citation / warning / traffic stop processing;
9. Identify needs of candidate agencies for programming and other assistance;
10. Research/develop funding proposals to support candidate agencies as needed; and
11. Roll-out to candidate agencies.

Application:

Overview - Software; In-Car Equipment; Data Communications Network; Citation Forms/Zebra Printer; Summons Arrest Forms; Warning Tickets;

Rollout - # Printers; LE Agencies; Thermal Paper; Train-the-Trainer; Feedback from Pilot;

Mgmt Reports; Monthly by Officer; by Violation Type; by Location; Separate Data Set – Map Based Analysis;

Preparation for Each Agency; Equipment/Software in Vehicle; Regis ORI with e-Citation; Test System; Train Officers;

CRCOG Users/e-Citation/e-Summons/e-Warning; Windows Style Interface; Main Menu Functions;

New Citation / Juvenile Summons / Warning; Event Search; Print; User Preferences; Clear Search Queues;

Process; Demographics; License/Vehicle; Specifics; Infractions/Fines; Notes; Preview; Sign-Save-Print;

Successes; User Accepts; App Sharing Across Jurisdictions; Potential for Other Mobile Ticket Apps; and

Challenges; Budget Limits Broader Rollout; Towns Slow to Rollout “Seed” Units; Long Term Issue of Replacement Costs; Revenue Sharing to Cover Costs - Strong Potential.

Online Disposition System

Design, develop and implement the online disposition system / run in pilot test mode during the first year of this expanded project initiative.
The technical component will consist of the development of the online disposition database which will be used to receive, store, and view all documents required for case processing; Development and testing will be completed by a system engineer, developer, and tester who will work under joint supervision of the Central Infractions Bureau and the Information Technology Division; The policy and procedure component will be undertaken by the Judicial Branch and other criminal justice system personnel, and used to develop the necessary business and legal processes.

It is anticipated that the Judicial Branch will engage defendants who choose to participate in the online disposition system in three phases:

**Phase 1** – Defendants who plead “not guilty” online will be asked to opt into the online disposition process. Defendants who elect to participate will be directed to the Branch’s E-Services registration page to engage in the online disposition process. Defendants who decline to participate will proceed according to the current process.

**Phase 2** – Defendants who are sent “Compliance Letters” for current regional courts will be provided with directions to participate in the online process.

**Phase 3** – All defendants who plead “not guilty” manually will (upon receipt of the “not guilty” plea) be sent a letter informing them of the option of using the online disposition system.

**Progress:**

The development of the system is nearly complete for the pilot sites of Meriden, Stamford and Norwalk. Review dockets have been created for these locations; testing of the online offer component will be conducted in mid-August. It is expected that the system will be live in these locations in September. Once implementation is accomplished for these locations, monitoring of the system will begin with revisions made as necessary. Simultaneously, review dockets will be created for the remaining locations, working with clerk’s offices and prosecutors to implement the system.
Electronic Citation Processing V2 - All Police Departments

Project ID: CT-P-00009

Core System:
- Citation/Adjudication
- Crash

Performance Area:
- Completeness
- Uniformity
- Timeliness

Project Title: Electronic Citation Processing – All Police Departments

Lead Agency: State of Connecticut - Judicial Branch

Partner Agencies:
- Connecticut Police Chief’s Association (CPCA)
- State and Local Law Enforcement Agencies
- Connecticut Department of Transportation
- Traffic Records Coordinating Committee (TRCC)
- Central Connecticut State University (CCSU)

Project Director/Primary Contact:

Name: Stacey B. Manware
Title: Deputy Director
Agency: State of Connecticut Judicial Branch
Office: Centralized Infractions Bureau (CIB)
Address: 225 Spring Street
City, ZIP: Wethersfield 06109
Phone: 860-263-2750
Email: Stacey.Manware@jud.ct.gov

Project Description:

Prior to the implementation of Electronic Citation (ECitation) Processing, Connecticut’s traffic violation citation disposition system was completely manual; vulnerable to human error at many points in the process. Handwritten documents required multiple entry in numerous and varied systems causing inconsistencies and inaccuracies in data. This sometimes led to agencies that relied on the system, such as the Department of Motor Vehicles (DMV), receiving erroneous information, which in some cases resulted in a failure to consistently and accurately apply conviction information to driver history files.

The focus of this effort would be transitioning all police departments to ECitation V2 with the added advantage of electronic warnings and collection of racial profiling information. The Judicial Branch is considering putting forth mandatory electronic filing language in the next legislative session; and if that were successful, the focus would then turn to assisting police departments who have experienced challenges participating in ECitation.
Electronic Citation Technology/Software Support for Local Law Enforcement

Project ID: CT-P-00016

Core System:

- Crash
- Citation/Adjudication

Performance Area:

- Completeness
- Accuracy
- Timeliness
- Uniformity
- Linkage
- Accessibility

Project Title: Electronic Citation Technology/Software Support for Local Law Enforcement

Lead Agency: Highway Safety Office

Partner Agencies/Associations:

- Connecticut Department of Transportation
- State and Local Law Enforcement
- State Judicial Department
- Traffic Records Coordinating Committee (TRCC)

Project Description/Basis:

The State has made significant progress in implementing uniform mobile traffic law enforcement technologies over the past seven years. These include citation, crash data collection, and warning tickets. Both the electronic citation application and the transition to a completely updated electronic crash reporting system using the MMUCC Guideline won best practices awards at two of the most recent National Traffic Records Forums.

This project encompasses multiple initiatives aimed at serving a segment of the law enforcement community. The focus is to help local police departments acquire public safety equipment. Some departments don’t have computers or mobile data terminals (MDTs) in their vehicles, hindering their abilities for selective enforcement. Better tools/resources, including technology as well as software support where warranted, would enable local police departments to better implement new mobile traffic law enforcement technology initiatives.

Equipment as well as software support will be provided to support local law enforcement agencies. Equipment/software support will be specifically awarded to those agencies requesting assistance for the purchase and installation of computers, printers, or other mobile technology, as well as software applications. Evaluating applications and making award decisions will be based on established criteria.

The need for planning and coordination among law enforcement agencies is critical to the success of this effort. This mobile technology support initiative will be interfaced with the ConnDOT/UConn Crash Data Repository (CDR). Electronic crash and citation reporting will reduce data input errors and improve the completeness of the collected data. It should also improve police officer efficiency by reducing the amount of time that officers spend collecting crash and citation data and decrease the time it takes this data to be received by the appropriate State agency.
Expected Impact:

- Expand management information and targeted enforcement activities in equipped municipalities;
- Improve timeliness, accuracy, completeness and availability of both crash and citation data; and
- Provide new opportunities for focused policy initiatives that might result in stronger sanctions on recurrent violators and greater attention to locations of frequent crashes and significant injuries.

Project Status:

The need for planning and coordination with the 100% submission / assessment and support initiative for E-Citations is also critical as efforts to assess law enforcement agencies’ capabilities, and their ability to adopt to E-Citations as well as E-Crash will be interrelated.
Linking Crash / Injury Datasets - Measure Crash Injury Outcomes

Project ID: CT-P-00020

Core System:
- Crash
- EMS/Injury

Performance Area:
- Uniformity
- Accuracy
- Linkage

Project Title: Linking Crash / Injury Datasets - Measure Crash Injury Outcomes

Lead Agency: Yale-New Haven Hospital - Injury Prevention, Community Outreach and Research Department

Partner Agencies:
- State Department of Transportation (ConnDOT)
- State and Local Law Enforcement
- University of Connecticut (UConn)
- Department of Public Health
- Traffic Records Coordinating Committee (TRCC)

Project Director/Primary Contact:
Name: Pina Violano
Title: Injury Prevention, Research
PhD, MSPH, RN-BC, CCRN, CPS-T
Agency: Yale-New Haven Hospital
Phone: 203-688-3260
Email: Pina.Violano@ynhh.org

Project Description/Basis:
A much higher emphasis has been placed on using serious injuries as a metric for highway safety. Research is ongoing nationally as to how best to define a serious injury as well as how to measure serious injuries in motor vehicle crashes.

In Connecticut, injury severity decisions in motor vehicle crashes are made by law enforcement officers using the KABCO scale, based on conditions they observe at the scene of a crash. In their reporting, officers indicate a measure of the functional injury level of the victim as either an A, B, or C injury. Prior to the adoption of the Model Minimum Uniform Crash Criteria (MMUCC) Guideline in the new MMUCC PR-1 Crash Reporting System in January 2015, the Investigator’s Guide for the old PR-1 instructed officers using KABCN, where “N” represented “not injured.” Small explanations were provided in the Investigator’s Guide for A, B and C – injuries.
According to the KABCN Scale used for the legacy PR-1, the guidance an officer received for an “A” injury, was -

(A) Incapacitating injury (prevents return to normal activity)

The MMUCC Guideline 4th Edition was adopted by the State, forming the basis for the development of the new MMUCC PR-1 crash reporting system. This new system was rolled out and began replacing the legacy PR-1 in January 2015. The new MMUCC PR-1 provides greater detail/examples for an officer to review in determining whether a crash victim’s injury is serious or not.

Serious Injury according to the MMUCC Guideline -

(A) Suspected Serious Injury is any injury other than fatal which results in one or more of the following:

- Severe laceration resulting in exposure or underlying tissues/muscle/organisms or resulting in significant loss of blood;
- Broken or distorted extremity (arm or leg);
- Crush injuries;
- Suspected skull, chest or abdominal injury other than bruises or minor lacerations;
- Significant burns (second and third degree burns over 10% or more of the body);
- Unconsciousness when taken from the crash scene; or
- Paralysis.

The D16.1 Classification Manual of Motor Vehicle Traffic Accidents - was available in Connecticut prior to the MMUCC Guideline, and also provided guidance using the KABCO scale, but it is unknown whether any law enforcement agencies in Connecticut ever used the D16.1 Manual. The following is an example of the detail provided by the D16.1 Manual for an (A) Injury, also referred to as an Incapacitating Injury.

(A) Incapacitating Injury: An incapacitating injury is any injury, other than a fatal injury, which prevents the injured person from walking, driving or normally continuing the activities the person was capable of performing before the injury occurred.

Inclusions: Severe laceration, broken or distorted limb, skull or chest injury, abdominal injury, unconsciousness at, or when taken from the accident scene, unable to leave the accident scene without assistance.

Health Care Professionals assessing injury severity of crash victims –

The Abbreviated Injury Scale (AIS) is used for coding injury types and injury severity, based upon an in-hospital clinical assessment.

In hospital administrative databases, injuries are coded using the International Classification of Disease (ICD) classification system. Connecticut, like many other states is in transition between using ICD-9 and a newer revision, ICD-10.

**Project Objective:**

The focus of this project is to integrate crash and injury data to be able to derive more precise injury outcomes. In question – is the disparity between officer assessments of personal injury as recorded on the previous PR-1, prior to 2015; the new MMUCC PR-1 crash reporting system, which began in January 2015 and actual outcomes assessed by health care providers. Project explores a data integration solution that provides more accurate injury severity information for persons involved in crashes. Steps
include acquiring disparate datasets, performing linking functions, managing the resulting dataset, and conducting in-depth analyses on the linked data.

Initial efforts in 2016, focus on a subset of crash and injury data for New Haven, Connecticut. Crash data integrated with Yale-New Haven Hospital Trauma Registry data will be used to compare crash victim injury assessments by law enforcement with health care professionals.

One assumption is that if patterns can be documented of over reporting or under reporting of injury severity along with the actions by officers in select motor vehicle crash types, e.g., fender benders, and pedestrian crashes, enhanced guidance to MMUCC can be provided to officers in improving their injury severity assessments of motor vehicle crash victims.

Ultimately, if a permanent linkage could be established between motor vehicle crash, emergency medical services and hospital trauma data, this could possibly lead to a reduction in the amount of time officers would spend in determining injury severity of motor vehicle crash victims, and at the same time provide better injury status assessment data on the State Crash Data Repository (CDR).

Activities/Tasks:

- Submit / finalize HS-1 grant application with ConnDOT, Highway Safety Office;
- Meet with Highway Safety Office to finalize details of crash/injury integration/research efforts;
- Meet with/seek input from Data Integration Subcommittee of the TRCC;
- Determine which datasets to pursue, including previous legacy PR-1 crash data; new 2015 MMUCC PR-1 crash data; appropriate injury surveillance system (ISS) data;
- Sign appropriate research agreements to be able to protect/acquire appropriate data;
- Acquire disparate datasets;
- Make determinations of approach to linking different datasets;
- Perform data linkage between datasets;
- Manage the resulting dataset(s);
- Conduct in-depth analyses on the linked data;
- Present preliminary findings to TRCC/Highway Safety Office;
- Present findings/seek feedback to representatives of DPH/ISS system;
- Present findings/seek feedback to representatives from law enforcement; and
- Present final assessment/findings to Highway Safety Office.
**Project Summaries / 13th Year (2018 – 2019)**

Emphasis for traffic records system improvements continues with a focus on data integration of the *traffic records six pack*, eCitation processing/online dispositions, redeployment of both the State’s pre-hospital EMS database and the Trauma Registry, continued technology/software support for law enforcement, establishing a subset of MIRE for safety analysis, rolling out records management systems (RMS) for law enforcement in a shared environment, and many other priority improvement areas.

<table>
<thead>
<tr>
<th>Projects Targeted for 405c Funding in 2018-2019</th>
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<tbody>
<tr>
<td>Judicial</td>
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<tr>
<td>Electronic Citation Processing - Electronic Adjudication/Online Dispositions</td>
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<td>Judicial</td>
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<tr>
<td>Electronic Citation Processing - Version 2 for All Police Departments</td>
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<td>Electronic Citation Processing - Full Participation by Law Enforcement</td>
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<td>HSO</td>
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<tr>
<td>Electronic Citation - Technology/Software Support for Local Law Enforcement</td>
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**Other Projects of Interest for TRCC to Follow**

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<tr>
<th>Project Summary</th>
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<tr>
<td>YNHH</td>
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<tr>
<td>Linking Crash/Injury Datasets – Measure Crash Injury Outcomes</td>
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<td>DPH</td>
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<td>Emergency Medical Services/Trauma Registry Functionality</td>
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<td>CTSRC</td>
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<td>Data Integration Linkage of Six Core Traffic Records Data Systems</td>
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<td>ConnDOT</td>
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<td>Model Inventory of Roadway Elements (MIRE) FDE Data Collection Plan</td>
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<td>TRCC</td>
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<tr>
<td>Continued Focus on a Traffic Records Inventory / Data Integration</td>
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<tr>
<td>CTSRC</td>
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<tr>
<td>Digitization of Impaired Driving Data from the A44 Alcohol Influence Form</td>
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<tr>
<td>CJIS</td>
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<tr>
<td>Records Management Systems for Law Enforcement in a Shared Environment</td>
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<td>LEAs</td>
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<tr>
<td>Data Driven Approach to Crime and Traffic Safety (DDACTS)</td>
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<tr>
<td>ConnDOT</td>
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<tr>
<td>Transportation Enterprise Database (TED)</td>
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**National Initiatives of Interest for TRCC to Follow**

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<tr>
<th>Initiative</th>
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<tbody>
<tr>
<td>NGA/CDC (Connecticut involved through NGA Learning Lab - Improving Data Linkage Systems)</td>
</tr>
<tr>
<td>Action Plan - Strengthen partnerships to integrate safety data systems and make data-driven policy and programmatic changes to save lives and prevent injuries</td>
</tr>
<tr>
<td>Expert Panel - Guide research on the impact of enforcement and adjudication on highway safety. Panel to oversee research and development of recommendations for harmonized data collection protocols among U.S. State and Local Courts and Motor Vehicle Administrators to enable valid comparisons of State enforcement and adjudication practices - leading to research measuring the impact of enforcement and adjudication on highway safety</td>
</tr>
<tr>
<td>Research - Implications of Legislation and Enforcement on Electronic Device Use While Driving</td>
</tr>
</tbody>
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* Traffic Records Six Pack -1) Crash, 2) Driver, 3) Vehicle, 4) Roadway, 5) Citation/Adjudication, and 6) Injury Surveillance
** BTSCRP (Behavioral Traffic Safety Cooperative Research Program), is jointly managed by NHTSA and GHSA and executed by The Transportation Research Board (TRB), which is part of the National Academies of Sciences, Engineering, and Medicine.
Electronic Citation Processing - Electronic Adjudication/Online Dispositions

Project ID: CT-P-00009

Core System:
- Citation/Adjudication
- Crash

Performance Area:
- Completeness
- Uniformity
- Timeliness

Project Title: Electronic Citation Processing - Electronic Adjudication/Online Dispositions

Lead Agency: State of Connecticut - Judicial Branch

Partner Agencies:
- Connecticut Police Chief’s Association (CPCA)
- State and Local Law Enforcement Agencies
- Connecticut Department of Transportation
- Traffic Records Coordinating Committee (TRCC)
- Central Connecticut State University (CCSU)

Project Director/Primary Contact:

Name: Stacey B. Manware  
Title: Deputy Director  
Agency: State of Connecticut Judicial Branch  
Office: Centralized Infractions Bureau (CIB)  
Address: 225 Spring Street  
City, ZIP: Wethersfield 06109  
Phone: 860-263-2750  
Email: Stacey.Manware@jud.ct.gov

Project Description:

Prior to the implementation of Electronic Citation (E-Citation) Processing, Connecticut’s traffic violation citation disposition system was completely manual; vulnerable to human error at many points in the process. Handwritten documents required multiple entry in numerous and varied systems causing inconsistencies and inaccuracies in data. This sometimes led to agencies that relied on the system, such as the Department of Motor Vehicles (DMV), receiving erroneous information, which in some cases resulted in a failure to consistently and accurately apply conviction information to driver history files.

The paper driven manual process for adjudicating traffic violations is labor intensive. Recipients of traffic infractions respond either with payment or a not guilty plea. Some do not respond at all. A not guilty plea received at the CIB can either result in a nolle (decision by the state’s attorney to not prosecute the infraction), or a transfer to the court of jurisdiction. Once at the court, the case may be reviewed and nolled or scheduled for an infraction hearing. Once scheduled, outcomes are varied and can include payment, substitution of charges, charitable contributions, nolles, and dismissals, etc.
In addition to creating opportunities for inaccurate and conflicting data to be entered into the system, reliance upon a system based on paper and multiple points of data entry often results in processing delays and time-consuming exceptions processing.

A statewide systematic effort was undertaken to address these problems, with the Judicial Branch E-Citation Processing System project developed in coordination with Citation projects involving the Capitol Region Council of Government (CRCOG) and the Department of Public Safety (DPS). This resulted in the development of a statewide electronic roadside data capture system for the issuing and reporting of traffic citations.

Building on the E-Citation initiative, Judicial is exploring a new all-electronic, paperless workflow; a) Police Officer Issues a Ticket Electronically, b) Defendant Pleads Not Guilty and Opt for an Online Review, c) Prosecutor Makes an Offer Electronically, and the case is resolved. If the defendant requests a trial, those cases would be heard in the court of jurisdiction.

Resolving criminal and motor vehicle infractions without coming to court is enabling individuals to be heard, while eliminating the time and expense incurred traveling to court. Courts are benefiting with less overcrowding, and more efficient processing; and law enforcement is realizing relevant disposition information - made available to them in a timelier manner as a result of electronic adjudication of infractions.

This combined project is dedicated to the continued development of an application that enables the receipt/availability of citation, warning, and traffic stop data, and an online disposition system to help streamline the backend.

**Goal:**

Continue the development and implementation of an application that enables the Judicial Branch to electronically receive traffic citation, warning and traffic stop data from law enforcement agencies; automatically store, process and supply required information to the courts. Implement an on-line disposition system that will allow for the electronic adjudication of infractions.

**Objective:** Implementation of an on-demand, centralized, web-based records management system (RMS) for law enforcement agencies to do the following:

- Query agency-specific data related to the issuance of citations, warning tickets, and traffic stops;
- Generate various reports related to agency activity in conjunction with the issuance of citations, etc., (e.g., by street, officer, charge and defendant);
- Provide for the management of data, such as approval process for citations, etc., prior to submission to CIB;
- Allow for cross-agency searching on citations, warnings, and traffic stop data;
- Allow agencies to export data in a variety of formats for use in spreadsheets and/or other applications; and
- Provide a web-service interface for querying of data by other applications.

**Objective:** Continue efforts to enable the e-citation / warning / traffic stop processing application to allow electronic viewing and disposition of required data in court locations.
Objective: Continue efforts to enable the e-citation / warning / traffic stop application to provide a “paperless courtroom.”

Objective: Design, develop, build, test, and make operational the computer infrastructure necessary to support the operation of the online disposition system.

Objective: Develop and put in place the business and legal processes necessary to support the operation of the online disposition system.

Objective: Develop and put in place the policies and procedures necessary to support the operation of the online disposition system.

Objective: Train criminal justice system staff in the use of the online disposition system.

Objective: Undertake an outreach effort to increase public awareness of the online disposition system.

**Purpose:**

- Streamline citation / warning / traffic stop processing system through applied technology;
- Increase revenue;
- Increase uniformity of event processing;
- Utilize staff more efficiently;
- Assist law enforcement initiatives; and
- Work in conjunction with the Office of the Chief State’s Attorney in implementing an online disposition system.

Moving to an online disposition system will significantly streamline the adjudication process for both the individual and the criminal justice system. In addition to removing the requirement for the defendant to appear in court, the online disposition system will allow prosecutors to review most, if not all, “not guilty” pleas entered by defendants and reach resolution at a more central location, without the necessity of physically appearing in court, helping to conserve the limited resources of the criminal justice system.

**Additional Benefits – Online Disposition System**

**Timeliness** – Each step in the current process contributes to a delay in the adjudication of the infraction and therefore a delay in the attachment of relevant disposition information to a driver history and its subsequent availability to law enforcement. The online disposition system will significantly reduce the number of days from issuance to adjudication and placement, when appropriate, on the driver history.

**Uniformity** – Currently, infractions are reviewed by prosecutors in fifteen (15) different locations. The ability for a smaller group of prosecutors to review all infractions from a central source would contribute to increased consistency in dispositions across all locations.

**Convenience and Efficiency** – Individuals will be able to be heard on matters related to infractions without them having to take time off from work or school, eliminating the time and expense incurred while traveling to court, unless an individual elects for a trial.

**Tasks/Milestones:**

1. Submit/finalize HS-1 grant application to ConnDOT, Highway Safety Office;
2. Production of electronic-citation / warning / traffic stop data submitted by law enforcement resulting in automatic population into Judicial database;
3. Document volumes and define hardware/software needs;
4. Web services application;
5. Continued streamlining of CIB workflow;
6. Creation of more e-Infractions courts;
7. Continue coordination with CPCA in their assessment of law enforcement agencies’ capabilities, current vendors, ability to adopt electronic citation / warning ticket / traffic stop data;
8. Continue to identify candidate law enforcement agencies to pilot test / implement electronic citation / warning / traffic stop processing;
9. Identify needs of candidate agencies for programming and other assistance;
10. Research/develop funding proposals to support candidate agencies as needed; and
11. Roll-out to candidate agencies.

Application:

- Overview - Software; In-Car Equipment; Data Communications Network; Citation Forms/Zebra Printer;
- Summons Arrest Forms; Warning Tickets;
- Rollout - # Printers; LE Agencies; Thermal Paper; Train-the-Trainer; Feedback from Pilot;
- Mgmt Reports; Monthly by Officer; by Violation Type; by Location; Separate Data Set – Map Based Analysis;
- Preparation for Each Agency; Equipment/Software in Vehicle; Regis ORI with e-Citation; Test System; Train Officers;
- CRCOG Users/e-Citation/e-Summons/e-Warning; Windows Style Interface; Main Menu Functions;
- New Citation / Juvenile Summons / Warning; Event Search; Print; User Preferences; Clear Search Queues;
- Process; Demographics; License/Vehicle; Specifics; Infractions/Fines; Notes; Preview; Sign-Save-Print;
- Successes; User Accepts; App Sharing Across Jurisdictions; Potential for Other Mobile Ticket Apps; and
- Challenges; Budget Limits Broader Rollout; Towns Slow to Rollout “Seed” Units; Long Term Issue of Replacement Costs; Revenue Sharing to Cover Costs - Strong Potential.

Online Disposition System

Design, develop and implement the online disposition system / continue to run in pilot test mode during the second year of this expanded project initiative.

- The technical component will consist of the development of the online disposition database which will be used to receive, store and view all documents required for case processing;
- Development and testing will be completed by a system engineer, developer, and tester who will work under joint supervision of the Central Infractions Bureau and the Information Technology Division;
- The policy and procedure component will be undertaken by the Judicial Branch and other criminal justice system personnel, and used to develop the necessary business and legal processes

The Judicial Branch will engage defendants who choose to participate in the online disposition system in three phases:

Phase 1 – Defendants who plead “not guilty” online will be asked to opt into the online disposition process. Defendants who elect to participate will be directed to the Branch’s E-Services registration page to engage in the online disposition process. Defendants who decline to participate will proceed according to the current process.
Phase 2 – Defendants who are sent “Compliance Letters” for current regional courts will be provided with directions to participate in the online process.

Phase 3 – All defendants who plead “not guilty” manually will (upon receipt of the “not guilty” plea) be sent a letter informing them of the option of using the online disposition system.

**Projected Budget by Funding Source:**

<table>
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<th>Funding Source</th>
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<td>187,500</td>
<td>500,000</td>
<td>371,250</td>
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</tbody>
</table>

**Progress:**

The highway safety community is best served when police services, courts and prosecuting authorities are able to effectively leverage technology to perform their core functions of proactive enforcement, prosecution, and adjudication. Connecticut has been successful in creating collaboration between the three groups ensuring accurate generation of documents, the presentation of relevant information for use in exercise of prosecutorial discretion, and access to justice leading to meaningful adjudications. These adjudications are subsequently available to members of the highway safety community for use in subsequent offender sanctioning, training, and education of high risk driver populations. This information can also be used to allocate law enforcement resources to identify and target geographic and temporal offender “hot spots” in support of State and Federal traffic safety initiatives.

Through two NHTSA funded initiatives, eCitation and On-line Disposition, Connecticut has been able to establish a comprehensive electronic citation and adjudication platform during a time of significant budgetary challenges. Despite a loss of personnel, limitations of resources, and competing interests; Connecticut is implementing a system to provide access to justice and education of highway safety issues to more drivers than in the previous manual system. This new system supports law enforcement personnel in ensuring that the difficult and dangerous work conducted in the field is not minimized due to a lack of system wide resources. Court dockets are no longer limited by traditional scheduling and space constraints. Prosecutors are able to access and consider a wide range of real time resources to craft appropriate recommendations and offers to defendants. Matters can be disposed and attached to driver histories where appropriate in a matter of weeks rather than months.

Through collaborative efforts, participants have been able to transform labor intensive manual systems, improve accuracy and timeliness of statutory obligations, ultimately improving the quality of the data that is made available to the highway safety community at large.
Electronic Citation Processing - Version 2 for All Police Departments

Project ID: CT-P-00009

Core System:
- Citation/Adjudication
- Crash

Performance Area:
- Completeness
- Uniformity
- Timeliness

Project Title: Electronic Citation Processing - Version 2 for All Police Departments

Lead Agency: State of Connecticut - Judicial Branch

Partner Agencies:
- Connecticut Police Chief’s Association (CPCA)
- State and Local Law Enforcement Agencies
- Connecticut Department of Transportation
- Traffic Records Coordinating Committee (TRCC)
- Central Connecticut State University (CCSU)

Project Director/Primary Contact:

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Project Description:

Prior to the implementation of Electronic Citation (ECitation) Processing, Connecticut’s traffic violation citation disposition system was completely manual; vulnerable to human error at many points in the process. Handwritten documents required multiple entry in numerous and varied systems causing inconsistencies and inaccuracies in data. This sometimes led to agencies that relied on the system, such as the Department of Motor Vehicles (DMV), receiving erroneous information, which in some cases resulted in a failure to consistently and accurately apply conviction information to driver history files.

The focus of this effort would be transitioning all police departments to ECitation V2 with the added advantage of electronic warnings and collection of racial profiling information. The Judicial Branch is considering putting forth mandatory electronic filing language in the next legislative session; and if that were successful, the focus would then turn to assisting police departments who have experienced challenges participating in ECitation.
The goal is to round out the suite of enforcement data collection for the field police officer and relieve those officers of the burden of redundant data entry and the need for manual and multiple sets of forms. The approach extends beyond the paper-centric notion of a single charging document and instead provides a single charging approach that correctly routes enforcement data to the correct storage and processing facility.

Software applications developed in this project are helping to reduce data input errors and improve the completeness of the collected data. They are also helping to improve police officer efficiency by reducing the amount of time that officers spend collecting citation, summons and warning data and to decrease the time it takes this data to be received by the appropriate State agency.

Projected Budget by Funding Source:

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Electronic Citation Processing - Full Participation by Law Enforcement

Project ID: CT-P-0000X

Core System:

- Citation/Adjudication
- Crash

Performance Area:

- Completeness
- Uniformity
- Timeliness

Project Title: Electronic Citation Processing - Full Participation by Law Enforcement

Lead Agency: State of Connecticut - Judicial Branch

Partner Agencies:

- Connecticut Police Chief’s Association (CPCA)
- State and Local Law Enforcement Agencies
- Connecticut Department of Transportation
- Traffic Records Coordinating Committee (TRCC)
- Central Connecticut State University (CCSU)

Primary Contact:

Name:
Title:
Phone:
Email:

Project Description:

Connecticut has made great progress in automating the citation process. Today, over 80% of the citations issued in Connecticut are issued electronically. This was achieved by voluntary participation in an incentive program mutually developed by the Department of Transportation Highway Safety Office and the Centralized Infractions Bureau of the Judicial Branch. It is important to note that the Division of Criminal Justice which provides prosecutorial services throughout the state has been a supportive principal in this effort and is currently on-board for the adjudication component in pilot form.

Grant assistance is required to support part-time staffing of an experienced systems professional with a hands-on understanding of the E-Citation program and all its components. This is vital from several perspectives. First, we would like to get the larger police departments who have expressed a clear willingness to participate but have had difficulty getting their current software provider to include the component in their mobile application. Second, we have materials and samples that we can provide to these vendors and assist them with configuration and testing in order to move their customer law enforcement agency to full participation. Third, we can also offer to provide training materials in the form of PowerPoint presentations to assist in the rollout of the software. Concurrently, we can assist the local police agency with any grant application they may need to support the cost of acquisition of mobile printers including specific options for mounting in marked police vehicles.
Finally, we can suggest ways that the local police department can integrate the citation information and associated dispositions in their records management systems if they so desire.

The last twenty percent of any information technology project often takes the longest period of time. By having someone assigned specifically for this purpose we believe we have a much stronger chance of crossing the finish line in twelve months. Moreover, we think this will yield a greater degree of product satisfaction with the user communities.

The success of E-Citation is not exclusively measured by how many law enforcement agencies participate but it is clearly furthered by uniformity and data quality that it yields. With all agencies using MMUCC based crash reporting, the advent of improved spatial analysis of crash and enforcement data is near. As more components of the NHTSA traffic records “six pack” evolve, we can begin the migration from comprehensive descriptions of crash data analysis to include prescriptions of remedies from both a policy and tactical perspectives.

Projected Budget by Funding Source:

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Electronic Citation - Technology/Software Support for Local Law Enforcement

Project ID: CT-P-00016

Core System:

- Crash
- Citation/Adjudication

Performance Area:

- Completeness
- Accuracy
- Timeliness
- Uniformity
- Linkage
- Accessibility

Project Title: Electronic Citation - Technology/Software Support for Local Law Enforcement

Lead Agency: Highway Safety Office

Partner Agencies/Associations:

- Connecticut Department of Transportation
- State and Local Law Enforcement
- State Judicial Department
- Traffic Records Coordinating Committee (TRCC)

Project Description/Basis:

The State has made significant progress in implementing uniform mobile traffic law enforcement technologies over the past seven years. These include citation, crash data collection, and warning tickets. Both the electronic citation application and the transition to a completely updated electronic crash reporting system using the MMUCC Guideline won best practices awards at two of the most recent National Traffic Records Forums.

This project encompasses multiple initiatives aimed at serving a segment of the law enforcement community. The focus is to help local police departments acquire public safety equipment. Some departments don't have computers or mobile data terminals (MDTs) in their vehicles, hindering their abilities for selective enforcement. Better tools/resources, including technology as well as software support where warranted, would enable local police departments to better implement new mobile traffic law enforcement technology initiatives.

Equipment as well as software support will be provided to support local law enforcement agencies. Equipment/software support will be specifically awarded to those agencies requesting assistance for the purchase and installation of computers, printers, or other mobile technology, as well as software applications. Evaluating applications and making award decisions will be based on established criteria.

The need for planning and coordination among law enforcement agencies is critical to the success of this effort. This mobile technology support initiative will be interfaced with the ConnDOT/UConn Crash Data Repository (CDR). Electronic crash and citation reporting will reduce data input errors and improve the completeness of the collected data.
Electronic reporting should also improve police officer efficiency by reducing the amount of time that officers spend collecting crash and citation data and decrease the time it takes this data to be received by the appropriate State agency.

Expected Impact:

- Expand management information and targeted enforcement activities in equipped municipalities;
- Improve timeliness, accuracy, completeness and availability of both crash and citation data; and
- Provide new opportunities for focused policy initiatives that might result in stronger sanctions on recurrent violators and greater attention to locations of frequent crashes and significant injuries.

Projected Budget by Funding Source:

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Project Status:

The need for planning and coordination with the 100% submission / assessment and support initiative for E-Citations is also critical as efforts to assess law enforcement agencies' capabilities, and their ability to adopt to E-Citations as well as E-Crash will be interrelated.

Recent meetings with law enforcement have been conducted with those departments not currently utilizing electronic citation/warning for enforcement purposes. The main focus has been to identify what challenges (in the software, hardware, etc., for the various police departments), remain for each department and how to help move them to an electronic format with funding support.

Invitations were made with limited success during the February and March TRCC meetings to invite local police departments to participate in the monthly meetings and to initiate contacts with the State personnel to enable them to adopt/embrace electronic citation processing for their departments. Decision was made to have separate meetings with law enforcement to specifically focus on electronic reporting.

The first meeting following the March 2018 TRCC was held at the Cheshire Police Department. The following agenda was utilized for a meeting at the Cheshire PD on April 17, 2018, which was attended by 15 local police departments.

- Benefits from a police standpoint, using the Judicial web-based e-Citation system, and integration with CAD/RMS software;
- Offer of a demonstration of the web-based system;
- Steps needed / requirements to implement e-Citation, plus benefits from adapting the electronic system; and
- Application process utilized by the State Highway Safety Office to provide funding support to the local police departments to adopt electronic citation processing.
Linking Crash / Injury Datasets - Measure Crash Injury Outcomes

Project ID: CT-P-00020

Core System:
- Crash
- EMS/Injury

Performance Area:
- Uniformity
- Accuracy
- Linkage

Project Title: Linking Crash / Injury Datasets - Measure Crash Injury Outcomes

Lead Agency: Yale-New Haven Hospital - Injury Prevention, Community Outreach and Research Department

Partner Agencies:
- State Department of Transportation (ConnDOT)
- State and Local Law Enforcement
- University of Connecticut (UConn)
- Department of Public Health
- Traffic Records Coordinating Committee (TRCC)

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- PhD, MSPH, RN-BC, CCRN, CPS-T
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Project Description/Basis:
A much higher emphasis has been placed on using serious injuries as a metric for highway safety. Research is ongoing nationally as to how best to define a serious injury as well as how to measure serious injuries in motor vehicle crashes.

In Connecticut, injury severity decisions in motor vehicle crashes are made by law enforcement officers using the KABCO scale, based on conditions they observe at the scene of a crash. In their reporting, officers indicate a measure of the functional injury level of the victim as either an A, B, or C injury. Prior to the adoption of the Model Minimum Uniform Crash Criteria (MMUCC) Guideline in the new MMUCC PR-1 Crash Reporting System in January 2015, the Investigator’s Guide for the old PR-1 instructed officers using KABCN, where “N” represented “not injured.” Small explanations were provided in the Investigator’s Guide for A, B and C – injuries.
According to the KABCN Scale used for the legacy PR-1, the guidance an officer received for an “A” injury, was -

(A) Incapacitating injury (prevents return to normal activity)

The MMUCC Guideline 4th Edition was adopted by the State, forming the basis for the development of the new MMUCC PR-1 crash reporting system. This new system was rolled out and began replacing the legacy PR-1 in January 2015. The new MMUCC PR-1 provides greater detail/examples for an officer to review in determining whether a crash victim’s injury is serious or not.

Serious Injury according to the MMUCC Guideline -

(A) Suspected Serious Injury is any injury other than fatal which results in one or more of the following:

- Severe laceration resulting in exposure or underlying tissues/muscle/organs or resulting in significant loss of blood;
- Broken or distorted extremity (arm or leg);
- Crush injuries;
- Suspected skull, chest or abdominal injury other than bruises or minor lacerations;
- Significant burns (second and third degree burns over 10% or more of the body);
- Unconsciousness when taken from the crash scene; or
- Paralysis.

The D16.1 Classification Manual of Motor Vehicle Traffic Accidents - was available in Connecticut prior to the MMUCC Guideline, and also provided guidance using the KABCO scale, but it is unknown whether any law enforcement agencies in Connecticut ever used the D16.1 Manual. The following is an example of the detail provided by the D16.1 Manual for an (A) Injury, also referred to as an Incapacitating Injury.

(A) Incapacitating Injury: An incapacitating injury is any injury, other than a fatal injury, which prevents the injured person from walking, driving or normally continuing the activities the person was capable of performing before the injury occurred.

Inclusions: Severe laceration, broken or distorted limb, skull or chest injury, abdominal injury, unconsciousness at, or when taken from the accident scene, unable to leave the accident scene without assistance.

Health Care Professionals assessing injury severity of crash victims –

The Abbreviated Injury Scale (AIS) is used for coding injury types and injury severity, based upon an in-hospital clinical assessment.

In hospital administrative databases, injuries are coded using the International Classification of Disease (ICD) classification system. Connecticut, like many other states is in transition between using ICD-9 and a newer revision, ICD-10.

**Project Objective:**

The focus of this project was to integrate crash and injury data to be able to derive more precise injury outcomes. In question – is the disparity between officer assessments of personal injury as recorded on the previous PR-1, prior to 2015; the new MMUCC PR-1 crash reporting system, which began in January 2015 and actual outcomes assessed by health care providers. Project explored a data integration solution that provides more accurate injury severity information for persons involved in crashes.
Steps included acquiring disparate datasets, performing linking functions, managing the resulting dataset, and conducting in-depth analyses on the linked data.

Initial efforts in 2016, focus on a subset of crash and injury data for New Haven, Connecticut. Crash data integrated with Yale-New Haven Hospital Trauma Registry data will be used to compare crash victim injury assessments by law enforcement with health care professionals.

One assumption is that if patterns can be documented of over reporting or under reporting of injury severity along with the actions by officers in select motor vehicle crash types, e.g., fender benders, and pedal cyclist and pedestrian crashes, enhanced guidance to MMUCC can be provided to officers in improving their injury severity assessments of motor vehicle crash victims.

Ultimately, if a permanent linkage could be established between motor vehicle crash, emergency medical services and hospital trauma data, this could possibly lead to a reduction in the amount of time officers would spend in determining injury severity of motor vehicle crash victims, and at the same time provide better injury status assessment data on the State Crash Data Repository (CDR).

Activities/Tasks:

- Submit / finalize HS-1 grant application with ConnDOT, Highway Safety Office;
- Meet with Highway Safety Office to finalize details of crash/injury integration/research efforts;
- Meet with/seek input from Data Integration Subcommittee of the TRCC;
- Determine which datasets to pursue, including previous legacy PR-1 crash data; new 2015 MMUCC PR-1 crash data; appropriate injury surveillance system (ISS) data;
- Sign appropriate research agreements to be able to protect/acquire appropriate data;
- Acquire disparate datasets;
- Make determinations of approach to linking different datasets;
- Perform data linkage between datasets;
- Manage the resulting dataset(s);
- Conduct in-depth analyses on the linked data;
- Present preliminary findings to TRCC/Highway Safety Office;
- Present findings/seek feedback to representatives of DPH/ISS system;
- Present findings/seek feedback to representatives from law enforcement; and
- Present final assessment/findings to Highway Safety Office.
Digitization of Impaired Driving Data from the A44 Alcohol Influence Form

Project ID: CT-P-0000XX

Core Systems:
- Crash
- Driver
- Citation/Adjudication
- Health/Injury Control

Performance Area:
- Timeliness
- Accuracy
- Completeness
- Integration

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Project Background:
In Connecticut, the A44 report is the report issued by an officer detailing a drunk driving arrest. This form only exists in paper form even though many departments collect the data electronically though their CAD/RMS system. The form is issued by the CT DMV and contains all the things that the Department of Motor Vehicles needs to know in order to determine whether they will take away a driver’s license. The form also contains information that would be very valuable to the Highway Safety Office (HSO). However, since this information is not digital or stored in a database, it is not easily analyzed. The goal of this project is to digitize 5 years of historical A44 forms, build a data entry module, XML Schema, database, and repository for A44 data so that it can be used in analysis by the HSO, DMV and other state agencies that may be granted access to the data.

Project Challenges and Benefits:
The major challenge to this project will be dealing with the personal and private data. The forms reside at DMV in paper form. UConn will need access to those reports and need to demonstrate secure data handling. There will need to be established a protocol and strict adherence. The paper forms will need to either be delivered to UConn or scanned as PDFs into a secure, encrypted database onsite at the DMV. UConn can setup the scanning station and even perform the scanning for the DMV. Data entry and collection will be simple. Getting the forms will be most challenging part of this process. The benefits of this project will address a major data gap for the HSO in the recent past. The collection of accurate, complete and timely BAC data. Currently this data is being downloaded and transmitted from the state Toxicology lab and the process has proven to be a difficult and incomplete venture. The quality of the data received is suspect due to the Dragger machine input and output.
The A44 will provide the CT DOT with a workaround solution where BAC data is obtained and all the associated data will be accurate and complete.

**Focus:**

The focus for this project would be to collect data from an existing data source in the state which was previously inaccessible. This project will develop a partnership between DMV, DOT, and UConn to create a database that could have significant value to the transportation safety community.

**Roadmap to A44 Data Digitization:**

1) Collect 5 years of A44 Forms from DMV (scan or paper copies)
2) Build or obtain a data entry tool if one exists at DMV
3) Build a SQL database for data collection
4) Build an XML schema or obtain one if one already exists
5) Use student labor to enter data into the database
6) Provide the data back to DMV (via database backup or access to the our database)
7) Provide DOT with data summaries and access to the data
8) Create a final report detailing the outcomes and new data analysis capabilities
Emergency Medical Services / Trauma Registry Functionality

Project ID: CT-P-00018

Core System:
- Injury Control

Performance Area:
- Integration

Project Title: Emergency Medical Services / Trauma Registry Functionality

Lead Agency: Department of Public Health (DPH)

Partner Agencies:
- Department of Transportation (ConnDOT)
- Transportation Safety Research Center (TSRC)
- Connecticut Hospital Association

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Email: Ann.Kloter@ct.gov

Project Description:

Injury surveillance system (ISS) data from emergency medical services (EMS), hospital emergency departments, hospital discharge, trauma registries, insurance claims and mortality files can be used with roadway and motor vehicle crash data for prevention and cost control evaluation of motor vehicle crashes. Data collection systems documentation and integration of reporting mechanisms are needed in order to link data for analyses and outcome evaluation, for making public policy and for appropriately allocating resources that effect best practices in prevention and health care cost reduction.

The State Trauma Registry database collected hospital data from 2007 through 2011. In June of 2012, the data portal for hospitals was closed to the participating trauma centers. Trauma registry system updates and a report writer were created but have not been moved to production. No formal reports have been made to hospitals or other stakeholders, nor is aggregated trauma data currently accessible by either the trauma centers or the Office of EMS.

The lack of data reports to stakeholders and non-linkage of EMS and Trauma data were cited in the 2013 Office of EMS assessment by NHTSA. In a State EMS Plan for 2015-2020, data collection was identified as a critical area; but the Plan stated that, “although a statewide data collection system for both EMS and trauma exists, the ability of the lead agency and stakeholders to utilize those systems for evaluation purposes is greatly limited due to insufficient resources.”
Project Focus:

An Injury Surveillance System (ISS) is a critical component of a State’s traffic records system. Such a system should contain data related to pre-hospital (EMS), trauma registry, emergency department, inpatient discharge, and vital records. These files cover a traffic crash victim’s course of medical intervention and treatment from the point of emergency response through hospital discharge or death. Focusing first on the EMS pre-hospital data system, several factors were noted for improvement:

- Data dictionary and slate of edits for EMS data;
- Data system upgrade;
- Vendor software to be able to create valid XML files;
- Replace the use of STATA with SAS software applications
- Develop EMS data reporting functionalities

For the Trauma Registry, the State requests technical assistance with redeployment and maintenance of the Trauma Registry system. In the past ten years, a lack of communication existed among agencies tasked with providing trauma registry data to the State; breakdowns occurred in the data collection software, policies, and/or procedures; failure to transmit data to the State DPH existed; and the DPH was unable to receive or process data – coupling all of these issues with a lack of communication among all the key participants, the State lacked the ability to address any of these issues collaboratively.

Technical Challenges:

- Department of Public Health (DPH) access to the Trauma Registry is not currently operational;
- Location of data previously collected is unknown; import from hospitals needs to be repeated;
- Lack documentation of processes for collecting, correcting, and reporting data;
- Lack a complete Trauma data dictionary; and
- Hospitals have no access to Trauma Registry or ability to submit trauma data.

Objectives:

- Identify fields to be able to link EMS to Trauma data;
- Identify all processes needed to redeploy, use and evaluate Trauma Registry and report writer;
- Determine if newer updates should be implemented;
- Determine whether a new update includes required ICD10 fields;
- Identify all maintenance steps and costs needed for specific DPH-IT and BEST activities;
- Create a timeline of activities and deliverables for redeployment and maintenance;
- Create a realistic timeline for training hospitals and the Office of EMS; and
- Complete EMS data dictionary which includes linkage fields (linkage to Trauma data).
Data Integration Linkage of Six Core Traffic Records Data Systems

Project ID: CT-P-00003

Core Systems:

- Crash
- Driver
- Vehicle
- Roadway
- Citation/Adjudication
- Health/Injury Control

Performance Area:

- Integration

Project Title: Data Integration Linkage of Six Core Traffic Records Data Systems

Lead Agency: UConn/ConnDOT - Connecticut Transportation Safety Research Center (CTSRC)

Partner Agencies:

- All Stakeholder Agencies on the TRCC

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University of Connecticut
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Phone: 860-486-8426
Email: Eric.D.Jackson@uconn.edu

Project Background:

Data linkage is an efficient strategy for expanding the data available, while avoiding the expense, delay and redundancy associated with collecting the same information separately. State systems that link data from each of the components of the traffic records system provide important new sources of data that can be used to identify risk factors, design strategies to address these risks, and evaluate the strategies once implemented. Understanding the facilitators and barriers to an effective and useful linkage system can optimize the system’s utility for public health and transportation safety.

Interface and Integration Linkages

The Traffic Records Program Assessment Advisory, provides the following distinction (guidance) between interface and integration linkages. Both rely on connections among traffic records data systems, but their desired outcomes and connection protocols differ.
System interface reflects a standing or real-time relationship between datasets and a high degree of system interoperability. In practice, system interface linkage is useful when circumstances demand real-time relationships between databases that need to be connected and accessible at all times. Interface linkages exist primarily to support key business processes, for example allowing law enforcement officers to validate and verify drivers’ license information in the crash report or citation.

Integration Linkage

System integration generally describes a linking of administrative databases to support in-depth analysis. Integration linkages are often executed at set points in time, such as at the end of a calendar year or when all records for the period are considered final. Data integration refers to the establishment of connections between the six major traffic records system components (crash, vehicle, driver, roadway, citation/adjudication, and injury surveillance). Each component may potentially have multiple sub-systems that can also be integrated for analytical purposes.

The linked systems add detail to the understanding of each crash event, the roadway environment, and the people and vehicles involved. These integrative connections efficiently expand the information available to decision-makers while avoiding the expense, delay and redundancy associated with collecting the same information separately.

Integration may include coordinated data definitions across files both within and between agencies. Development of such data definitions is generally the first step in producing meaningfully linked datasets, though emergent XML schemas like the National Information Exchange Model can enable the integration of datasets without altering system data definitions.

State Participation in National Governor’s Association (NGA) Learning Lab on Data Linkage

In February 2018, the State was invited to participate in a Learning Lab on Improving Data Linkage Systems to Reduce Traffic Injuries and Fatalities. Connecticut participants were tasked with drafting a State Action Plan for the State. The Plan included a vision statement, SWOT (strengths, weaknesses, opportunities, threats) analyses, goal summaries, and action steps. The planning phase for the Action Plans ran till the end of March 2018, followed by an Implementation Phase, concluding the Learning Lab portion of the initiative by Mid-July 2018. At this point the Connecticut Work Group is tasked with reporting findings to the Governor’s Office and the NGA, and results/progress by August 2018. Members of the NGA have been working with each state, which participated in the February 2018 Learning Lab, offering technical assistance.

Connecticut Transportation Safety Research Center (CTSRC)

The Connecticut Transportation Safety Research Center (CTSRC), supported by the State Department of Transportation (ConnDOT), has been successful in linking motor vehicle crash with roadway and traffic volume data. The State Department of Public Health (DPH), was successful in linking hospitalization and emergency department visit data to crash data for calendar years 2002 - 2007, through the CODES Project, using probabilistic linkage.

Current CTSRC efforts include establishing a repository for the state’s toxicology lab results to be able to track DUI and drug offenses with relation to crashes, and a citation data repository to aid in the evaluation of state programs on driver behavior. Plans by the CTSRC include opportunities to link other databases, e.g., injury and treatment outcome data to aid in the evaluation of crash outcomes, and the linkage of all related roadway databases into a linear referencing system.
While the TRCC has discussed ultimately linking all of the component datasets of a traffic records system, only the above three, crash, roadway, and health/injury control have seen measurable success. As the next section points out, challenges exist to reaching the next level of achievement for improving the State’s traffic records system through data linkage.

The CTSRC is currently working to establish a central repository for each of the traffic records ‘six-pack’ components (Crash, Driver, Vehicle, Roadway, Citation/Adjudication, and Injury Surveillance) obtaining data from each of the agencies that collect the necessary data. Without data linkage across all of these datasets it is difficult to evaluate the impacts of engineering, policy, and behavior modification campaigns on safety. Partnership and communication involving persons responsible for each of these datasets are critical for a truly effective safety analysis and improvement network.

One of the major challenges to data integration is the ability to compile and then link disparate datasets. Coordination among persons responsible for each of the six-pack data components will ensure that critical linkage data elements are available. Having a single entity serve as the hub of data integration, produces a system that can be used by all data stewards to meet their own agencies mission, while advancing a diverse set of safety improvements.

The ability to analyze data across agencies allows for decision makers to truly evaluate safety programs in the state. For example, to understand how effective DUI laws are in the state, researchers need to be able to review: arrests, prosecutions, dispositions, recidivism, toxicology results, driver history, crash history, injuries, treatment, and vehicle information (interlock). Without linking databases, it is difficult to know how many prior DUIs a person had before they were in a DUI crash, or if they have gone through the DUI diversion program and had their first DUI erased from their record. Crash data alone only provides a small part of the picture. To fully understand the impacts of safety improvement programs access is needed to the entire picture, involving data from all of the six-pack component datasets.

Project Challenges/Benefits:

As pointed out in the Traffic Records Program Assessment Advisory, data integration/linkage of traffic records datasets can be challenging for many reasons, including high costs, legislative restrictions, potential liabilities, and custodial resistance. Compounding the challenges, advantages to integration are not always clear and the methods of integrating datasets may be unfamiliar to data managers and decision-makers. The effectiveness of decision-making, however, can depend on high-quality and accessible analysis that is enhanced when enriched through integrating multiple traffic records data components.

Benefits of integrated or linked data:

- Lower costs to achieve a desired level of data content and availability;
- Support for multiple perspectives in data analysis and decision-making;
- Expanded opportunities for data quality validation and error correction;
- Additional options for exposure data to form rates and ratio-based comparisons;
- Enhanced accuracy and completeness of data describing crash events, the roadway environment, and the involved people and vehicles;
- Increasing the relevance of information available for legislative and policy analysis; and
- Increased support for advanced methods of problem identification, countermeasure selection, and evaluation of program effectiveness.
Model Inventory of Roadway Elements (MIRE) Fundamental Data Elements (FDE) Data Collection and Maintenance Plan

Project ID: CT-P-0000X

Core System:
Roadway

Performance Area:
- Completeness
- Uniformity
- Accessibility

Project Title: MIRE FDE Data Collection and Maintenance Plan

Lead Agency:
Connecticut Department of Transportation (ConnDOT)

Partner Agencies:
- Federal Highway Administration (FHWA)
- Connecticut Transportation Safety Research Center (CTSRC), University of Connecticut (UCONN)

Project Director/Primary Contact:
- Name: Michael Connors
- Title: Transportation Assistant Planning Director
- Agency: ConnDOT
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- Email: Michael.connors@ct.gov

Project Background/Description:

Provisions in MAP-21 and the FAST Act have tasked the states with creating access and linkages to a robust set of data to be utilized in safety analysis (e.g. network screening, predictive analysis) project prioritization, and improvement effectiveness evaluation. Finalization of the HSIP rulemaking, as outlined in 23 CFR 924.11, required the States to “incorporate specific quantifiable and measurable anticipated improvements for the collection of MIRE Fundamental Data Elements into their Traffic Records Strategic Plan by July 1, 2017.” Internal ConnDOT efforts to develop a geospatially accurate linear referencing system (LRS) and transportation enterprise database (TED) have provided a platform for storage, display, linkage, and analysis of the required datasets.

ConnDOT has historically maintained its roadway related data in a non-geospatial LRS, built on an Oracle database platform, known as the Roadway Information System (RIS). Roadway attributes and characteristics were stored utilizing database tables that organized information based upon a route and milepoint structure, with no geospatial representation; although certain fields were utilized to store single point geographic location information for certain operational and roadway identification needs. The structure of that data was such that it was substantially similar to the MIRE FDE requirements regarding many of the elements. Additionally, ConnDOT has performed local road data collection
activities for all 169 towns and 5 boroughs in the state, on approximately 17,000 miles of locally owned roads, for elements such as: roadway location, identification, asset location, mileage, and classification status, as well as traffic volume on a select set of local roads.

ConnDOT would update the road file annually through activities that included manual field data capture & verification, videolog review, aerial photography utilization, and locally provided data solicitation. The update cycle for approximately 4,100 miles of state roads was on a triannual basis, with additional collection efforts conducted at project completion. Locally, the data collection would be conducted at project completion, or based upon annual solicitation and notification from a town representative. This process, with the Roadway Inventory Section bearing most of the burden of road network data collection, storage, and management is anticipated to remain in place as long as the RIS remains the system of record for producing reports and querying required data.

ConnDOT began an effort in 2012 to transition from RIS to a geospatially accurate LRS utilizing Bentley’s EXOR program. This transition will eliminate many of the limitations in storing and attributing roadway data in the LRS that are associated with using a 15-year-old software application, along with enabling additional analysis capabilities that come with the LRS being geospatially accurate. Data maintenance in both systems, and migration from RIS to EXOR as the primary database of record, has been an ongoing responsibility of ConnDOT’s Roadway Inventory Office, who is tasked with maintenance of the road network and all road network related attribution.

The enhanced attribution capabilities of the new LRS (individual lane data, no character limits, layered asset location information/ attribution), along with the need for additional and more accurate attribution of roadway data for safety analysis purposes (outlined in MIRE), have led ConnDOT’s Roadway Inventory Section to adopt the MIRE data model as it applies to state, local, federal, and tribal roads.

In 2015, the Connecticut Transportation Safety Research Center (CTSRC) at the University of Connecticut (UCONN) entered into a Memorandum of Understanding (MOU) with ConnDOT’s Traffic Engineering Safety Office to assess and develop tools to be used for advanced safety analysis of Connecticut’s roadways. Included in that analysis are methods such as network screening, safety performance function (SPF) development, and countermeasure selection.

The availability of the resources necessary to compile a MIRE compliant data set that meets Federal requirements, along with the need for the CTSRC to access that data for safety analysis purposes, has led to a collaborative effort between ConnDOT and CTSRC to identify data gaps, populate missing data, and develop maintenance plans for continued updating and utilization of the MIRE FDE and other critical data elements.

Concurrently, ConnDOT has been developing a Transportation Enterprise Database (TED) that takes advantage of the geospatially accurate LRS and is in the process of establishing linkages for a wide variety of roadway related data (MIRE and otherwise) that will ideally provide authoritative sources for safety and non-safety related data resources. These linkages will help address the accessibility, timeliness, completeness, accuracy, and uniformity of the data that is utilized throughout the Department, particularly for safety analysis. Better data, from the authoritative source, will lead to better analysis.
ConnDOT has recently undergone both a Roadway Data Improvement (RDIP) Assessment (MIRE FDE Appendix A) and RDIP Workshop (MIRE FDE Appendix C) with regional and federal partners in order to identify data gaps and create a business plan for improving and integrating roadway data throughout the Department. The recommendations and summaries of those activities are included at the end of this plan as appendices. The workshop findings and business plan development recommendations (MIRE FDE Appendix B) are still a work in progress and are subject to change as discussions between ConnDOT and VHB continue on how to best tackle the relatively unique structure of Connecticut’s data integration effort to date.

The following table outlines the MIRE FDE for road segments, their applicability to certain road types in Connecticut, the compliance status utilizing current system capabilities, and data maintenance responsibility.

### Table 1 – Roadway Segment MIRE FDE

<table>
<thead>
<tr>
<th>MIRE Object ID</th>
<th>MIRE Description</th>
<th>Attribute Description</th>
<th>FDE on Paved FC Above Local</th>
<th>FDE on Paved Local FC</th>
<th>FDE on Unpaved</th>
<th>RS Data &amp;/or LRS泰 Wid Capabilities Meet MIRE FDE Standards on Applicable Roads</th>
<th>Maintenance Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Type of Governmental Ownership</td>
<td>State, County, City, Town, Park, Private, RR, Tribal, Fed</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Roadway/Inventory</td>
</tr>
<tr>
<td>8</td>
<td>Route Number</td>
<td>Signed numeric value for segment</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Roadway/Inventory</td>
</tr>
<tr>
<td>9</td>
<td>Route/Street Name</td>
<td>Alphanumeric route or street name where different</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Roadway/Inventory</td>
</tr>
<tr>
<td>10</td>
<td>Begin Point Segment Descriptor</td>
<td>Based on segment descr. Can be mp/mp or spatial</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Network Segmentation - Roadway Inventory Safety Analysis Segmentation - CTSRC</td>
</tr>
<tr>
<td>11</td>
<td>End Point Segment Descriptor</td>
<td>Based on segment descr. Can be mp/mp or spatial</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Network Segmentation - Roadway Inventory Safety Analysis Segmentation - CTSRC</td>
</tr>
<tr>
<td>12</td>
<td>Segment Identifier</td>
<td>Derived from other elements; combo of Rte/Cnty/BgnMP/EndMP</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Network Segmentation - Roadway Inventory Safety Analysis Segmentation - CTSRC</td>
</tr>
<tr>
<td>13</td>
<td>Segment Length</td>
<td>Length of the segment in Miles</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Network Segmentation - Roadway Inventory Safety Analysis Segmentation - CTSRC</td>
</tr>
<tr>
<td>18</td>
<td>Direction of Inventory</td>
<td>Direction of inventory if divided roads are inventoried in each direction</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Roadway/Inventory</td>
</tr>
<tr>
<td>19</td>
<td>Functional Class</td>
<td>Functional class of segment; interstate, PAFE, PAO, MinA, MajCol, MinCol, Local</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Roadway/Inventory</td>
</tr>
<tr>
<td>20</td>
<td>Rural/Urban Designation</td>
<td>Rural or Urban (Pop &gt;5,000)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Roadway/Inventory</td>
</tr>
<tr>
<td>21</td>
<td>Federal Aid/Route Type</td>
<td>Non Fed-Aid, Fed-Aid non NHS, NHS, NHS Con to Airport, Port, Amtrak Station, Rail/Truck Term, City Bus Term, Ferry, Pipeline, Rob Trns Term</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Roadway/Inventory</td>
</tr>
<tr>
<td>22</td>
<td>Access Control</td>
<td>Degree of Access Control; Full, Partial, None</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Roadway/Inventory</td>
</tr>
<tr>
<td>23</td>
<td>Surface Type</td>
<td>Surface type of segment; Unpaved, Bithuminous, AC-Ovl, CRCP, HPCC, SECP, SRF</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Roadway/Inventory</td>
</tr>
<tr>
<td>31</td>
<td>Number of Through Lanes</td>
<td>Number of through lanes excludes aux lanes (CS, Weaving, Frontage, Parking, Turn, Acc/Div, TDL)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Roadway/Inventory</td>
</tr>
<tr>
<td>54</td>
<td>Median Type</td>
<td>Unlined, Flush Paved, Raised, Depression, 2-Way L, Rail Rd, Divided sep grates no wall or with wall, other</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Different Element Attribute - Roadway Inventory</td>
</tr>
<tr>
<td>79</td>
<td>Annual Average Daily Traffic (AADT)</td>
<td>Annual and average 24 hour volume of vehicle at a given point, or over a section of roadway</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Traffic Monitoring</td>
</tr>
<tr>
<td>80</td>
<td>AADT Year</td>
<td>Year of entered AADT</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Traffic Monitoring</td>
</tr>
<tr>
<td>91</td>
<td>One/Two-Way Operations</td>
<td>Indication of how segment operates</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>Roadway/Inventory</td>
</tr>
</tbody>
</table>
Table 2 – Roadway Junction/Interchange MIRE FDE

<table>
<thead>
<tr>
<th>MIRE Object ID</th>
<th>MIRE Description</th>
<th>Attribute Description</th>
<th>FDE on Paved FC Above Local</th>
<th>FDE on Paved Local FC</th>
<th>FDE on Unpaved RIS TIG Capabilities Meet MIRE FDE Standards on Applicable Roads</th>
<th>Maintenance Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
<td>Unique Junction Identifier</td>
<td>A unique junction identifier - (e.g. node number, LRS of primary route, etc)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>New Element - Roadway Inventory/CTSRC</td>
</tr>
<tr>
<td>122</td>
<td>Location Identifier for Road 1 Crossing Point</td>
<td>Location of the center of the junction of the first intersecting route (e.g. route and milepoint, or spatial coordinates)</td>
<td>X</td>
<td>X</td>
<td>Roadway Inventory</td>
<td></td>
</tr>
<tr>
<td>123</td>
<td>Location Identifier for Road 2 Crossing Point</td>
<td>Location of the center of the junction of the second intersecting route (e.g. route and milepoint, or spatial coordinates)</td>
<td>X</td>
<td>X</td>
<td>Roadway Inventory</td>
<td></td>
</tr>
<tr>
<td>79</td>
<td>Annual Average Daily Traffic (AADT) (each intersecting road)</td>
<td>Annualized average 24 hour volume of vehicles at a given point, or over a section of roadway</td>
<td>X</td>
<td>X</td>
<td>Traffic Monitoring</td>
<td></td>
</tr>
<tr>
<td>80</td>
<td>AADT Year (each intersecting road)</td>
<td>Year of entered AADT</td>
<td>X</td>
<td>X</td>
<td>Traffic Monitoring</td>
<td></td>
</tr>
<tr>
<td>126</td>
<td>Intersection/Junction Geometry</td>
<td>Type of geometric configuration that best describes the intersection/junction (T, Y, Cross, 5 or More Legs, Circular, Non-conventional, Midblock Ped)</td>
<td>X</td>
<td>X</td>
<td>New Element - Roadway Inventory/CTSRC</td>
<td></td>
</tr>
<tr>
<td>131</td>
<td>Intersection/Junction Traffic Control</td>
<td>Traffic control present at an intersection or junction (uncontrolled, 2 way stop, all way stop, yield, signaled w/o w/ped, railroad w/ L, G, SS, CB)</td>
<td>X</td>
<td>X</td>
<td>New Element - Roadway Inventory/CTSRC</td>
<td></td>
</tr>
<tr>
<td>139</td>
<td>Unique Approach Identifier</td>
<td>Any identifier that is unique for each approach at an intersection (e.g. sequential numbers, compass directions)</td>
<td>X</td>
<td>X</td>
<td>New Element - Roadway Inventory/CTSRC</td>
<td></td>
</tr>
<tr>
<td>178</td>
<td>Unique Interchange Identifier</td>
<td>A unique identifier for each interchange (e.g. node number, LRS of primary route, exit number, etc)</td>
<td>X</td>
<td>X</td>
<td>New Element - Roadway Inventory/CTSRC</td>
<td></td>
</tr>
<tr>
<td>182</td>
<td>Interchange Type</td>
<td>Type of ramp interchange - diamond, full-dover, partial dover, trumpet, 3 leg, 4 leg, semi-directional, single entrance/exit, single point, other (double diamond, diverge d)</td>
<td>X</td>
<td>X</td>
<td>New Element - Roadway Inventory/CTSRC</td>
<td></td>
</tr>
<tr>
<td>187</td>
<td>Ramp Length</td>
<td>Length of ramp - from painted nose of gore to intersection boundary or painted nose of gore to painted nose of gore</td>
<td>X</td>
<td>X</td>
<td>Roadway Inventory</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Type of Governmental Ownership</td>
<td>State, County, City, Town, Park, Private, RR, Tribal, Fed</td>
<td>X</td>
<td>X</td>
<td>Roadway Inventory</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Functional Class</td>
<td>Functional class of segment; interstate, FW, FG, MInA, MInCol, MInCol_Loca</td>
<td>X</td>
<td>X</td>
<td>Roadway Inventory</td>
<td></td>
</tr>
<tr>
<td>191</td>
<td>Ramp AADT</td>
<td>Average Annual Daily Traffic for all ramps</td>
<td>X</td>
<td>X</td>
<td>Traffic Monitoring</td>
<td></td>
</tr>
<tr>
<td>192</td>
<td>Year of Ramp AADT</td>
<td>Year of collection for AADT on Ramp</td>
<td>X</td>
<td>X</td>
<td>Traffic Monitoring</td>
<td></td>
</tr>
<tr>
<td>195</td>
<td>Roadway Type at Beginning of Ramp Terminal</td>
<td>Type of roadway - intersecting with the beginning of the ramp (Freeway, Non-Freeway, Other Ramp, Frontage Rd, Other)</td>
<td>X</td>
<td>X</td>
<td>Roadway Inventory</td>
<td></td>
</tr>
<tr>
<td>197</td>
<td>Location Identifier for Roadway at Beginning of Ramp Terminal</td>
<td>Location on the intersecting roadway of the ramp - beginning point (e.g. route - milepoint)</td>
<td>X</td>
<td>X</td>
<td>Roadway Inventory</td>
<td></td>
</tr>
<tr>
<td>199</td>
<td>Roadway Type at Ending Ramp Terminal</td>
<td>Type of roadway - intersecting with the end of the ramp (Freeway, Non-Freeway, Other Ramp, Frontage Rd, Other)</td>
<td>X</td>
<td>X</td>
<td>Roadway Inventory</td>
<td></td>
</tr>
<tr>
<td>201</td>
<td>Location Identifier for Roadway at Ending Ramp Terminal</td>
<td>Location on the intersecting roadway of the ramp - end point (e.g. route - milepoint)</td>
<td>X</td>
<td>X</td>
<td>Roadway Inventory</td>
<td></td>
</tr>
</tbody>
</table>

**Project Goal:**

The goal of this project is to create a maintainable roadway and safety related database that integrates a variety of authoritative data sources, internally and potentially externally, while utilizing a uniform location referencing system, data structure, and data attribution that can interact with an enterprise transportation database. This database will function to further enhance safety analysis capabilities within the state and allow for better decision making and resource allocation, resulting in increased safety and more efficient use of transportation dollars.

**Project Purpose:**

To meet the requirement set forth in MAP-21 that States have access to a subset of the Model Inventory of Roadway Elements (MIRE), known as Fundamental Data Elements (FDE), by September 30, 2026.
To facilitate access for all potential users to a complete, uniform, timely, accurate and integrated set of roadway data that complies with the suggested data standards outlined in the MIRE.

To identify data gaps and process flow improvements for the creation and maintenance of the data required to support safety analysis and additional Department operations.

To establish a baseline inventory of a set of uniform data elements that can be utilized throughout the Department specifically for Safety analysis purposes, but additionally for asset management and other operational needs.

To establish specific quantifiable and measureable goals towards improving the safety data systems at ConnDOT as they relate to roadway data integration and access, including the implementation of performance measures and data quality control measures as outlined in the latest Traffic Records Assessment conducted for Connecticut, dated April 18, 2017.

Quality data is the foundation for making sound decisions regarding design, operation, and safety of Connecticut’s roadways. Robust accurate datasets can help ConnDOT improve safety by making more effective and efficient use of safety funds, which will help save lives and reduce serious injuries. The plan for collection and maintenance of the MIRE FDE will outline policies, procedures, and methods for updating specific data so that ConnDOT is compliant with federal requirements, and has continued access to an accurate dataset to make informed transportation safety related decisions.

**Project Challenges:**

Data governance policy development is still in its infancy at ConnDOT as it relates to roadway and asset attribution along the geospatial LRS. This presents challenges regarding proper data steward identification, responsibility for maintenance of MIRE attribution, and data quality issues for unmaintained but necessary datasets.

ConnDOT has historically provided data collection services for all public roads throughout the state, with limited roadway data reported directly to the state by the local governments. The additional attribution required for safety analysis may strain those resources and/or require additional buy-in and collaboration from the 169 towns, 5 boroughs, and 9 regional councils of government (COGs) in the state.

As the MIRE applicable elements that existed in the non-geospatial LRS are in the process of being migrated to the new LRS, there is a need to maintain both systems concurrently, something that can lead to data integration errors and also puts additional strain on the available resources. The development of a field data collection tool to fit the needs of data collectors for roadway and asset attribution (MIRE and non-MIRE related) will be a challenge, as many “off the shelf” solutions do not meet system or established procedure requirements for updating the ConnDOT road network. MIRE FDE data availability for Federal Agency and Tribal roads is currently under assessment at this time. ConnDOT is not aware of any collection effort on these roads and, while the road mileage is included in the yearly mileage declaration, has not geospatially located a vast majority of these open public roads on the new LRS. Collaboration and cooperation regarding data collection efforts on approximately 105 miles of Federal Agency and Tribal roads is necessary to have complete road network coverage and compliance with Federal requirements.
Project Benefits:

Achieve compliance with Federal requirements to remain eligible for federal funding programs. The ability to utilize new generation safety analysis tools (e.g. Highway Safety Manual, Safety Analyst, etc.).

Improve the Highway Safety Improvement Program (HSIP) by making more effective and efficient use of safety funds through enhanced project selection and prioritization methodologies.

Provide additional data to help Connecticut in development of its Strategic Highway Safety Plan.

Encourage and enable collaboration across agencies, municipalities, and regional councils of government.

Lead to development and implementation of innovative and widely deployed data collection techniques.

Reduce overlap and duplication of effort through coordination between various data managers and agencies.

Provide standardized roadway data coding guidelines across agencies and jurisdictions; standardization allows for more confidence in data querying results, homogenous segmentation identification, and effectiveness evaluations.

Provide additional data to be utilized by asset management programs, maintenance, operations, infrastructure management, and decision makers.

Integration of newly collected/available data elements into the UCONN Crash Data Repository will enhance the querying capabilities of governmental and public users, allowing for more robust data visualization and innovative safety analysis techniques.

Project Tasks/Milestones:

The effort underway to populate critical data elements for safety analysis purposes is a joint effort between ConnDOT and CTSRC. ConnDOT is in the process of migrating Roadway Inventory System (RIS) roadway data into the geospatial LRS to meet MIRE data model guidelines, and CTSRC is currently developing tools to gather data elements that were missing or did not meet the MIRE standards under the old non-geospatial LRS that ConnDOT is in the process of decommissioning. The tasks associated with this have remained relatively fluid, as advances in technology and software applications have resulted (and will continue to result) in adjustments to work flows and timelines, as well as overall data storage and collection capabilities. Because of this, task completion timelines outlined below are subject to change. The process of network development is still ongoing as well, so all location based numerical estimates are subject to change based upon still developing asset grouping rules and additional network development and integration.

- Identification of critical data elements – CTSRC and ConnDOT have identified 93 MIRE and HSM data elements they consider critical for use in safety analysis. Development of a plan to migrate the available data from existing databases as well as a collection plan for missing elements is ongoing. Progress of this task is measurable utilizing a performance measure that accounts for
the critical element sources successfully identified and data integration efforts initiated as a percentage of the 93 total identified elements.

**Target Completion – December 31, 2017.**
2018 UPDATE: Additional data elements have been identified and added to collection efforts in order to support additional Department initiatives (e.g. Asset Management, ADA Compliance). There has been a conscious effort by CTDOT management to combine data collection initiatives to maximize efficiency and resources.

- **Development of a videolog data collection tool** – current effort in development by ConnDOT to enable the videolog, which covers all state roadways on an annual basis, to act as a data collection tool. This can be critical in developing baseline asset inventories and in dataset maintenance for certain types of roadway data, including MIRE data.

**Target Completion – March 1, 2018.**
2018 UPDATE: Development is complete and collection tool is in production; currently being utilized by Office of the State Traffic Administration (OSTA) personnel to develop an inventory of passing zone locations/lane markings on Connecticut State Highways.

- **Migration of MIRE FDE applicable RIS data to EXOR system** – bulk loading and quality checks of the old (but still maintained) roadway inventory database, for both MIRE data and additional Department utilized datasets, into the new geospatial LRS. This specifically includes available data outlined in Table 1 & Table 2 of the Project Background section.

**Target Completion – May 1, 2018**
2018 UPDATE: Currently 25 of the 37 MIRE FDE (68%) have been modeled in the geospatial LRS and roadway data management software and have had data migrated from the legacy RIS roadway data management system. The remaining 12 MIRE FDE have been modeled and established within the system, but are reliant on outside data collection/loading efforts not related to the RIS migration for attribute population.

- **Continued development of all public roads location data for attribution** – integration of roughly 307 miles of open state park, forest, and institution roads is an on-going effort running concurrently with the effort to transition LRS systems. Progress for this task is measureable as a percentage of known public roads that have not be geospatially located and attributed on the LRS out of all public roads on Connecticut’s road network.

**Target Completion – December 31, 2019.**
2018 UPDATE: CTDOT has continued development of all public roads, initially focusing on the State Institution Roads. Additionally, for complete network connectivity and routability, the decision was made to focus on developing additional roadway access/connection points (e.g. median crossovers, connectors) and that development is nearing completion. This added development effort has added to the timeframe for all public road development and is reflected in the new target completion date.

- **Development of a field data collection tool** – maintenance of the roadway data, and updates to the roadway network, in a timely fashion is dependent upon the ability to adjust data as soon as notification of a change occurs. A field data collection tool that allows data collectors to adjust
network location and attribution information without waiting for videolog or aerial information to become available is critical. This tool will also potentially have additional critical uses throughout the Department regarding data management. The availability of this tool is also critical for the transition from RIS to EXOR.

Target Completion – December 1, 2018
2018 UPDATE: CTDOT and UCONN CTSRC entered into a research project with Transcend Spatial Solutions to develop and customize a geospatial field data capture tool titled Mobile Asset Verification and Roadway Inventory Collection (MAVRIC). Project is now in its 8th Month, with an expected completion date of 7/12/18. Additionally, CT has been selected as a Pilot State for the FHWA study on MIRE FDE Collection on Non-State Roads, a large component of which is the development and implementation of a field data capture tool and collection methodology.

- Roadway intersection & approach inventory and attribution – CTSRC and ConnDOT have identified 38 critical data elements regarding intersections and intersection approaches for use in safety analysis. CTSRC is developing an aerial photography based collection tool that will be utilized in this effort. The initial stages of this project will address attributes of the approximately 13,660 intersections that include at least one state road and an estimated 9,960 intersections that are local road only, but include at least one upper functional classification road. Progress for this task is measurable as a percentage of intersections located and properly attributed out of all identified intersection locations on the Connecticut public road network.

Target completion – December 31, 2018
2018 UPDATE: UCONN CTSRC has completed the collection of approximately 500 State-To-State Intersections (with approaches) and post processed those geospatially and provided them to CTDOT. Additionally, collection on approximately 10,000 State-To-Local Intersections (with approaches) is complete and UCONN CTSRC is post processing them in batches, with Batch 1 delivered May 9th. Collection of Upper Functional Classified Locals-To-Locals will commence as UCONN CTSRC completes their summer staffing process.

- Road segment data verification – CTSRC and ConnDOT have identified 17 roadway segment attributes that are critical to safety analysis and this requires a collaborative effort to verify attribution and location data on all public roads. Progress for this task is measurable as a percentage of roadway miles that have had all applicable data elements verified out of all established public road mileage in the State.

Target Completion March 1, 2019.
2018 UPDATE: This task will be reprioritized once the legacy roadway data management system is decommissioned.

- Identification, integration, and attribution of railroad at-grade crossing intersections – according to FRA database, there are approximately 3300 possible locations of railroad crossings that need to be assessed for attribution and location information as they relate to an intersection asset creation. All FRA supplied data elements will need to be incorporated in addition to MIRE attribution. Progress for this task is measurable as a percentage of identified at-grade crossings properly located and attributed out of all known at-grade crossings on the Connecticut public road network.
Target Completion - March 1, 2019.
2018 UPDATE: At the March 2018 Highway Safety Roadmap meeting (with CTDOT, FHWA, FRA, and LTAP representation) there was discussion about responsibility for location information related to CTDOT’s highway railroad grade crossing inventory. It was clarified that GPS locations from the DOT are uploaded to the FRA dataset as mandated by the FRA, and data uploaded by the DOT is independent of data uploaded by the railroads. Continued discussion between Roadway Inventory personnel and CTDOT Office of Rail personnel is required to integrate datasets.

- **Assessment of local and regional agency integration and data maintenance** – FHWA and VHB responded to an application from ConnDOT for technical assistance in developing a business plan for data integration; including data potentially available on a local, regional, tribal, or federal level. As a part of that business plan development, VHB will be performing outreach, and possibly conducting workshops and/or peer exchange(s), to identify and assess capabilities of additional stakeholders, most likely by utilizing the connections forged through the LTAP at Connecticut’s Technology Transfer (T2) Center. Dependent upon the results of that effort, ConnDOT plans to continue to perform public outreach and assess the feasibility of conducting data network and attribution updates on a local level. Direct reports of changes to the network or attribution, up to and including full delegation of data collection responsibility, will be assessed based upon individual needs and local agency capabilities. Progress for this task is measureable as a percentage of municipalities (169)/boroughs (5)/COGs (9) that participate in, or have access to, data integration efforts or a targeted streamlined local data reporting procedure out of all local or regional organizations in the state.

Target Completion – July 1, 2019
2018 UPDATE: Assessment is ongoing with CTDOT holding a Local Data Peer Exchange in September 2017. Attendance included CTDOT Engineering, Planning, Safety, and IT personnel, UCONN CTSRC, LTAP, and T2 Center personnel, the FHWA, as well as representatives from 5 Councils of Government, and 7 municipalities. The Volpe Center provided documentation of the Peer Exchange, with noted ideas for moving forward with outreach to municipalities. Future utilization of the connections fostered between the COGs and municipalities was a highlighted action item moving forward with data integration. CTDOT has also continued to pursue assessment of utilizing developing data collection tools as an online portal to access, integrate, and update local road data and attribution. Assessment will continue upon completed development of these products.

- **Roadway interchange grouping and attribution** - ConnDOT and CTSRC have identified 7 critical interchange related data elements and an effort to group and attribute approximately 550 interchanges, involving 1700 ramp terminals, with all desired data elements will commence at the conclusion of the intersection inventory and road segment verification. Progress for this task is measureable as a percentage of identified interchanges properly grouped and attributed out of all possible interchange locations on the Connecticut public road network.

Target Completion – September 1, 2019.
2018 UPDATE: Schedule for task is on target and achievable, as this task will be addressed once the Upper Functional Classified Locals-To-Locals intersection inventory is complete. The collection tool will be modified to handle the interchange specific attribution.
• **Identification, integration, and attribution of private roadway intersections** – location and attribution of private roadway and controlled commercial/industrial driveway intersections into the road network as an asset layer. Utilization of traffic signal plans, videolog review, and additional databases to identify and attribute these locations on public roads. Progress for this task is measurable as a percentage of identified locations (through signal plan review, and database querying) where MIRE FDE intersection attribution has been assigned out of all identified possible locations.

**Target Completion – March 1, 2020.**

**2018 UPDATE:** This task is dependent upon completed review and population of the intersection/approach inventory, which will then be cross-queried with existing data to identify locations for additional attribution collection. All dependent tasks are currently on schedule.

• **Identification, integration, and attribution of mid-block pedestrian crossings** – locate and attribute pedestrian crossings as a part of the intersection inventory. Utilize current database query capabilities, the developing videolog collection tool, and aerial photography to identify locations; then utilize intersection data collection tool for attribution efforts. There are an unknown number of locations. Progress for this task is measurable as a percentage of mid-block locations that are populated with data, after identification methodology and inventory activities have been conducted, out of all known mid-block locations on the Connecticut public road network.

**Target Completion – March 1, 2023.**

**2018 UPDATE:** Discussions between CTDOT Roadway Inventory and Traffic Engineering personnel highlighted an opportunity to integrate data collected for a pedestrian safety improvement project on state roads with the population of mid-block pedestrian crossings. Approximately 200 locations were identified and intersection attribution has been loaded. Review to gather approach data will occur within the LRS management system. A similar project for local roads has been initiated and additional data harvesting will take place during that process, although additional non-participating municipalities/locations will need to be reviewed.

• **Federal and Tribal road network integration and attribution** – collaborative efforts with Federal agencies and Tribal Nations to geospatially locate the approximately 105 miles of public roads in Connecticut and attribute them with all identified critical MIRE elements regarding segments and intersections. Progress for this task is measurable as a percentage of road miles that have been populated with MIRE FDE critical data fields out of the 105 known miles.

**Target Completion – July 1, 2024**

**2018 UPDATE:** CTDOT was advised by FHWA that there are continued efforts to gather location based data on these roadways and CTDOT anticipates an update at the annual Highway Information Seminar.

• **Streamline of update notification system** – currently a manual process of project completion and update notifications take place on state roads and an annual paper submittal process exists for local road modification. ConnDOT will assess the feasibility of developing an automated system for state roads and a more streamlined timely system for local road updates to trigger data
collection or modification efforts, up to and including the potential implementation of CAD to GIS technology.

Target Completion – July 1, 2025
2018 UPDATE: An on-going task that proceeds through development incrementally as additional capabilities are introduced to the project tracking and LRS management system. At this point, no substantial progress is ready to be reported.

Traffic Records Assessment Recommendation 1:
Improve the applicable guidelines for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.

APPLICABLE GUIDELINES FOR THE ROADWAY DATA SYSTEM
MIRE is the major guideline pertaining to the roadway system. There are a total of 202 elements that comprise MIRE Version 1.0 and 38 of those elements have been identified as FDEs. The MIRE elements are divided among three broad categories: roadway segments, roadway alignment, and roadway junctions. Each MIRE element has a definition, a list of attributes (coding) a priority rating, a reference to safety analysis tools, and—when necessary—an illustration that provides supplemental information on the element. It is important to have MIRE-level data for at least the roadway segments that have high crash rates so that causality can be investigated.

ConnDOT plan to address Recommendation 1:
The collaborative plan between ConnDOT and CTSRC to populate critical MIRE data elements into the new geospatial LRS, and to maintain the datasets for safety analysis use, directly addresses the Traffic Records Assessment Recommendation. It is an ongoing effort, with plans to comply with federal requirements well before the 2026 deadline.

Traffic Records Assessment Recommendation 2:
Improve the data quality control program for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.

DATA QUALITY CONTROL PROGRAMS FOR THE ROADWAY DATA SYSTEM
Custodians of the roadway system should maintain a comprehensive, systematic quality control management process that ensures the efficient functioning of the system. The quality control process should include data quality measures as well. The timeliness, accuracy, completeness, uniformity, integration, and accessibility of the roadway data should be monitored based on a set of metrics established by the State. The overall quality of the roadway data should be assured based on a formal program of error and edit checking as the data are entered into the statewide system and procedures should be in place for addressing detected errors. In addition, the custodial agency and the TRCC should work together to establish and review the sufficiency of the quality control program and to review the results of the quality control measures.

Roadway data managers should produce and analyze periodic data quality reports. When these reports identify shortcomings, appropriate measures should be taken and corrections applied. If common errors are identified, training and changes to the applicable instruction manuals, edit checks, and the data dictionaries should be made. Audits and validation checks should be conducted as part of the quality control program to assure the accuracy of specific critical data elements. The measures shown below in
Table 3 are examples of high-level management indicators of quality taken from NHTSA’s performance measures report. The managers of individual roadway files should have access to a greater number of measures. The custodial agency should be prepared to present a standard set of summary measures to the TRCC monthly or quarterly.

Table 3 – Example Quality Control Measurements for Roadway Data Systems

ROADWAY DATABASE MODEL PERFORMANCE MEASURES

<table>
<thead>
<tr>
<th>ROADWAY DATABASE</th>
<th>TIMELINESS</th>
<th>ACCURACY</th>
<th>COMPLETENESS</th>
<th>UNIFORMITY</th>
<th>INTEGRATION</th>
<th>ACCESSIBILITY</th>
</tr>
</thead>
</table>
|                  | R-1: The median or mean number of days from (a) the date a roadway project is completed to (b) the date the updated critical data elements are entered into the database. | R-2: The percentage of all roadway segments with complete critical data elements. | R-3: The percentage of roadway elements identified on the State’s basemap or roadway inventory file. | R-4: The number of Model Inventory of Roadway Elements (MIRE) compliant roadway data elements entered into a database or obtained via linkage to other databases. | R-5: The percentage of all roadway segments that include location coordinates, using measurement frames such as a GIS basemap. | R-6: To measure accessibility of a specific file within the roadway database:  
  - Identify the principal users of the roadway file.  
  - Query the principal users to assess (a) their ability to obtain the data or other services requested and (b) their satisfaction with the timeliness of the response to their request.  
  - Document the method of data collection and the principal users’ responses. |

ConnDOT plan to address Recommendation 2:

ConnDOT and CTSRC have completed the process of identifying critical data elements and are in the process of collecting and integrating that data into the roadway inventory file, along with creating linkages to additional databases within the Department. Data quality reports related to roadway and safety data will become a capability of the new geospatial LRS once the initial appropriate data has been loaded. Date/time stamping of changes, integration with a composite project database, and creating publicly available access to datasets and data viewers are going to be capabilities once the new system is completely implemented and the old non-geospatial LRS is decommissioned.

CTDOT has established a sub-committee of its Transportation Enterprise Database (TED) Development group specifically dedicated to data visualization, analytics, and reporting; with members from Information Technology, Engineering, Planning, and UCONN CTSRC collaboratively assessing tools for visualizing and reporting data, as well as assessing data quality.

The Transportation Intelligence Gateway (TIG), a data extract and querying tool that functions as part of Bentley’s EXOR product suite, allows administrators of the road network to generate various data quality reports as outlined below. TIG and the Bentley LRS spatial manager are products that are constantly evolving and ConnDOT plans to assess establishing more robust performance measures once the capabilities of the new system are fully implemented. As such, the performance measures offered below are subject to change.

Timeliness – linkage to the CPD will enable ability to generate reports that track the completion of a project and link that information to the date the system was updated. Once data migration is completed, and appropriate database linkages have been established, ConnDOT will further assess the ability to establish data Timeliness related performance measures.
Accuracy — TIG has the ability to query and identify errors in critical data elements and attribution. Once data migration is completed, ConnDOT will further assess the ability to establish data Accuracy related performance measures.

Completeness — TIG has the ability to query and identify missing data elements and attribution. Once data migration is completed, ConnDOT will further assess the ability to establish data Completeness related performance measures.

Uniformity — ConnDOT is currently tracking the MIRE compliant and non-compliant FDE as they are migrated from RIS into the geospatial LRS (see Table 1 & Table 2 of the Project Background section). Once data migration is complete, and additional data collection and integration activities have been successfully completed, ConnDOT will further assess the ability to establish data Uniformity related performance measures.

Integration — Ongoing efforts to link critical and appropriate databases is still ongoing, as is a roadway database inventory. At the completion of roadway database inventory identification efforts, a metric that tracks the number of linked and integrated databases as a percentage of all available databases can be established. ConnDOT is involved in an effort to integrate all Bentley licensed products as well, and the progress of that integration is being tracked; these databases includes both safety and non-safety related data.

Accessibility — once the geospatial LRS and many of the associated critical data layers are in full production and can be used for safety analysis, surveys regarding the accessibility and satisfaction of the data can be developed.

Project Cost:

A May 2016 FHWA Report titled MIRE Fundamental Data Elements Cost Benefit Estimation estimated the undiscounted costs for collection and maintenance of the MIRE FDE for Connecticut to be $10,041,894 for the 20-year period from 2016-2036. These recurring costs will be incurred and shared by the Bureau of Policy & Planning, under the roadway network creation, data integration, and data maintenance program; and the Traffic Safety Engineering Office under State Project No. 170-3360, which is Connecticut’s strategic plan for safety analysis. Additionally, financial resources through the Department’s Bureau of Engineering AEC Applications Office are being utilized in the development of a field data collection tool that with further help implementation of a digital design environment (DDE) at ConnDOT.
Traffic Records Inventory / Data Integration

Project ID: CT-P-0000X

Core System:

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

Performance Area:

- All Six Performance Areas

Project Title: Work Group(s) Focusing on a Traffic Records Inventory, and Data Integration of the Traffic Records Six-Pack

Lead Agency: ConnDOT Highway Safety Office

Partner Agencies:

- Connecticut Transportation Safety Research Research Center (CTSRC)
- All Other Stakeholder Agencies on the TRCC

Project Director/Primary Contact:

Name: Joseph T. Cristalli, Jr.
Title: Director, Highway Safety Office
Connecticut Department of Transportation

Project Background:

CTSRC has begun to draft memorandums of understanding (MOU) for each agency, managing one of the Traffic Records Six-Pack. Efforts have also been initiated to meet with the UConn Office of the General Counsel to ensure that the University can deny FOIA requests and fully protect the PPI data that will be submitted to UConn as part of this process. Once the project is given the green light and support of the Office of the General Counsel, MOUs will be sent out for each agency to review.

Continuing to expand the State Traffic Records Inventory, contained on the TRCC website, and establishing a data governance process are other recommendations coming from the 2017 Traffic Records Assessment. The TRCC will focus on these as well as other recommendations from the Assessment and establish appropriate working groups as necessary to pursue recommendations deemed most critical.

Data governance is the formal management of a State’s data assets. Governance includes a set of documented processes, policies, and procedures that are critically important to integrate traffic records data. These policies and procedures address and document data definitions, content, and management of key traffic records data sources within the State. Such data standards applied across platforms and systems provide the foundation for data integration and comprehensive data quality management.
TRCC Website – Reflecting Outline of Traffic Records Inventory

Traffic Records Program Assessment Advisory 2017
Traffic Records Assessment 2017
MMUCC Guideline Fourth Edition 2012
D16.1 Manual on Classification of Motor Vehicle Crashes
One-Page MMUCC / D16.1 / D20.1 Standards Comparison

✓ Traffic Records System Inventory
   - Crash Data System page 3-9
   - Citation Data System “ 10-18
   - Roadway Data System “ 19-26
   - Injury Surveillance System “ 27-42
   - Driver Data System “ 43-51
   - Vehicle Data System “ 52-59

Page numbers (content) for each of the traffic records six-pack components, and questions (Q) regarding guidelines, data dictionaries, process flows and other inventory details.

Current focus of the TRS Inventory development effort includes Data Dictionaries for each of the six core systems. Assessor findings from the Assessment have pointed to strengths and weaknesses in Data Dictionaries for each of the systems. Examples of individual content for each of the Data Dictionaries are being reviewed.
Records Management Systems for Law Enforcement in a Shared Environment

Project ID: CT-P-0000X

Core System:

- Crash
- Driver
- Vehicle
- Citation/Adjudication

Performance Area:

- Timely
- Integration
- Accessibility

Project Title: Rolling out Records Management Systems for Law Enforcement in a Shared Environment – the Connecticut Information Sharing System (CISS)

Lead Agency: Criminal Justice Information System (CJIS)

Partner Agencies:

- All Stakeholder Agencies on the TRCC

Project Director/Primary Contact:

Name, Title, City, Phone, Email

Project Background:

The rollout of records management systems (RMS) to Connecticut police departments, will introduce cost savings for software and hardware to the municipalities. In a pilot, the Wethersfield PD, managed to create the centralized system, install the software, adjust hardware, and train staff, leveraging the Public Safety Data Network (PSDN). In addition, CJIS has begun some automated data sharing in the form of Early Arrest Notifications. Two RMS vendors, KT International and Accucom, are now in the process of having the RMS at the PDs submitting early arrest notifications.

Update Data Sharing:

CT:Chief, the centralized RMS for Wethersfield Police Department (PD), is in full production. Update regarding data sharing and the expansion of CT:Chief in the CJIS environment – CT:Chief centrally hosted and Data sharing progress of CISS related to Arrest notifications: Police departments that are completed or in progress –

<table>
<thead>
<tr>
<th>Completed</th>
<th>Scheduled (2017)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wethersfield PD</td>
<td>Bridgeport PD</td>
</tr>
<tr>
<td>Enfield PD</td>
<td>East Hartford PD</td>
</tr>
<tr>
<td>Plainville PD</td>
<td>Hartford PD</td>
</tr>
<tr>
<td>New Britain PD</td>
<td>Manchester PD</td>
</tr>
</tbody>
</table>
Data Driven Approach to Crime and Traffic Safety

Project ID: CT-P-0000X

Core System:

- Crash
- Driver
- Vehicle
- Citation/Adjudication

Performance Area:

- Timely
- Integrated
- Accessible

Project Title: Data Driven Approach to Crime and Traffic Safety (DDACTS)

Lead Agency: State and/or Local Law Enforcement Agencies

Partner Agencies:

- All Stakeholder Agencies on the TRCC

Project Director/Primary Contact:

Name, Title, City, Phone, Email

Project Background:

DDACTS is a high intensity criminal enforcement program coupled with aggressive motor vehicle enforcement for the purposes of reducing crime and improving the quality of life within a specified area. Key elements include:

- Focus for State and Local law enforcement agencies,
- Impact – large scale multi-agency operation with a focus on motor vehicle contacts,
- Priority – public support,
- Priority – support from municipal and county elected officials,
- Measure improvements in the data being collected and the timeliness of reporting accurate information, and
- Measure results – assaults, burglaries, vandalism, thefts from motor vehicles, larcenies, drug and narcotic violations, DUI arrests, motor vehicle crashes.
- High intensity criminal enforcement program coupled with aggressive motor vehicle enforcement for the purposes of reducing crime and improving the quality of life within a specified area,
- Focus for State and Local law enforcement agencies,
- Utilize license plate reader technology,
- Impact – large scale multi agency operation with a focus on motor vehicle contacts,
- Priority – public support,
- Priority – support from municipal and county elected officials,
- Measure improvements in the data being collected and the timeliness of reporting accurate information, and
- Measure results – assaults, burglaries, vandalism, thefts from motor vehicles, larcenies, drug and narcotic violations, DUI arrests, motor vehicle crashes.
Transportation Enterprise Database (TED)

Project ID: CT-P-0000X

Core System:
- Crash
- Roadway

Performance Area:
- Timely
- Integrated

Project Title: Building a Transportation Enterprise Data Platform for The 21st Century

Lead Agency: Connecticut Department of Transportation

Partner Agencies:
- All Stakeholder Agencies on the TRCC

Project Director/Primary Contact:
Name, Title, City, Phone, Email

Project Background:
What began as a modest effort back in 2012 to build a geospatial LRS to support capital project management at the CTDOT has since evolved into a comprehensive initiative to develop, integrate, and share core business data sets across the Department from a common platform. Like many State DOT's, CTDOT's data bases were built on a foundation of silos set up to meet a specific business need. Data in the silos was rarely connected and shared.

Beginning in 2016, CTDOT commissioned an RDIP Assessment resulting in specific recommendations to improve the collection of MIRE related data. Following in 2017, the CTDOT also commissioned a series of interactive FHWA planning workshops on data integration, data governance, and local partner involvement to add structure and process to its evolving initiative.

An informal Transportation Enterprise Development (TED) group which had been meeting to look for new opportunities for data integration was formally tasked in late 2016 with building a Departmental-wide integrated data platform with full capabilities to support roadway, safety, asset, pavement, and capital project management. The TED Development group meets weekly and is facilitated by a dedicated RDIP "Data Champion" and Business Systems Integration Specialist.

Using FHWA's data integration planning model and customizing it to meet the CTDOT's needs, the TED Development group using an "agile systems development" approach, oversees a series of active work groups tasked with following: 1) development of a set of MIRE field data collection and intersection management tools, 2) development/maintenance of authoritative point, linear, and geospatial asset data sets that can be uploaded to TED, 3) continuing enhancements to the TED data platform, 4) further refinement of the Department's current geospatial business and viewing tool, ATLAS, and 5) working in partnership with UCONN for the development of a customized safety analysis tool.
The project includes a heavy emphasis on both data linkage and data integration. Many of the data sets in TED are linked by location to the LRS. Those data sets in turn are linked to capital project information, including administrative data.

More recently, the TED project has embarked on an effort to link field maintenance and asset data in an attempt to keep asset inventories as current as possible.

A Data Visualization and Analytics Task Group has also been formed to assess and deploy a wide range of query, visualization, and analytical tools. The TED Development effort now includes a Data Governance Council designed to set up Departmental rules on managing data as an asset.

Other Project Summaries

Add Citation Dataset to the Crash Data Repository

Add Citation dataset to the Crash Data Repository (CDR); create query and summary report capabilities for authorized users; effort and agreements would be needed to ensure that data is transferred. As mentioned earlier, the CTSRC has undertaken this initiative.

Allow for the Inclusion of All Fields of the MMUCC PR-1 to be sent to the CDR

Establish security levels at the CDR to allow for the inclusion of all fields on the MMUCC PR-1 to be sent to the CDR to provide the potential to link with other traffic records files; establish criteria for authorized access to sensitive data; dependent on cooperation of others.

Feasibility of Enforcement Technologies in Mobile Applications

Pilot project testing the feasibility of tablets and other technologies to improve the efficiency of traffic law enforcement capabilities for mobile data communications focusing on citations, warnings, crash data collection, and other potential in field events with the specific purpose of reducing processing times.
Integrated Enterprise Base Map and Linear Referencing System

The Connecticut Department of Transportation (ConnDOT) has embarked on replacement of its Roadway Inventory System (RIS) with a more versatile integrated road network database that provides a common enterprise-wide spatial base map for mapping and GIS, and a common linear referencing system to track assets and performance along the network.

In Phase I, GIS, RIS, and Photolog network data were integrated and loaded into the Exor database, along with local road data from the federal government’s TIGER data set.

The integrated enterprise base map and linear referencing system (IEBM-LRS) is needed to efficiently support core business applications. This integrated system (when completed) will have immediate business benefits for the roadway inventory, safety management, and design and construction branches, with significant future benefits for maintenance.

Phase II will provide an integrated statewide base map and linear referencing system that provides network location information for the State’s motor vehicle crash data, generates mileage reports for state and local roads, provides a prototype RIS replacement system, and provides a recommendations report for Phase III. Phase II objectives include:

- Review and update data model for state maintained and local road network centerlines;
- Automate the match of local road information in RIS with TIGER and GIS spatial data;
- Load local road data currently stored in the RIS database into Exor database and match it to spatial data from TIGER or other spatial data sources;
- Create connectivity to state route where practical and without manual editing;
- Configure data model for key RIS road attribute and asset information; and
- Load road attribute and asset data from RIS into Exor database.

Phase III will replace the current RIS functionality, including Highway Performance Monitoring System (HPMS) reporting and integration with the ConnDOT ProjectWise environment. One of the considerations in the RIS upgrade is the Model Inventory of Roadway Elements (MIRE) guideline, promoted by the Federal Highway Administration (FHWA). At the completion of Phase III, RIS will be fully replaced by the new Exor system which will become the system of record for all information previously stored in RIS.

After Phase III, subsequent phases will include interfaces to bridge, crash, sign, maintenance, and other business areas. The integrated enterprise base map and linear referencing system (IEBM-LRS) project will give the State a highly detailed, accurate location coding method that could be used to integrate all roadway features and spatially codable events (e.g., crashes, citations, etc.) that happen on the roadways. This project will be beyond a simple shared base map, but serves that need as well – a way to locate spatially any event and then be able to link the data about that event with any other source of data that has been located on the same network.

There are several points of coordination between the IEBM-LRS project and other projects related to new or upgraded field data collection systems for law enforcement and analytic systems making use of linked roadway and law enforcement data. These include the Crash Data Repository (CDR), Data Driven Approach to Crime and Traffic Safety (DDACTS), and other projects undertaken by both State and Local law enforcement involving E-Crash and E-Citation data collection.
Impaired Driver Records Information System

Lead Agency: Criminal Justice Information System

Partner Agencies:
- State and Local Law Enforcement
- Department of Transportation (DOT)
- Department of Motor Vehicles (DMV)
- Department of Public Safety (DPS, now DESPP)
- Department of Information Technology (DAS-BEST)
- Division of Criminal Justice (DCJ)
- Judicial Branch
- National Highway Traffic Safety Administration (NHTSA)

Project Description/Basis:

Current planning for the Connecticut Impaired Driver Records Information System (CIDRIS) will be its inclusion of this project into CJIS’s Connecticut Information Sharing System (CISS). Given the successful demonstration of DUI information from DESPP’s Connecticut State Police to CT DMV in 2008, the project will become part of the CISS’s workflow management processing in a future CISS release. CIDRIS’s incorporation into CISS will maintain the focus on the electronic roadside data capture of traffic citations, integration/interface of Judicial and DMV information, integration/interface with offender-based data, and a data mart decision support system. Once incorporated into CISS, the project will continue to provide more timely and accurate driver, vehicle and enforcement adjudication data, and a records management/tracking system that enables law enforcement, licensing and criminal justice agencies and others to better enforce, adjudicate and impose sanctions against impaired driving offenders.

Objectives:

1. Utilizing CISS, the redesign and redeployment of a comprehensive, statewide DUI information technology system;

2. Facilitate timely, seamless, and comprehensive sharing of information between state agencies, departments, boards and commissions;

3. Appropriately identify, charge, and sanction intoxicated drivers, based on their driving history;

4. Manage impaired driving cases from arrest through the completion of court and administrative sanctions; and

5. Identify/target impaired driver populations and trends, address driving control system flaws, and evaluate countermeasures.
Current OUI Process

Project Status:

The implementation phase of CIDRIS, which began with the State Police, was successfully deployed to CSP in 2008 and demonstrated that the project was feasible and functional. In CISS, the efforts will be revising the software application of CIDRIS and converting it to new software development for all parties, including CSP and municipal law enforcement through their respective CAD/RMS vendors, the courts, Division of Criminal Justice, and other impacted entities.

The goal is to be able to manage impaired driving records so that stakeholders can access DUI information in real-time to reduce recidivism in impaired driving offenses.

Required Functionality

- Identify, charge, and sanction all impaired driving offenders;
- Manage impaired driving cases from arrest through the completion of court and administrative sanctions;
- Recognize geographic areas and trends, evaluate countermeasures, and identify problematic components of the overall impaired driving control system;
- Provide law enforcement and court personnel offender information to properly respond to offenses;

- Reduce administrative costs and increase efficiencies for dealing with impaired driving and at the same time address drivers with other types of impairments;

- Manage the workflow of all roadside citations issued from encounter through disposition;

- Maintain a full "chain of custody", including an audit trail, for all citation data captured. Need to be able to view changes to citations, by whom, when, and why citation was changed;

- Centralized decision support environment to track citation statistics and metrics for users such as Court Operations, CPCA, ConnDOT, DPS, and DMV; and

- Real-time based and 24x7 so that entries made at the roadside or desk are immediately available to all CISS users.
Connecticut Integrated Vehicle and Licensing System (CIVLS)

Critical needs supporting DMV Mission being addressed by CIVLS:

- **Improve timeliness and responsiveness** to Connecticut’s citizens and DMV Stakeholders and Business Partners
- **Help streamline** the agency’s business processes
- **Standardize and integrate** business and systems processes
- **Improve DMV operational efficiency** in performing key business processes and transactions
- **Modernize agency systems** and supporting technologies
- **Standardize** the agency’s data

CIVLS Phase 1 (Managed License Related Businesses) and Phase 2 (Registration and Title) were completed and deployed in 2015 and 2016, respectively. Given this, CIVLS has been operational for two years. DMV has taken over, from the vendor, the programming code, as well as the maintenance and support of the CIVLS system. The license and sanction-related activities are still pending.

CIVLS provides DMV customers and staff with:

- Real time processing
- Internet and web portal for self service
  - Provide the customer the ability to “self-help” and check compliance issues at home
- An integrated solution for the transaction and payment functionality
- Focused on customer centric database that will seek to reduce the customer-related data errors
Connecticut DMV’s Out of State Compact Notice Scanning and Data Entry System

Problem

The Department of Motor Vehicles (DMV) receives around 3,000 Compact notices to Connecticut licensed drivers issued out-of-state each week. These Compact notices are sent via regular mail, on paper and in the format that is particular to the jurisdiction. This could be a single format used by an entire state or multiple formats for a single state going down to the county or court district level. In order to include these Compact notices on Connecticut driver records, each slip provided by states or jurisdictions needed to be reviewed and the data manually entered by DMV staff. This required a great deal of manual labor and often backlogs were experienced in this area.

Solution

DMV developed an application whereby document imaging, Optical Character Recognition (OCR) and a manual review of data reduced the labor required greatly, eliminated the backlog and improved data entry accuracy. The application was developed by internal staff and uses an inexpensive imaging program along with inexpensive Kodak scanners. The programming of interfaces and the full process of receiving/scanning/reviewing/applying each Compact notice provided the greatest challenges to the project. Once that was complete, “zoning” each different infraction form became an ongoing process. By zoning, DMV can determine which data on the particular form should be recognized, extracted and populated in data fields. Each form has its own properties and requires individual attention. Once complete, however, this form is automatically recognized at any time in the future. Currently, the OCR system is programmed to receive the following states’ Compact-related agreement notices: Delaware, Florida, Illinois, Hawaii, Iowa, Kentucky, Maryland, Michigan, New Jersey, New York, Ohio, Pennsylvania, Texas, Virginia, and Wisconsin.
CAD/RMS / E-Citation / E-Crash / DMV Commercial Vehicle Safety Division

The Commercial Vehicle Safety Division (CVSD) of the Department of Motor Vehicles (DMV) now utilizes electronic (e) citation and (e) crash reporting for all incidents involving commercial vehicles. Funded through the Federal Motor Carrier Safety Administration (FMCSA), the new system incorporates a computer aided dispatch and records management system (CAD/RMS). Previously, the CVSD relied on manual data entry (such as commercial vehicle-related citation information). This manual, non-automated process negatively impacted the quality and timeliness of commercial data being transmitted within the State’s systems, e.g. Judicial, and ConnDOT. Although the CVSD has attained, and strives to maintain, a high quality data ranking by FMCSA, all divisions within the DMV continue to improve and enhance this quality to ensure timeliness and accuracy of all its data.

Focusing on e-citations, the CVSD estimates that the implementation, which included an e-citation printer for all sworn personnel in August 2013, saves the division $50,000-60,000 per year in administrative costs. The added time savings for sworn personnel allows them additional time to perform enforcement activities. Accuracy of the e-citations is much better as the person and vehicle information comes from the computer files; statutory charges and fine amounts are accurate as they are pulled from a table provided by Judicial and addition errors are eliminated; e-citations arrive at Judicial in a timely manner and the legibility over the manual citations is much improved. In the first few months of implementation.

Driver License Bar Code Pilot

The Connecticut Driver License contains bar coded information. Provision to law enforcement of bar code scanning equipment and software would greatly facilitate collection of driver license data as well as improve the accuracy of the collected data. Use of this hardware and software would also improve the efficiency of the law enforcement officer collecting the data.

Regional Technology Conference

A day and a half Conference would provide the opportunity for TRCC stakeholders, including Executive Management to become better informed about the traffic records efforts in other states. Participants would have opportunities to attend sessions about existing and emerging technologies, including “best practices” from other states concerning traffic safety data collection, management and access. States have generally become more restrictive regarding out-of-state travel; and for traffic safety data collectors, managers and users, the Conference likely would be their only opportunity to become more up-to-date regarding methods and technologies that can improve the traffic records safety data system in Connecticut.

Other Project Suggestions

Crash/Citation/Incident law enforcement location analysis software accessible by each community

Public policy endorsement of adding e-mail addresses on DMV records for registrations and licenses

Data analysis software/all stakeholders
Acronyms used in Strategic Plan

AAMVA  American Association of Motor Vehicle Administrators
AASHTO  American Association of State Highway Transportation Officials
AADT  Annual Average Daily Traffic
ADT  Average Daily Traffic
ALS  Advanced Life Support
ANSI  American National Standards Institute
ASCII  American Standard Code for Information Exchange
AT SIP  Association of Transportation Safety Information Professionals (National TRCC)
BAC  Blood Alcohol Concentration
BLS  Basic Life Support
CAD  Computer Aided Dispatch
Captain  Capitol Region Total Access Information Network
CARE  Critical Analysis Reporting Environment
CAST  Connecticut Accident Summary Tables
CDC  Centers for Disease Control and Prevention
CDIP  Crash Data Improvement Program
CDLIS  Commercial Driver License Information System
CDR  Crash Data Repository
CEMSTARS  Connecticut EMS Tracking and Reporting System
CHA  Connecticut Hospital Association
CHIME  Connecticut Hospital Information and Management Exchange
CIB  Central Infractioins Bureau
CIDRIS  Connecticut Impaired Driver Records Information System
CISS  Connecticut Information Sharing System
CIVLS  Connecticut Integrated Vehicle Licensing System
CJIS  Criminal Justice Information System
CMV  Commercial Motor Vehicle
CODES  Crash Outcome Data Evaluation System
COGCNV  Council of Governments of the Central Naugatuck Valley
COLLECT  Connecticut Online Law Enforcement Communications Teleprocessing
ConnDOT  Connecticut Department of Transportation
CPCA  Connecticut Police Chief’s Association
CRCOG  Capitol Region Council of Governments
CRMVS  Criminal Record and Motor Vehicle System
CSAO  Chief State’s Attorney’s Office
CSP  Connecticut State Police
CT: Chief  Records Management System
CTI  Connecticut Transportation Institute
CVARS  Commercial Vehicle Analysis Reporting System
CVISN  Commercial Vehicle Information Systems Network
CVSD  Commercial Vehicle Safety Division
CVSP  Commercial Vehicle Safety Plan
DAS BEST  Department of Administrative Services Bureau of Enterprise Systems and Technology
DCJ  Division of Criminal Justice
DDACTS  Data Driven Approach to Crime and Traffic Safety
DESPP  Department of Emergency Services & Public Protection
DLN  Driver’s License Number
DMV  Department of Motor Vehicles
DoIT  Department of Information Technology
DOT  Department of Transportation
DPS  Department of Public Safety
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>DPH</td>
<td>Department of Public Health</td>
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<tr>
<td>DRN</td>
<td>Digital Roadway Network</td>
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<tr>
<td>DUI</td>
<td>Driving Under the Influence</td>
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<tr>
<td>ED</td>
<td>Emergency Department</td>
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<tr>
<td>EMS</td>
<td>Emergency Medical Services</td>
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<td>EMT</td>
<td>Emergency Medical Technician</td>
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<tr>
<td>FARS</td>
<td>Fatality Analysis Reporting System</td>
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<tr>
<td>FDE</td>
<td>Fundamental Data Elements</td>
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<tr>
<td>FHWA</td>
<td>Federal Highway Administration</td>
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<td>FIPS</td>
<td>Federal Information Processing Standard</td>
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<tr>
<td>FMCSA</td>
<td>Federal Motor Carrier Safety Administration</td>
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<tr>
<td>FTP</td>
<td>File Transfer Protocol</td>
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<tr>
<td>GHSA</td>
<td>Governor’s Highway Safety Association</td>
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<tr>
<td>GIS</td>
<td>Geographic Information System</td>
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<tr>
<td>GPS</td>
<td>Global Positioning System</td>
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<tr>
<td>GSA</td>
<td>General Services Administration</td>
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<tr>
<td>GVWR/GCWR</td>
<td>Gross Vehicle Weight Rating/Gross Combination Weight Rating</td>
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<tr>
<td>HIPAA</td>
<td>Health Insurance Portability and Accountability Act</td>
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<tr>
<td>HPMS</td>
<td>Highway Performance Monitoring System</td>
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<td>HSO</td>
<td>Highway Safety Office</td>
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<td>HSP</td>
<td>Highway Safety Plan</td>
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<tr>
<td>HTML</td>
<td>Hypertext Markup Language</td>
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<td>IDRIS</td>
<td>Impaired Driver Records Information System</td>
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<td>ILT</td>
<td>Incident Location Tool</td>
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<td>IPR</td>
<td>Interim Progress Report</td>
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<tr>
<td>ISS</td>
<td>Injury Surveillance System</td>
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<td>IT</td>
<td>Information Technology</td>
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<td>JAD</td>
<td>Joint Application Development</td>
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<td>JIS</td>
<td>Judicial Information System</td>
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<td>JUD</td>
<td>Judicial Branch</td>
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<td>LEA</td>
<td>Law Enforcement Agency</td>
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<td>LEL</td>
<td>Law Enforcement Liaison</td>
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<tr>
<td>LRS</td>
<td>Linear Reference System</td>
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<td>MAP-21</td>
<td>Moving Ahead for Progress in the 21st Century Act</td>
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<td>MCMIS</td>
<td>Motor Carrier Management Information System</td>
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<td>MCSAP</td>
<td>Motor Carrier Safety Action Program</td>
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<td>MDT</td>
<td>Mobile Data Terminal</td>
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<tr>
<td>MIRE</td>
<td>Model Inventory of Roadway Elements</td>
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<tr>
<td>MMUCC</td>
<td>Model Minimum Uniform Crash Criteria</td>
</tr>
<tr>
<td>MOTS</td>
<td>Modified Off the Shelf</td>
</tr>
<tr>
<td>MOU</td>
<td>Memorandum of Understanding</td>
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<tr>
<td>NCIC</td>
<td>National Crime Information Center</td>
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<td>NCSA</td>
<td>National Center for Statistics and Analysis</td>
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<tr>
<td>NDR</td>
<td>National Driver Register</td>
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<tr>
<td>NHTSA</td>
<td>National Highway Traffic Safety Administration</td>
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<tr>
<td>NIEM</td>
<td>National Information Exchange Model</td>
</tr>
<tr>
<td>NEMSIS</td>
<td>National Emergency Medical Services System</td>
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<td>NLETS</td>
<td>National Law Enforcement Telecommunications System</td>
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<td>NMVTIS</td>
<td>National Motor Vehicle Title Information System</td>
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<tr>
<td>NOLLE</td>
<td>Decision by the State’s Attorney to not Prosecute the Infraction</td>
</tr>
<tr>
<td>OBTS</td>
<td>Offender Based Tracking System</td>
</tr>
<tr>
<td>OCR</td>
<td>Optical Character Recognition</td>
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<td>OEMS</td>
<td>Office of Emergency Medical Services</td>
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<tr>
<td>OPM</td>
<td>Office of Policy and Management</td>
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<tr>
<td>OUI</td>
<td>Operating Under the Influence</td>
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<tr>
<td>Abbreviation</td>
<td>Full Form</td>
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</tr>
<tr>
<td>PCR</td>
<td>Patient Care Reporting</td>
</tr>
<tr>
<td>PDF</td>
<td>Portable Document Format</td>
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<tr>
<td>PDO</td>
<td>Property Damage Only</td>
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<tr>
<td>PDPS</td>
<td>Problem Driver Pointer System</td>
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<tr>
<td>PI&amp;E</td>
<td>Public Information &amp; Education</td>
</tr>
<tr>
<td>PR-1</td>
<td>Police Crash Report</td>
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<tr>
<td>PR-2</td>
<td>Supplemental Report for Fatal Crashes</td>
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<tr>
<td>PRISM</td>
<td>Performance and Registration Information Systems Management</td>
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<td>PSDN</td>
<td>Public Safety Data Network</td>
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<tr>
<td>RMS</td>
<td>Records Management System</td>
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<td>RPO</td>
<td>Regional Planning Organization</td>
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<tr>
<td>SAFETEA</td>
<td>Safe, Accountable, Flexible and Efficient Transportation Equity Act</td>
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<td>SHSP</td>
<td>Strategic Highway Safety Plan</td>
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<tr>
<td>SLOSSS</td>
<td>Suggested List of Surveillance Study Sites</td>
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<td>SPR</td>
<td>State Planning and Research</td>
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<td>SQL</td>
<td>Structured Query Language</td>
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<tr>
<td>SSN</td>
<td>Social Security Number</td>
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<tr>
<td>SWRPA</td>
<td>South Western Regional Planning Agency</td>
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<tr>
<td>TAC</td>
<td>Technical Advisory Committee</td>
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<tr>
<td>TASR</td>
<td>Traffic Accident Surveillance Report</td>
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<tr>
<td>TAVS</td>
<td>Traffic Accident Viewing System</td>
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<tr>
<td>TCAS</td>
<td>Traffic Citation Adjudication System</td>
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<tr>
<td>TRA</td>
<td>Traffic Records Assessment</td>
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<td>TRAA</td>
<td>Traffic Records Assessment Advisory</td>
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<td>TraCS</td>
<td>Traffic and Criminal Software System</td>
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<td>TRI</td>
<td>Traffic Records Inventory</td>
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<tr>
<td>TRIPRS</td>
<td>Traffic Records Improvement Program Reporting System</td>
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<td>TRS</td>
<td>Traffic Records System</td>
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<td>TRSP</td>
<td>Traffic Records Strategic Plan</td>
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<td>TRCC</td>
<td>Traffic Records Coordinating Committee</td>
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<td>TSIS</td>
<td>Traffic Safety Information System</td>
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<td>TSRC</td>
<td>Transportation Safety Research Center</td>
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<td>UAR</td>
<td>Uniform Arrest Record</td>
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<tr>
<td>UConn</td>
<td>University of Connecticut</td>
</tr>
<tr>
<td>VIN</td>
<td>Vehicle Identification Number</td>
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<tr>
<td>VMT</td>
<td>Vehicle Miles Traveled</td>
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<tr>
<td>WWW</td>
<td>World Wide Web</td>
</tr>
<tr>
<td>XML</td>
<td>eXtensible Markup Language</td>
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</tbody>
</table>
Endnotes – Users of traffic crash information; participants in National Traffic Records Forum; TRCC stakeholders; National Crash Reporting (MMUCC) Guideline; PR-1 data element review; uploading electronic PR-1s to the ConnDOT crash server; uploading of electronic commercial vehicle crash data to Safety Net; EMS services utilizing NEMSIS data; CARE data analysis software; Crash data repository and the National Information Exchange Model.

1 National Emergency Medical Services Information System (NEMSIS)

2 Model Minimum Uniform Crash Criteria (MMUCC)

3 Principal User - identified as the primary person responsible for performing crash data queries for his/her organization, visiting CDR on average once a week.

4 For examples of Crash Dashboard screen shots, refer to pages 44-45, following the results of the Data Accessibility and Customer Satisfaction Survey, conducted by CTSRC.

5 TRCC stakeholders include representatives, who remain fairly active in attending meetings and participating in the decision making of the committee, and advisors, whose input to the TRCC is vital, but who are unable to participate as actively as others.

6 Use of the MMUCC Guideline is voluntary. The 3rd Edition of the Model Minimum Uniform Crash Criteria (MMUCC) Guideline was updated in 2008.

7 The State TRCC adopted the 4th Edition (2012) of the MMUCC Guideline as the basis for transitioning to a completely updated electronic crash reporting system beginning in January 2015.

8 Refer to performance measure on Crash Report Timeliness – pages 7 and 37.

9 Much of the crash data collected by State and local law enforcement agencies is stored on local servers. Whether the data are collected in hard copy or electronically, hard copies of the report are mailed or faxed to ConnDOT. One of the most important objectives of the TRCC is the development and implementation of a procedure that allows PR-1 crash reports to be electronically uploaded from local and CSP servers to the ConnDOT crash file server.

10 Commercial Vehicle Analysis Reporting System (CVARS) project – In 2006, the Connecticut State Police (CSP) began the electronic capture and transfer of PR-1 crash reports to the Commercial Vehicle Safety Division (CVSD) within the Department of Motor Vehicles for subsequent upload to Safety Net.

11 The Gold Compliance rating means that all EMS services must use the 400+ elements in the NEMSIS 2.2.1 Data Dictionary, with full XML compliance built into the software.

12 CHIME – Connecticut Hospital Information and Management Exchange data

13 Beginning in 2015, the Connecticut State Police began the use of the D16.1 Classification Manual in their motor vehicle crash report training.

14 Beginning in 2015, the Connecticut State Police began the use of the D16.1 Classification Manual in their motor vehicle crash report training.

15 Beginning in 2015, the Connecticut State Police began the use of the D16.1 Classification Manual in their motor vehicle crash report training.

16 Traffic Records Program Assessment Advisory, utilized as the primary guiding document in the State’s 2017 Traffic Records Assessment, is distributed by the National Highway Traffic Safety Administration (NHTSA)