

State of Connecticut

Strategic Plan

for

Traffic Records

June 2011



CT-TRCC

Connecticut - Traffic Records Coordinating Committee

2011 Traffic Records Strategic Plan

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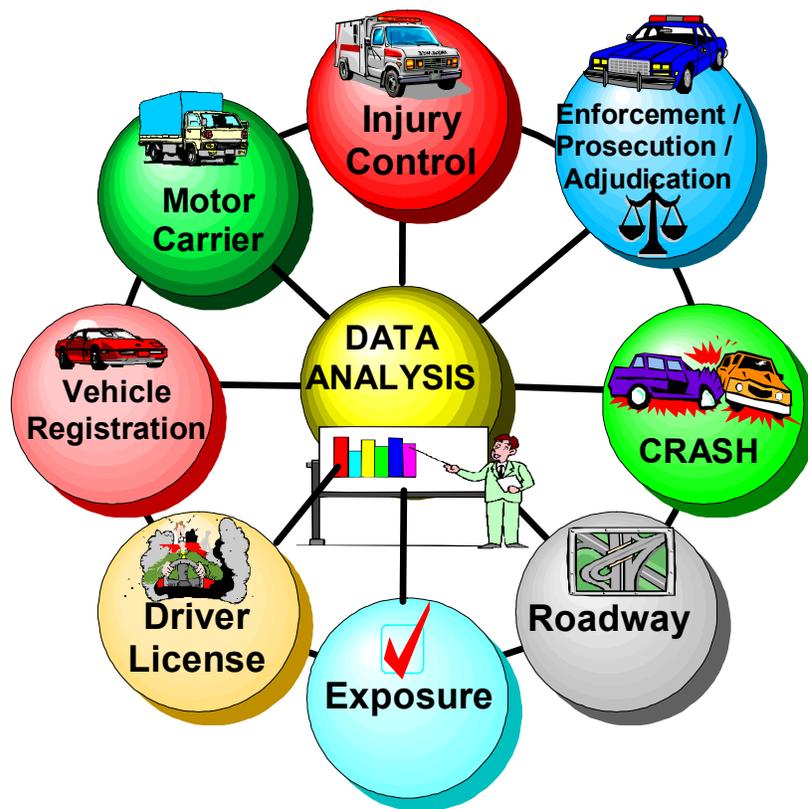
Introduction

Traffic records/safety data systems provide data which are critical to the development of policies and programs that enhance the operation and safety of the state’s highway transportation system. A traffic records system is critical for stakeholders to be able to identify priorities for State and local highway safety programs, evaluate the effectiveness of improvements being made, promote information sharing, and monitor trends, incident reports, persons injured or killed, property damage, rates and other outcomes or impacts. Only by carefully managing information resources can optimum safety of the state’s highway transportation system be achieved, and a high level of mobility maintained.

Analyses of data from a traffic records system are used to identify and strategically target limited resources to traffic safety problems and provide for safer and more efficient roadways in the State. A management approach to transportation safety requires a comprehensive traffic records system.

Traffic Records/Safety Data Timely, Accurate, Complete, Uniform, Integrated, Accessible

The traffic records strategic plan is an active document updated annually to reflect new issues and the changing environment within highway safety and traffic safety data systems.



Information from this document, together with findings from the 2007 Traffic Records Assessment, constitutes the content revision for the 2011 Section 408 Application Strategic Plan.

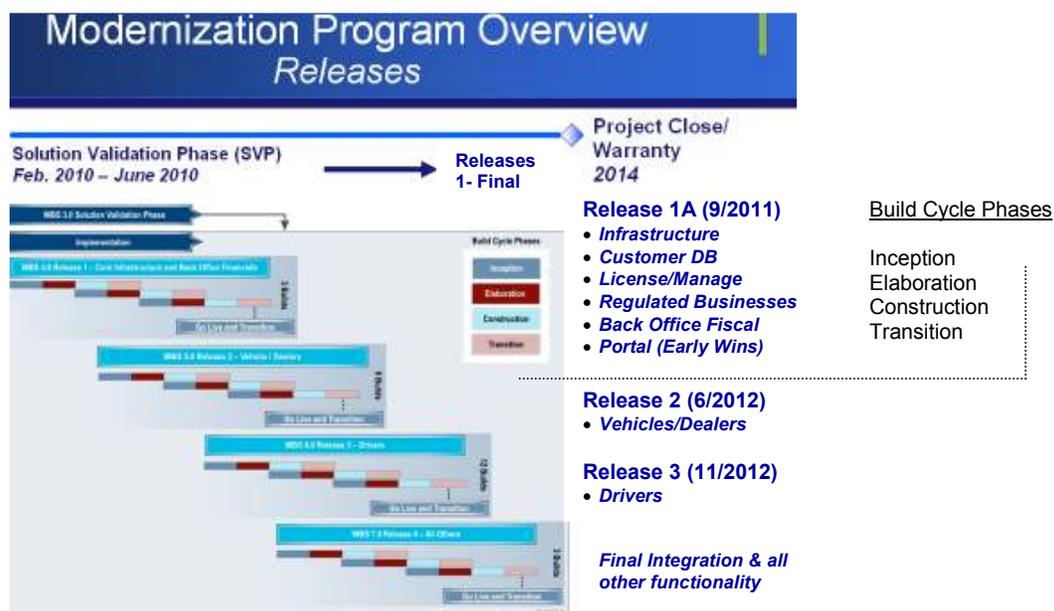
The most efficient strategy for improving traffic records/safety data is to change from the existing paper-laden, labor-intensive approach to electronic collection and transfer during, or as close as possible to the traffic safety event, whether that event is a crash, a traffic stop, vehicle registration, driver licensing, issuance or adjudication of a citation.

The Traffic Records Coordinating Committee (TRCC) continues to focus on the development of electronic field data capture of motor vehicle crash, citation, EMS/patient care, commercial vehicle enforcement and other incident reporting, including the back-end systems to receive and process this data.

A primary objective of the TRCC has been a state crash data repository (CDR) as outlined and discussed in the 2007 Traffic Records Assessment. The TRCC has also continued to emphasize the development and implementation of data transmittal protocols that allow for the upload of data to the appropriate State and local databases. ¹Motor vehicle traffic crash reporting that is timely, complete and accurate provides valuable data to many different groups of people.

The development of a crash data repository is underway as a Section 408 - 5th year project. Serving as the lead agency, the University of Connecticut (UConn) is aggressively working to create a base CDR, which will allow law enforcement agencies, capturing PR-1 data to submit motor vehicle crash files electronically to the repository. The CDR will contain all of the crash data as recorded on the PR-1. This data query and analysis toolset will provide members of the traffic-safety community with timely, accurate, complete and uniform crash data, within 30 days of the crash.

The development of the Connecticut Integrated Vehicle and Licensing System (CIVLS) by the Department of Motor Vehicles (DMV) is also following an active timeline.



When implemented, CIVLS will result in:

- Real-time vehicle and licensing systems
- Customer-centric view of DMV information
- Simplified and integrated DMV interdepartmental processes via automation and “lead-through” processing
- New Service Delivery Channels to lower agency costs and improve customer service – e.g. Internet-based DMV transactions, self-service models for Customers, Stakeholders, and Business Partners
- Improved fiscal management through “point-of-sale” cashiering and fiscal management systems
- Improved information exchange and integration with DMV stakeholders and Business Partners
- Improved DMV business information management – higher quality data, improved reporting, improved compliance monitoring capabilities
- Improved DMV security through auditable and role-based security for all DMV systems

Connecticut Injury Prevention and Control Plan

The following strategies/action steps have been identified by the Department of Health (DPH), under the heading Data, Surveillance and Evaluation.

Strategies:

- Improve the collection, accessibility, and quality of motor vehicle injury data sets
- Increase the number of data sets used for motor vehicle injury surveillance
- Increase the use of motor vehicle injury surveillance data for planning and evaluation of programs and policies
- Increase the availability of data to seek additional funding sources

Action Steps:

- Collaborate with partners to support implementation of the TRCC's Strategic Plan for Traffic Records, especially recommendations relating to improving quality, timeliness, completeness of motor vehicle-related data systems
- Analyze and disseminate motor vehicle crash and injury data in formats designed to meet state and community-based user needs
- Use the linked Crash Outcome Data Evaluation System (CODES) data, in planning and evaluating motor vehicle injury prevention programs and policies
- Facilitate use of CODES data by state and community based users
- Collaborate with partners to include additional data sets such as the CT Trauma Registry and Emergency Medical Service Run data in CODES data linkages
- Promote research to identify state or community specific motor vehicle injury problems, develop interventions and evaluate existing programs and laws
- Promote inclusion of (or keeping) questions on motor vehicle safety behaviors such as safety belt and child restraint use, helmet use, and impaired driving on CT Behavioral Risk Factor Surveillance System and CT School Health Surveys (YRBS)
- Provide data on medical costs associated with motor vehicle injuries

The TRCC continues to strive for increased support for ²law enforcement participating in the electronic field data capture of traffic citation information. Expected impacts from e-citation reporting include:

- Expanded management information and targeted enforcement activities in equipped municipalities;
- Improved timeliness / availability of citation data to the courts; and
- Improved accuracy and completeness of collected and submitted citation data.

To complement the continuation/completion of the development of the back-end process for the electronic capture of citation data by law enforcement, the TRCC proposes in the 6th year application for Section 408 funding, continued support for state and local law enforcement for additional e-citation equipped law enforcement vehicles.

The realization of a state crash data repository is nearer with the 5th year Section 408 initiative led by UConn to develop a system for data storage, access, and analysis of motor vehicle traffic crash data for all involved stakeholders. Improving motor vehicle traffic crash data will ultimately help in making better programming decisions, i.e., transportation planning, public health, highway safety, driver licensing, engineering and law enforcement deployment.

The State has been fortunate in the establishment of an electronic emergency medical services Patient Care Report (PCR) data collection system, initiated in January 2007. In June 2008, the Department of Public Health (DPH)/Office of Emergency Medical Services (OEMS) completed the development of the State repository server and began to receive PCR data electronically from local EMS providers. All EMS providers who received 408 funding for the purchase of laptop computers were required to initiate electronic submission of PCR data to OEMS, beginning January 1, 2009.

Included in this plan are the deficiencies in the State’s traffic records system together with information concerning how additional funding could be used to address identified deficiencies.

Safety Data Project Funding

2006 – 2007 Projects

The seven projects listed, and the amount of funding requested for each, were proposed for the 1st year 2006 Section 408 application.

• EMS PCR (Patient Care Reporting Data Collection System)	\$250,000
• Captain Electronic PR-1 and Citation Local Law Enforcement Pilots	250,000
• NexGen Electronic PR-1 CSP to DOT Transfer	300,000
• NexGen Electronic PR-1 Local Law Enforcement Pilots	250,000
• EMS PR-1 Data Analysis Project	60,000
• Crash Data Clearinghouse	100,000
• Safety Data Project Manager	100,000
 Total 408 funding requested	 \$1,310,000

The State was awarded \$380,000 in 408 funds for year 2006. The four projects listed, and the funding sources for each, were proposed and agreed to by the Connecticut TRCC.

• EMS PCR (Patient Care Reporting Data Collection System) (408)	\$190,000
• CAPTAIN Electronic PR-1 and Citation Local Law Enforcement Pilots (408)	190,000
• NexGen Electronic PR-1 CSP to DOT Transfer (406)	150,000
• NexGen Electronic PR-1 Local Law Enforcement Pilots (406)	150,000
 • EMS PR-1 Data Analysis Project (discussed/no funding provided)	
• Crash Data Clearinghouse (discussed/no funding provided)	
• Safety Data Project Manager (discussed/no funding provided)	
 Total 408 monies for traffic records improvements	 380,000
Total 406 monies for traffic records improvements	300,000

2007 – 2008 Projects

The five projects listed, and the amount of funding requested for each, were proposed for the 2nd year 2007 Section 408 application.

• EMS PCR (Patient Care Reporting Data Collection System)	\$310,000
• CAPTAIN Electronic PR-1 and Citation Local Law Enforcement Pilots	100,000
• NexGen Electronic PR-1 CSP to DOT Transfer	125,000
• NexGen Electronic PR-1 Local Law Enforcement Pilots	100,000
• Electronic Citation Processing System	75,000
 • State Crash/Traffic Records Data Clearinghouse (no funding requested)	
 Total 408 funding requested	 \$710,000

The State was awarded \$500,000 in 408 funds for year 2007. The five projects listed were proposed and agreed to by the Connecticut TRCC.

• EMS PCR (Patient Care Reporting Data Collection System) (408)	\$310,000
• CAPTAIN Electronic PR-1 and Citation Local Law Enforcement Pilots (408)	100,000
• NexGen Electronic PR-1 CSP to DOT Transfer* (406)	150,000
• NexGen Electronic PR-1 Local Law Enforcement Pilots (406/408)	100,000
• Electronic Citation Processing System (408)	75,000
• State Crash/Traffic Records Data Clearinghouse (no funding provided)	
Total 408 monies for traffic records improvements	500,000
Total 406 monies for traffic records improvements	235,000

*The NexGen Electronic PR-1 CSP to DOT Transfer was increased from 125,000 to 150,000.

2008 – 2009 Projects

The four projects listed, and the amount of funding requested for each, were proposed for the 3rd year 2008 Section 408 application.

• EMS PCR (Patient Care Reporting Data Collection System)	\$310,000
• CAPTAIN Electronic PR-1 and Citation Local Law Enforcement Pilots	120,000
• NexGen Electronic PR-1 CSP to DOT Transfer	150,000
• Electronic Citation Processing System	75,000
Total 408 funding requested	\$655,000

The State was awarded \$500,000 in 408 funds for year 2008. In October 2008, the following six projects with funding sources were agreed to by the TRCC.

• EMS PCR (Patient Care Reporting Data Collection System) (408)	\$310,000
• CAPTAIN Electronic PR-1 and Citation Local Law Enforcement Pilots (408)*	95,000
• NexGen Electronic PR-1 CSP to DOT Transfer (406)	150,000
• NexGen Electronic PR-1 Local Law Enforcement Pilot (406)	100,000
• Electronic Citation Processing System (408)**	70,000
• CSP to CIB E-Citation Data (408)	25,000
Total 408 monies for traffic records improvements	500,000
Total 406 monies for traffic records improvements	250,000

*Offer by CAPTAIN (25,000) to CSP for pilot test of E-Citation.

** Adjustment made @ 408 cap – 5,000

2009 – 2010 Projects

The five projects listed, and the amount of funding requested for each, were proposed for the 4th year 2009 Section 408 application.

• Electronic Citation Processing System	\$75,000
• Electronic Payment Processing System	25,000
• Emergency Medical Services Patient Care Reporting Data Collection System	100,000
• Electronic Motor Vehicle Accident Reporting to DOT	150,000
• E-Citation Pilots for Local Law Enforcement	300,000
Total 408 funding requested	\$650,000

The State was awarded \$500,000 in 408 funds for year 2009. In October 2009, the following five projects with funding sources were agreed to by the TRCC.

• Electronic Citation Processing System	\$75,000
• Electronic Payment Processing System	25,000
• Emergency Medical Services Patient Care Reporting Data Collection System	100,000
• Electronic Motor Vehicle Accident Reporting to DOT	150,000
• E-Citation Pilots for Local Law Enforcement	300,000
Total 408 monies for traffic records improvements	500,000
Total 406 monies for traffic records improvements	150,000

The seven projects listed, and the amount of funding requested for each, were proposed for the 5th year 2010 Section 408 application.

2010 – 2011 Projects

The projects listed, and the amount of funding requested for each, are proposed for the 5th year 2010 Section 408 application.

• State Motor Vehicle Crash Data Repository	\$225,917
• E-Citation Processing System	150,000
• E-Citation Pilots for Local Law Enforcement	50,000
• E-Citation Pilots for State Law Enforcement	50,000
• E-EMS Patient Care Reporting Data Collection System	100,000
• E-Motor Vehicle Crash Reporting CSP to DOT	50,000
• Crash Outcome Data Evaluation System (no funding requested)	
Total 408 funding requested	\$625,917

The State was awarded \$500,000 in 408 funds for year 2010. In October 2010, the following projects were agreed to by the TRCC.

• State Motor Vehicle Crash Data Repository	225,917
• E-Citation Processing System	150,000
• E-Citation Pilots for Local Law Enforcement	50,000
• E-Citation Pilots for State Law Enforcement	50,000
• E-EMS Patient Care Reporting Data Collection System	100,000
• E-Motor Vehicle Crash Reporting CSP to DOT	50,000
• Crash Outcome Data Evaluation System (no funding requested)	
Total 408 funding requested	625,917

As a result of discussions by stakeholders during the March and April 2011 meetings of the TRCC, and follow-up e-mail/messages to the TRCC, the following projects with requested funding are proposed for the 6th year application, 2011 – 2012 Section 408 safety data improvements.

2011 – 2012 Projects

The projects listed, and the amount of funding requested for each, are proposed for the 6th year 2011 Section 408 application.

• State Motor Vehicle Crash Data Repository	168,400
• Crash Outcome Data Evaluation System (CODES)	40,000
• E-Citation Processing System	100,000

• E-Citation – State Law Enforcement	100,000
• E-Citation – Local Law Enforcement (CRCOG)	50,000
• E-Citation – Local Law Enforcement (Ansonia Group)	50,000
 Total 408 funding requested	 508,400

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

Name: Joseph T. Cristalli, Jr.
 Title: Transportation Principal Safety Program Coordinator
 Agency: Connecticut Department of Transportation
 Office: Transportation Safety Section
 Address: 2800 Berlin Turnpike
 City, ZIP: Newington, CT 06131
 Phone: 860-594-2412
 Email: joseph.cristalli@ct.gov

Traffic Records Coordinating Committee (TRCC): This year the TRCC tracked its progress and managed safety project development by posting documents on its website, which was used to monitor and update the strategic plan, track ongoing projects, post meeting updates and include presentations from TRCC meetings as well as other workshops and sources of information, including the NHTSA website of over 900 safety data projects implemented nationwide in the first four years of the Section 408 program. The TRCC website is located at www.ct.gov/dot, under Programs and Services, then Transportation Safety Programs.



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 408 application.

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

Crash Data System:

Name: James P. Redeker
Title: Acting Commissioner
Agency: Department of Transportation

Driver License / History Data System:

Name: Melody A. Currey
Title: Commissioner
Agency: Department of Motor Vehicles

Injury Surveillance / EMS Data System:

Name: Jewel Mullen
Title: Commissioner
Agency: Department of Public Health

Citation / Adjudication Data System:

Name: Joseph D. D'Alesio
Title: Executive Director of Operations
Agency: Superior Court

Vehicle Registration Data System:

Name: Melody A. Currey
Title: Commissioner
Agency: Department of Motor Vehicles

Roadway Data System:

Name: James P. Redeker
Title: Acting Commissioner
Agency: Department of Transportation

TRCC (Technical Level) – The Connecticut TRCC, supported by the Transportation Safety Section, 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 the 2007 Traffic Records Assessment, the TRCC's emphasis has followed the original recommendations from the Section 408 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 2010 and 2011, 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

Develop and promote a comprehensive Traffic Records System that provides Timely, Accurate, Complete, Uniform, Integrated, and Accessible Traffic Records System data for management of Highway and Traffic Safety Programs.

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.

Participants on the TRCC (2011 roster attached), which meets bi-monthly, include 7 new stakeholders³ added this past year, while 4 members left due to changing job assignments.

Crash Data Systems – MMUCC Audit: The Federal Register requests that States document the National Guideline⁴ MMUCC data elements that they collect and use within their crash data system.

This past year, the TRCC revisited the State's PR-1 crash report form to determine if it still meets user needs. The previous assessment/revision of the PR-1 had been in 1993. The focus of this new data element review effort was on electronic (e-crash) motor vehicle crash reporting, since a good portion of the state had switched to electronic data capture. Members of the e-Crash PR-1 Workgroup agreed that there would always be a need for a paper back-up of the crash report form, but as stated earlier, the most efficient strategy was to change to electronic mobile data capture.

The e-Crash Workgroup agreed to follow National Guidelines for data element recommendations, pilot testing CRCOG's "question-based" e-Crash approach for crash reporting, and a "tab-based" RMS approach used by DPS (see Other Projects, page 112). The Workgroup also agreed to further explore data element recommendations for a subset of reportable crashes resulting in property damage only (PDO). A proposed reduced set of data elements for PDO crashes as a subset of the National Guidelines will be explored as a component of the pilot test for e-Crash reporting.

The following crash related projects, introduced during the first five years of the Section 408 safety data project funding, relate to the new e-Crash initiative being proposed. The DOT Crash Data Backlog effort, while related to e-Crash, was not funded under Section 408, but has been supported by the Federal Highway Administration (FHWA).

**e-Crash Related Projects
by the Year in Which They Were Funded**

Crash Related Project	2006	2007	2008	2009	2010	2011 Proposed
o NexGen ePR-1 State Law Enforcement to DOT	✓	✓	✓	✓	✓	
o NexGen ePR-1 Local Law Enforcement Pilots	✓	✓	✓			
o Captain ePR-1 Local Law Enforcement Pilots	✓	✓	✓			
o Crash Data Repository – UConn					✓	✓
o DOT Crash Data Backlog Initiative					✓	✓

A new e-Crash approach for crash reporting should reduce the amount of time law enforcement spends reporting motor vehicle crashes, especially crashes resulting in property damage only (PDO). More law enforcement departments converting to e-Crash should translate into more timely submission of crash report data to the new CDR, and availability of data for access and analysis.

A new e-Crash approach based on National Guidelines should help to impact the uniformity of motor vehicle crash reporting; not only between jurisdictions in the state, but between Connecticut and its neighbors in the New England Region as well as with other states in the U.S. also incorporating National Guidelines.

A new e-Crash approach combined with the crash data repository (CDR), should result in one motor vehicle crash data source, containing all of the data from the e-Crash PR-1; where timeliness of access is 30 days or less from the date of a crash, and accessibility is made available to all authorized stakeholders/users in the state.

In addition to e-crash data element recommendations, the workgroup focused on editing procedures for capturing motor vehicle crash data, options for recording data electronically, 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 received in the past.

A twenty question law enforcement survey was channeled by the Connecticut Police Chief’s Association (CPCA) to all police departments in the state and by ConnDOT to all State Police offices as well as other training contacts. Feedback and thanks were provided during the 2010 Law Enforcement Summit for a nearly 50% return rate of the surveys. As the Governor’s Representative’s letter accompanying the surveys stated ... motor vehicle crash statistics help to focus on highway safety challenges:

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

... plus enforcement programs to help address these challenges!

A detailed PR-1 MMUCC ⁵comparison (available upon request) has been updated from the 2010 Section 408 submission. Noted in previous 408 applications, the PR-1 contains 48 of the 75 MMUCC data elements, but only ⁶23 are included on the ConnDOT crash data file. The TRCC has agreed in principle to the importance of MMUCC compliance following National Guideline recommendations.

The TRCC continues to focus on increasing the number of MMUCC data elements that are included in the ⁷core of a State crash data repository.

It is expected that upon final review, pilot testing and implementation of the e-crash data element recommendations referenced above, that the number of MMUCC data elements (many of them recommended by the Federal Motor Carrier Safety Administration) included in the new revised mobile data capture procedures will increase considerably from the "48" previously stated, much nearer to the 75 "at scene" recommended data elements from the 2008 MMUCC Third Edition Guideline. Several data elements being adopted from the MMUCC Guideline will be critical in providing future linkage between the crash and motor vehicle registration files.

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 ⁸CVARS project that provided for electronic capture and submittal of commercial vehicle crash data.

EMS Data Systems – NEMSIS Audit: The Federal Register requires that States document the NEMSIS data elements that they collect and use within their EMS data system.

For the 2006 Section 408 Application, the Office of Emergency Medical Services documented in a letter to the ConnDOT Transportation Safety Section that the existing State paper EMS run report contained a third of the recommended Silver NEMSIS data elements.

The use of NEMSIS was mandated beginning January 2007 and all EMS services provided Toughbook laptop computers were required to have ⁹Gold Standard NEMSIS compliant software and be trained in the use of this software. It should be noted, however, that the number of NEMSIS data elements captured in a Patient Care Report (PCR) depends upon the seriousness of the call for service. Beginning in June 2008, PCR data collected electronically was submitted to a server located in the Office of Emergency Medical Services. Emphasis in 2011 continues to assure that all PCR data that are collected electronically are Gold NEMSIS compliant. A memo was issued to all vendors and EMS providers requesting that 400+ NEMSIS required data elements be submitted as dictated by the specifics in each case, beginning in July 2009.

Memos concerning the use of the NEMSIS Standard and the comparison of the MMUCC Guideline to the PR-1 are attached.

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.

The ConnDOT Transportation Safety Section and the TRCC completed a NHTSA approved Traffic Records Assessment in March 2007. A copy of the Traffic Records Assessment is included.

As provided in the Traffic Records Assessment, for members of the TRCC to determine if progress is being made in achieving the performance measures stated in the Strategic Plan, it is necessary for the TRCC to periodically assess the current traffic records system environment and review the progress of current initiatives. This serves to assist the State and the TRCC in developing a traffic records system that meets the requirements of the traffic safety community. The March 2007 Traffic Records Assessment provided the following:

- a. During its meeting on 3-20-07, the TRCC reviewed a handout, which compared the top 20 recommendations from the 2007 Assessment with the 14 major program areas from the 2006 Strategic Plan. The Assessment confirmed the emphases being pursued by the TRCC in its Strategic Plan.
- b. Major recommendations from the Assessment emphasized the following traffic records core systems components:
 - Motor Vehicle Crash (5)
 - Driver License/History (2)
 - Vehicle Registration (1)
 - Injury Surveillance/EMS (3)
 - Citation/Adjudication (1)
 - Roadway/Location (3)
- c. Other major recommendations from the Assessment related to:
 - Traffic Records Coordinating Committee (3)
 - Traffic Records Strategic Plan (2)

There was no substantive change in emphases by the TRCC as a result of the 2007 Assessment recommendations.

Crash Data Repository - The following references to a pdf document of the 2007 Traffic Records Assessment, contained on the TRCC website, highlight a dozen recommendations within the following sections of the Assessment, emphasizing the need for a Crash Data Repository.

Executive Summary, Major Recommendations, Traffic Records System Components, Information Quality, and Uses of a Traffic Records System.

2007 Traffic Records Assessment – Contained on the TRCC website (www.ct.gov/dot - under Programs and Services, Transportation Safety Programs), this pdf document of the 2007 Assessment includes a “bookmarked table of contents” for the Assessment.

Sections **highlighted below in red** illustrate the number of references with recommendations pertaining to the need for a Crash Data Repository for the State.

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- Information Quality
- 2-A Crash Information Quality
 - Calendar Year Crash File - Finalized After Nine Months
 - Stakeholders Obtain Information from Different Sources
 - Crash File Lacks User-Friendly Analytical Tools
- 2-B Roadway Information Quality
- 2-C Vehicle Information Quality
- 2-D Driver Information Quality
- 2-E Enforcement/Adjudication Information Quality
- 2-F Injury Surveillance System Information Quality
- Uses of a Traffic Records System
- 3-A Program Management and Evaluation
 - Recommendations
 - Crash Data File Recommendations
- 3-B Research and Program Development
- 3-C Policy Development
- 3-D Private Sector and Public Requests
- Management Initiatives
- 4-A Coordination
- 4-B Strategic Planning
- 4-C Training and Staff Capabilities
- Selected References
- Glossary of Terms and Acronyms

Progress to-date (2011) for the Crash Data Repository (CDR): Using crash data from 1995 to 2008 obtained from ConnDOT, a foundation for the CDR has been constructed and completed. The design of the web front to serve as the access portal to the database is under construction, and a Memorandum of Understanding (MOU) is being drafted that will allow electronic PR-1 data to flow from DPS to the repository.

The TRCC continues to assure the inclusion of all traffic records system data collectors, managers and users. It also emphasizes that the purpose of traffic records system data is to assist in identifying traffic safety problems, developing effective countermeasures to address identified problems and evaluating implemented countermeasures. This year's continued pursuit and development of a crash data repository emphasizes the importance of this essential component of a traffic records system, as outlined in the 2007 Assessment.

Deficiencies

Legislation requires that states list their system deficiencies and how those deficiencies were determined. As noted in the March 2007 Traffic Records Assessment, existing deficiencies in the current traffic records system had been identified in a 2004 Assessment, and became the basis for the 2006 – 2007 Section 408 Application. Deficiencies identified focused on the six measures of data quality (timeliness, uniformity, completeness, accuracy, accessibility and integration). The 2007 Assessment corroborated the findings of the 2004 Assessment.

Deficiency Description: This section contains brief descriptions of system deficiencies. The following represents brief statements of traffic records system deficiencies, previously identified, in addition to new information included from the 2007 Assessment. 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.

Deficiency by Core System Area

Injury Surveillance – EMS Run Reporting System

Deficiency ID				
CT-D-00050				
Performance Area	System	Basic Description	Status	Last Update
Completeness/ Timeliness/ Uniformity	Injury Surveillance/ EMS	Specific focus	July 1, 2008 OEMS began electronic receipt of electronic EMS PCR data	6-15-11
Deficiency Description				
Lack of electronic capture of EMS run data. Focus of lead project for four years of Section 408 Applications.				

Crash System

Deficiency ID				
CT-D-00011				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Crash	Specific focus	Electronic reporting key	6-15-11
Deficiency Description				
Local road PDO reports were previously not entered into the ConnDOT accident file. This is addressed in three out of the four main projects submitted through four years of Section 408 applications. Local PDO crash data for 2007, 2008 and 2009 (partial) have now been entered				

into the ConnDOT Accident file. Entry of local road PDO crashes will continue for the remainder of 2009 as well as 2010 crashes.

Deficiency ID				
CT-D-00041				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Crash	Specific focus	Electronic reporting key	6-15-11
Deficiency Description				
Crash data lacking for Local roads, PDO crashes and all crashes. Relates to CT-D-00011.				

Deficiency ID				
CT-D-00012				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Crash	Specific focus	Electronic reporting key	6-15-11
Deficiency Description				
Two-thirds of the data elements from all reportable crashes not entered into the ConnDOT accident file. This is addressed in several of the main projects submitted through five years of Section 408 applications. Development of the XML schema for receipt of PR-1 data from CSP to ConnDOT as well as resolution of NexGen edit software rules have been accomplished.				

Deficiency ID				
CT-D-00015				
Performance Area	System	Basic Description	Status	Last Update
Timeliness	Crash	Specific focus	Electronic reporting key	6-15-11
Deficiency Description				
Delays in obtaining the crash data. This is addressed in several of the main projects submitted through five years of Section 408 applications. Development of the XML schema for receipt of PR-1 data from CSP to ConnDOT as well as resolution of NexGen edit software rules have been accomplished.				

Deficiency ID				
CT-D-00016				
Performance Area	System	Basic Description	Status	Last Update
Integration	Crash	Specific focus	Crash data repository key	6-15-11
Deficiency Description				
Legacy crash data system can't accommodate electronic transmission of crash reports. Creation of a crash data repository is the first step in managing the crash data integration deficiency. A State crash data repository is being developed as a fifth year Section 408 project.				

Deficiency ID				
CT-D-00017				
Performance Area	System	Basic Description	Status	Last Update
Integration	Crash	Specific focus	Crash data repository key	6-15-11
Deficiency Description				
Legacy crash data system can't support other new input/output capabilities. Refer to description for CT-D-00016. A State crash data repository is being developed as a fifth year Section 408 project.				

Deficiency ID				
CT-D-00018				
Performance Area	System	Basic Description	Status	Last Update
Accessibility	Crash	Specific focus	Crash data repository key	6-15-11
Deficiency Description				
Legacy crash data system has poor user access. Refer to description for CT-D-00017.				

Deficiency ID				
CT-D-00019				
Performance Area	System	Basic Description	Status	Last Update
Integration	Crash	Specific focus	Crash data repository key	6-15-11
Deficiency Description				
Legacy crash data system has no capabilities to link to other systems. Refer to description for CT-D-00017.				

Deficiency ID				
CT-D-00020				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Crash/Vehicle	Specific focus	Electronic reporting key	6-15-11
Deficiency Description				
Reporting of CMV crashes was incomplete and inconsistent. Through funding from the Commercial Vehicle Analysis Reporting System (CVARS) project of FMCSA, as of late 2006, the State was able to begin the collection, processing and review of electronic reporting of crashes involving commercial motor vehicles (CMV), with direct upload to the Federal SafetyNet System.				

Deficiency ID				
CT-D-00035				
Performance Area	System	Basic Description	Status	Last Update
Timeliness	Crash/Vehicle	Specific	CVARS	6-15-11
Deficiency Description				

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

Deficiency ID				
CT-D-00036				
Performance Area	System	Basic Description	Status	Last Update
Timeliness	Crash	Specific	FARS	6-15-11
Deficiency Description				
FARS-information regarding alcohol or drugs (crash related) can be delayed. Important initiative, continually stressed by NHTSA. TRCC is very supportive of the FARS Office in focusing on this important issue.				

Deficiency ID				
CT-D-00037				
Performance Area	System	Basic Description	Status	Last Update
Timeliness	Crash	Specific	FARS	6-15-11
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.				

Deficiency ID				
CT-D-00001				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Crash	General	Electronic reporting key	6-15-11
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 (with built in edit and validity checks) this deficiency is being addressed.				

Deficiency ID				
CT-D-00002				
Performance Area	System	Basic Description	Status	Last Update
Accessibility	Crash	General	Crash data repository key	6-15-11
Deficiency Description				
Data does not meet the requirement of most traffic safety data users. A State crash data repository is being developed as a fifth year Section 408 project.				

Deficiency ID				
CT-D-00003				
Performance Area	System	Basic Description	Status	Last Update
Uniformity	Crash/Roadway	Specific focus	Electronic reporting with	6-15-11

			GPS key	
Deficiency Description				
Location data is not consistently reported. The crash location is usually determined by reference to the narrative, and if included, GPS coordinates provided on the 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. This information is repeated as CT-D-00007.				

Deficiency ID				
CT-D-00004				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Crash	General	Electronic reporting key	6-15-11
Deficiency Description				
Alcohol, contributing circumstances, other data often not recorded.				

Deficiency ID				
CT-D-00005				
Performance Area	System	Basic Description	Status	Last Update
Uniformity	Crash	Specific focus	PR-1 MMUCC work group key	6-15-11
Deficiency Description				
Data not compatible/comparable with other states. Efforts by PR-1 MMUCC work group will lead to greater uniformity with other states crash data.				

Deficiency ID				
CT-D-00006				
Performance Area	System	Basic Description	Status	Last Update
Timeliness	Crash/Roadway	Specific	Electronic reporting with GPS key	6-15-11
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.				

Deficiency ID				
CT-D-00007				
Performance Area	System	Basic Description	Status	Last Update
Uniformity	Crash/Roadway	Specific focus	Electronic reporting with GPS key	6-15-11
Deficiency Description				
Location data is inconsistent. This is a repeat of CT-D-00003.				

Deficiency ID				
CT-D-00008				
Performance Area	System	Basic Description	Status	Last Update
Accuracy	Crash	General	Electronic reporting key	6-15-11
Deficiency Description				
Handwritten reports are sometimes difficult to read.				

Deficiency ID				
CT-D-00009				
Performance Area	System	Basic Description	Status	Last Update
Accuracy	Crash	General	Electronic reporting key	6-15-11
Deficiency Description				
Copy errors.				

Deficiency ID				
CT-D-00010				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Crash	General	Electronic reporting key	6-15-11
Deficiency Description				
Incomplete reports. This is a repeat of CT-D-00001.				

Deficiency ID				
CT-D-00013				
Performance Area	System	Basic Description	Status	Last Update
Accuracy	Crash	General	Crash data repository key	6-15-11
Deficiency Description				
Duplication of data entry at State and Local levels. A State crash data repository is being developed as a fifth year Section 408 project.				

Deficiency ID				
CT-D-00014				
Performance Area	System	Basic Description	Status	Last Update
Accuracy	Crash	General	Electronic reporting key	6-15-11
Deficiency Description				
Transposition errors made in preparing the finished report.				

Deficiency ID				
CT-D-00021				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Crash/Citation/Adjudication	General	Electronic reporting key	6-15-11
Deficiency Description				
Officers tend not to indicate contributing circumstances or other factors if driver is not cited. Relates to CT-D-00004.				

Deficiency ID				
CT-D-00044				
Performance Area	System	Basic Description	Status	Last Update
All areas	Crash	General	Training/feedback key	6-15-11
Deficiency Description				
Feeling by law enforcement that crash reporting is only for insurance and court use.				

Deficiency ID				
CT-D-00045				
Performance Area	System	Basic Description	Status	Last Update
Accuracy/Uniformity	Crash	General	Training/feedback key	6-15-11
Deficiency Description				
Confusion at times by law enforcement concerning classification of motor vehicle crashes.				

Deficiency ID				
CT-D-00046				
Performance Area	System	Basic Description	Status	Last Update
All areas	Crash	General	Training/feedback key	6-15-11
Deficiency Description				
Lack of feedback to law enforcement as to the value of and how data is used for highway traffic safety planning.				

Deficiency ID				
CT-D-00047				
Performance Area	System	Basic Description	Status	Last Update
All areas	Crash/Citation/Adjudication	General	Training/feedback key	6-15-11
Deficiency Description				
Feeling by law enforcement that they are forced to become data entry operators.				

Citation/Adjudication System

Deficiency ID				
CT-D-00026				
Performance Area	System	Basic Description	Status	Last Update
Timeliness	Citation/Adjudication	General	e-Citation/CIDRIS	6-15-11
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 begin to have measurable impacts in 2011 - 2012.				

Deficiency ID				
CT-D-00027				
Performance Area	System	Basic Description	Status	Last Update
Accuracy	Citation/Adjudication	General	e-Citation/CIDRIS	6-15-11
Deficiency Description				
Quality of driver, vehicle, citation, other data lacking. Measurable impacts expected in 2011 - 2012.				

Deficiency ID				
CT-D-00032				
Performance Area	System	Basic Description	Status	Last Update
Accessibility	Citation/Adjudication	General	e-Citation/CIDRIS	6-15-11
Deficiency Description				
Lack of real time access to critical data "24-7". Measurable impacts expected in 2011 - 2012.				

Deficiency ID				
CT-D-00033				
Performance Area	System	Basic Description	Status	Last Update
Uniformity	Citation/Adjudication	General	e-Citation/CIDRIS	6-15-11
Deficiency Description				
Lack of standards to permit better sharing of justice information. Measurable impacts expected in 2011 - 2012.				

Deficiency ID				
CT-D-00034				
Performance Area	System	Basic Description	Status	Last Update
Uniformity	Citation/Adjudication	General	e-Citation/CIDRIS	6-15-11
Deficiency Description				
Delays in obtaining data. Measurable impacts expected in 2011 - 2012.				

Deficiency ID				
CT-D-00054				
Performance Area	System	Basic Description	Status	Last Update
Accuracy	Citation/Adjudication	General	e-Citation/CIDRIS	6-15-11
Deficiency Description				
Issuance of paper-based citation for impaired drivers. Measurable impacts expected in 2011 - 2012.				

Deficiency ID				
CT-D-00055				
Performance Area	System	Basic Description	Status	Last Update
Integration	Citation/Adjudication	General	e-Citation/CIDRIS	6-15-11
Deficiency Description				
Duplication in data entry of reports for impaired drivers. Measurable impacts expected in 2011 - 2012.				

Deficiency ID				
CT-D-00056				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Citation/Adjudication	General	e-Citation/CIDRIS	6-15-11
Deficiency Description				
Handwritten reports sometimes difficult to read; copying errors; incomplete reports. Measurable impacts expected in 2011 - 2012.				

Driver License/History System

Deficiency ID				
CT-D-00022				
Performance Area	System	Basic Description	Status	Last Update
Integration	Driver License/History	General	CIVLS project underway	6-15-11
Deficiency Description				
Lack of a customer account number to tie related driver and vehicle information together. DMV is addressing this with a major system re-design – CIVLS (Connecticut Integrated Vehicle and Licensing System).				

Deficiency ID				
CT-D-00023				
Performance Area	System	Basic Description	Status	Last Update
Integration	Driver License/History	General	CIVLS Enterprise Modernization Project key	6-15-11
Deficiency Description				

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

Deficiency ID				
CT-D-00024				
Performance Area	System	Basic Description	Status	Last Update
Accuracy	Driver License/ History	General	Electronic field reporting with link to DMV Driver files	6-15-11
Deficiency Description				
Data on DL, such as driver address can be outdated.				

Deficiency ID				
CT-D-00025				
Performance Area	System	Basic Description	Status	Last Update
Timeliness	Driver License/ History	General	CIVLS Enterprise Modernization Project key	6-15-11
Deficiency Description				
Some processed DMV data not timely. DMV is addressing this in a new system re-design.				

Deficiency ID				
CT-D-00048				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Driver License/ History	General	CIVLS Enterprise Modernization Project key	6-15-11
Deficiency Description				
Lack of DL data on drivers with serious driving offenses from previous state of record.				

Deficiency ID				
CT-D-00049				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Driver License/ History	General	CIVLS Enterprise Modernization Project key	6-15-11
Deficiency Description				
Lack of driver crash data for driver control and improvement.				

Deficiency ID				
CT-D-00057				
Performance Area	System	Basic Description	Status	Last Update
Integration	Driver License/	General	CIVLS Enterprise	6-15-11

	History		Modernization Project key	
Deficiency Description				
Lack of features incorporated into a real-time system, such as - NMVTIS, an electronic lien system, and integration with the driver system.				

Roadway System

Deficiency ID				
CT-D-00028				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Roadway	General	Base map key	6-15-11
Deficiency Description				
State lacks a standardized location reference system. State efforts initiated to establish/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.				

Deficiency ID				
CT-D-00029				
Performance Area	System	Basic Description	Status	Last Update
Uniformity	Roadway	General	Roadway inventory system	6-15-11
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.				

Deficiency ID				
CT-D-00030				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Roadway	General	Local data key	6-15-11
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.				

Deficiency ID				
CT-D-00031				
Performance Area	System	Basic Description	Status	Last Update
Accuracy	Roadway/Crash	General	Crash data repository key	6-15-11
Deficiency Description				
The State safety improvement programs are linked to upgrading the extant, outdated legacy reporting system. A State crash data repository is being developed as a fifth year Section 408 project.				

Injury Surveillance/EMS System

Deficiency ID				
CT-D-00038				
Performance Area	System	Basic Description	Status	Last Update
All areas	Injury Surveillance/ EMS	General	Priority improvements	6-15-11
Deficiency Description				
There have been limited resources in the past for injury surveillance and data analysis including a lack of human resources. The State has implemented initiatives for developing and completing an Injury Surveillance System, an EMS Patient Care Report as well as provision of data for the Crash Outcome Data Evaluation System (CODES).				

Deficiency ID				
CT-D-00039				
Performance Area	System	Basic Description	Status	Last Update
All areas	Injury Surveillance/ EMS	General	Improvements in other areas key	6-15-11
Deficiency Description				
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.				

Deficiency ID				
CT-D-00051				
Performance Area	System	Basic Description	Status	Last Update
Integration	Injury Surveillance/ EMS	General	High priority focus of Department of Health	6-15-11
Deficiency Description				
A statewide electronic centralized Trauma Registry has been implemented – two years of data for 2005, 2006.				

Deficiency ID				
CT-D-00052				
Performance Area	System	Basic Description	Status	Last Update
Uniformity	Injury Surveillance/ EMS	General	NEMSIS data element standard providing momentum	6-15-11
Deficiency Description				
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 deterministic linkage between databases. CODES System linkage/data analysis is an excellent tool for promoting patient tracking systems development.				

Deficiency ID				
CT-D-00053				
Performance Area	System	Basic Description	Status	Last Update
Accessibility	Injury Surveillance/ EMS	General	CODES Advisory Board in place	6-15-11
Deficiency Description				
Lack of access to comprehensive medical and healthcare data files by authorized data partners.				

All Core Component Areas - TRCC

Deficiency ID				
CT-D-00040				
Performance Area	System	Basic Description	Status	Last Update
All areas	All systems	General	Focus of 408 Program	6-15-11
Deficiency Description				
TRCC – Traffic Records System agencies have made progress in the appreciation of other agencies’ roles and responsibilities. Some stovepipe planning continues to exist, impacting the coordination of funding decisions on agency system improvements. TSS is fully committed to support of the TRCC, but does not have a full-time traffic records coordinator. Funding for a full-time traffic records coordinator is strongly supported by NHTSA under the Section 408 grant program.				

Deficiency ID				
CT-D-00042				
Performance Area	System	Basic Description	Status	Last Update
All areas	All systems	General	Documented in 2006 Strategic Plan	6-15-11
Deficiency Description				
The State lacks a Problem ID manual with training. As addressed in the Strategic Plan, State could adopt a “best-practices” approach from another state(s).				

Deficiency ID				
CT-D-00043				
Performance Area	System	Basic Description	Status	Last Update
Accessibility	All systems	General	2006 Strategic Plan	6-15-11
Deficiency Description				
The State lacks data access, data analysis tools and appropriate training for authorized users. A user-friendly tool, such as the ¹⁰ CARE system could be considered.				

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 – Increased focus on specific data element fields with electronic reporting
2. Location Reference System – ConnDOT focus/FHWA support
3. Crash e-Data Capture – Led to State and local safety data projects
4. Crash Data Clearinghouse – Being implemented as a 5th year 408 project
5. Crash Report Training – Previous effort by the CSP for CVARS. Will need reassessment, given electronic reporting to insure consistent reporting among State and local law enforcement
6. Driver/Vehicle – Modernization contract replacing Re-ROD and RTOL
7. Citation/Adjudication – CIDRIS (Integration efforts underway between DMV, DCJ, DPS, Judicial)
8. TRCC – Leadership, Financial Assistance, Executive Level Oversight
9. Roadway – Road Inventory (State and local road); GIS Base Map development
10. CVARS – Underway; State and local law enforcement involved
11. FARS – Model system; need for continual emphasis in complete and timely reporting
12. ISS/EMS – Efforts underway/CDC support; EMS run report safety data project operating
13. Data Analysis – TSS uses outside support for highway safety planning; DOT in-house tools to analyze locations

These program areas were reviewed in comparison to the major recommendations of the 2007 Traffic Records Assessment during the March 2007 meeting of the TRCC, 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 has placed greater emphasis in this area with the development of a State crash data repository as a fifth year Section 408 project.

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.

Note: Though there were seven proposed projects in 2006, project numbers include the number CT-P-00008 because project # CT-P-00005 was assigned by the NHTSA Team to an unknown project. The basis for this assignment was never made clear. Projects considered for the 2008 application begin with CT-P-00009. The same project reference numbering is being used for the 2011 application.

Four Box Analysis - Section 408 Application - 2011

Project ID #	¹ COST	DURA	COORDINATION	AFFECT PROGRAM GOALS	LIKELIHOOD OF SYSTEM IMPACT	COSTS/RISKS ASSOC W/FAILURE	FOUR-BOX CELL
		Short (1-2Yr) or longer	Difficulty as far as coordination?	Affect to the program goals?	How likely to achieve impact?	Costs/risks associated with failure?	² (a), (b), (c), (d)
Motor Vehicle Crash Data Repository	³ High	Long	Coordination with State and Local law enforcement agencies to submit electronic crash data.	High	High	High	d
e-Citation Processing Back-end System	Low to High	Long	Coordination with State and Local law enforcement agencies.	High	High	High	d
Expansion of e-Citation Initiatives for State/Local Law Enforcement	Low	Short	Coordination with Judicial and transition from current paper to all - electronic citation data processing.	Medium	Medium	Low	b
Crash Outcome Data Evaluation System (CODES)	Medium	Long	Multiple stakeholder involved	Medium	High	Low	a

Four Box Analysis Chart – Cell Rating

(a) Low Cost – High Payoff	(d) High Cost – High Payoff
(b) Low Cost – Low Payoff	(c) High Cost – Low 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 2011 408 submission, input from TRCC stakeholders was obtained during TRCC meetings from January to May, 2011, e-mails and follow-up phone calls focusing on the TRCC website, the emerging Strategic Plan and the importance of reaching consensus for the sixth year of the Section 408 funding. Other factors included the 2010 Section 408 funding application, recommendations from the 2007 Traffic Records Assessment, and best practices applications from other state projects thanks to NHTSA's searchable website of over 900 projects nationwide through the first five years of Section 408 applications.

The projects proposed for the 2011 Section 408 application, presented earlier, emerged with fairly equal priority with the exception of the recommended funding. From the involvement and influence of representatives from the law enforcement, judicial and research communities, electronic roadside data capture of citation information together with motor vehicle crash information and a State crash data repository have risen in priority as improvement objectives the TRCC seeks to achieve.

Projects being proposed for funding in the 2011 application include:

- 1) State Motor Vehicle Crash Data Repository
- 2) Crash Outcome Data Evaluation System
- 3) E-Citation Processing System
- 4) E-Citation – State Law Enforcement
- 5) E-Citation – Local Law Enforcement (CRCOG)
- 6) E-Citation – Local Law Enforcement (Ansonia Group)

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, but were not recorded.

Performance Measures by
Performance Area vs. Safety Data Core System

	Crash	Citation/ Adjudication	Driver	Vehicle	Roadway	Injury Control/EMS
Completeness	01, 16, 22, 06				06	18
Uniformity	08, 21,					19
Timeliness	07, 15, 17, 20	02, 09, 10, 11	11	20		
Integration		03, 04, 12, 13, 14				
Accessibility		05				
Accuracy						

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.

Injury Surveillance/EMS – Completeness							
Measure ID: CT-M-00018							
Status	Performance Area		System			Direction	
1-1-07 Provision of Toughbook laptop computers to EMS providers began.	Completeness		Injury Surveillance/EMS			Increase	
Measurement							
Improve the completeness of the Injury Surveillance/EMS core system by increasing the number and percent of electronically collected Patient Care Reports (PCRs) where the baseline was zero prior to first year funding and goal levels are as presented below.							
Measurement Method							
The expected number of electronic PCRs to be submitted and entered into the DPH/OEMS database by June 2011 is over 1,000,000. The percentages below represent the proportion of PCRs submitted and entered for a specific year compared to the number and proportion once the system is fully operational. By the end of 2011, this would equal 400,000 PCRs or 100% of the expected number under full operation.							
Measure Description							
Number and percent of electronic PCRs submitted and entered at the State level.							
	Base	2006	2007	2008	2009	2010	2011
Goal CY	0	0	16,000/4%	200,000/50%	300,000/75%	400,000/100%	400,000/100%
Final CY			0/0%	200,000/50%	300,000/75%		
Difference:		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	
		0/0%	200,000/50%	300,000/25%	400,000/25%		

Injury Surveillance/EMS – Uniformity			
Measure ID: CT-M-00019			
Status	Performance Area	System	Direction
1-1-07 Required EMS PCR software EMS providers to be Gold NEMSIS compliant.	Uniformity	Injury Surveillance/EMS	Increase
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 will 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.							
	Base	2006	2007	2008	2009	2010	2011
Goal CY	0	0	0/0%	200,000/50%	300,000/75%	400,000/100%	400,000/100%
Final CY			0/0%	200,000/50%	300,000/75%		
Difference:		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	
		0/0%	200,000/50%	300,000/25%	400,000/25%		

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 completeness, uniformity, and timeliness.

In proposing funding for a crash data repository, work continues with ConnDOT, the CAPTAIN Electronic PR-1 and Citation Local Law Enforcement pilots project and the Connecticut State Police (CSP) and Local Law Enforcement NexGen pilots that will allow for the electronic submission and retrieval of crash data.

Crash/ConnDOT – Completeness							
Measure ID: CT-M-00001							
Status	Performance Area	System	Direction				
1 st Qtr of 2009, over 7,000 local road PDO crashes were coded/ entered by ConnDOT Accident Records.	Completeness	Crash	Increase				
Measurement							
Improve the completeness of the crash system in terms of an increase in the number and percent of local road PDO crashes added to the ConnDOT accident file, where the baseline level was zero before funding and goal levels as presented below.							
Measurement Method							
The number represents the actual of number of electronic PR-1 reports added to the ConnDOT crash file. The percent represents the portion of expected local road PDO crash reports statewide once the system is fully operational. As of March 2011, 31,400 local road PDOs crashes for calendar year 2009 had been coded.							
Measure Description							
Number and percent of local road PDO crashes.							
	Baseline	2006	2007	2008	2009	2010	2011
Goal CY	0	0	35,258 99%	14,613/35,000 99%	35,000 99%	35,000 99%	35,000 99%
Final CY							

Difference:	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011
	35,258 99%	0	0	0	0

Crash/CSP – Completeness						
Measure ID: CT-M-00016						
Status	Performance Area	System			Direction	
Last quarter of 2006 CSP initiated use of electronic PR-1 for all crash data collection - all reportable crashes	Completeness	Crash			Increase	
Measurement						
Improve the completeness of the crash system in terms of an increase in the number and percent of CSP reported local road PDO crashes submitted to the CSP server where the baseline level for the ConnDOT accident file was 0 before first year funding and goal levels are as presented below.						
Measurement Method						
The actual number of electronic PR-1 reports for local road PDO crashes entered on the CSP server and provided in hardcopy to ConnDOT by the end of 2007 was 620. The percent represents the portion of expected CSP reported local road PDO crash reports statewide once the system is fully operational.						
Measure Description						
Number and percent of CSP reported local road PDO crashes.						
	Baseline	2007	2008	2009	2010	2011
Goal CY	0	620/1,800 85%	2,100 99%	2,100 99%	2,100 99%	2,100 99%
Final CY						
Difference:		2007-2008	2008-2009	2009-2010	2010-2011	
		300 14%	0	0	0	

Crash/CAPTAIN – Completeness			
Measure ID: CT-M-00022			
Status	Performance Area	System	Direction
CAPTAIN crash data collection software	Completeness	Crash	Increase
Measurement			
Improve the completeness of the crash system in terms of an increase in the number and percent of jurisdictions using CAPTAIN software for electronically collecting and submitting PR-1 crash data (to include local road PDO crashes) to the CRCOG server. The baseline level for submitting			

electronic PR-1 crash data including local PDO crashes to the ConnDOT crash file is zero prior to funding and goal levels are as presented below. The PR-1 contains 48 of the 75 MMUCC data elements although only 23 MMUCC data elements are included on the ConnDOT crash file.

CRCOG has established a data sharing initiative among its member towns. This new effort is supported by funds made available by the State of Connecticut. While all member towns have agreed to participate in this initiative, some towns will take considerably longer to fully subscribe. Hence, the measurement method is two-fold and explained below. It is also important to understand that because of funding limitations, not every law enforcement vehicle in each town will be equipped with CAPTAIN software. It will be only possible to equip that proportion of vehicles that are primarily involved in traffic safety related activities and are most likely to be involved in completing crash reports or issuing citations.

Measurement Method

The first number is quantitative and represents the number of CAPTAIN towns in the Capitol Region participating in the PR-1 electronic collection and submission pilot. The second number is the fraction of the CAPTAIN towns in the Capitol Region whose crash reports are being submitted to the repository electronically.

Measure Description

Number and percent of CAPTAIN jurisdictions collecting and submitting local road PDO crashes electronically.

	Baseline	2007	2008	2009	2010	2011
Goal CY	0	-	10 towns/ 25%	20 towns/ 50%	35 towns/ 87.5%	40 towns/ 95.0%
Final CY						

Difference:	2007-2008	2008-2009	2009-2010	2010-2011
	0	10 towns/ 25%	15 towns/ 37.5%	5 towns/ 7.5%

Crash/CSP – Uniformity

Measure ID: CT-M-00008

Status	Performance Area	System	Direction
Last quarter 2006 CSP initiated use of electronic PR-1 for all crash data collection for all reportable crashes	Uniformity	Crash	Increase

Measurement

Improve the uniformity of the crash system in terms of an increase in the number and percent of CSP reported complete electronic PR-1 reports (including 48 MMUCC elements) on the Connecticut State Police (CSP) server where the baseline level for the DOT accident file was 0 before funding and goal levels are as presented below. While the PR-1 contains 48 of the 75 MMUCC data elements, only 23 MMUCC data elements are included on the ConnDOT crash file.

Measurement Method

Baseline level for the ConnDOT accident file is documented in the 2004 and 2007 Traffic Records Assessments. The number represents the actual number of electronic PR-1 reports added to the CSP server. In calendar year 2007, 38,500 electronic PR-1s were added to the CSP server. In calendar year 2008, 32,700 were added. The percent represents the portion of expected numbers of PR-1 reports statewide for the CSP with the system fully operational.

Measure Description						
Number and percent of electronic PR-1 reports added to the CSP server.						
	Baseline	2007	2008	2009	2010	2011
Goal CY	0	38,500 99%	32,700 99%	30,000 99%	30,000 99%	30,000 99%
Final CY						

Crash/CAPTAIN – Uniformity						
Measure ID: CT-M-00021						
Status	Performance Area	System	Direction			
CAPTAIN crash data collection software is used to electronic collect PR-1 crash data for all reportable crashes	Uniformity	Crash	Increase			
Measurement						
<p>Improve the uniformity of the crash system in terms of an increase in the number and percent of jurisdictions using CAPTAIN for electronically collecting and submitting PR-1 crash data (including 48 MMUCC elements) that include local road PDO crashes to the CRCOG server. The baseline level for submitting electronic PR-1 crash data including local PDO crashes to the ConnDOT crash file was zero prior to funding and goal levels are as presented below. Note, that the PR-1 contains 48 of the 75 MMUCC data elements although only 23 of the MMUCC data elements are included on the ConnDOT crash file.</p> <p>CRCOG has established a data sharing initiative among its member towns. This effort will replace CAPTAIN crash data collection with a new set of software that will provide either an interface for participating towns to submit crash data or a revised data collection facility that will add it directly to a shared database. This new effort is supported by regional service sharing funds made available by the State of Connecticut. While all member towns have agreed to participate in this initiative, some towns will take considerably longer to fully subscribe. Hence, the measurement method is two-fold and explained below.</p>						
Measurement Method						
<p>The first number is quantitative and represents the number of CAPTAIN towns in the Capitol Region participating in the PR-1 electronic collection and submission pilot. The second number is the fraction of the CAPTAIN towns in the Capitol Region whose crash reports are being submitted to the repository electronically.</p>						
Measure Description						
Number and percent of CAPTAIN jurisdictions collecting and submitting local road PDO crashes electronically.						
	Baseline	2007	2008	2009	2010	2011

Goal CY	0		10 towns/ 25%	20 towns/ 50%	35 towns/ 87.5%	40 towns/ 95.0%										
Final CY																
<table border="1"> <tr> <td>Difference:</td> <td>2007-2008</td> <td>2008-2009</td> <td>2009-2010</td> <td>2010-2011</td> </tr> <tr> <td></td> <td>0</td> <td>10 towns/ 25%</td> <td>15 towns/ 37.5%</td> <td>5 towns/ 7.5%</td> </tr> </table>							Difference:	2007-2008	2008-2009	2009-2010	2010-2011		0	10 towns/ 25%	15 towns/ 37.5%	5 towns/ 7.5%
Difference:	2007-2008	2008-2009	2009-2010	2010-2011												
	0	10 towns/ 25%	15 towns/ 37.5%	5 towns/ 7.5%												

Crash/CSP – Timeliness																
Measure ID: CT-M-00007																
Status	Performance Area	System			Direction											
Last quarter 2006 CSP initiated use of electronic PR-1 for all crash data collection for all reportable crashes	Timeliness	Crash			Increase											
Measurement																
Improve the timeliness of the crash report system in terms of a reduction in the number of months to provide/make available a PR-1 crash report to the ConnDOT crash file where the baseline was 12 months and the goals levels are as provided.																
Measurement Method																
Baseline level for the ConnDOT accident file is documented in the 2004 and 2007 Traffic Records Assessments. The number represents the number of months required to submit an electronic PR-1 report to the CSP server with subsequent upload to the ConnDOT crash file. The percent represents the portion of the expected numbers of PR-1 reports collected statewide by the CSP once the system is fully operational. By the end of 2008, this equaled 32,700 reports or 99% of the expected statewide total for the CSP.																
Measure Description																
Number and percent of total of electronic PR-1 reports submitted to the CSP server and subsequently uploaded to the ConnDOT server.																
	Baseline	2007	2008	2009	2010	2011										
Goal CY	12	3	3 83%	2 99%	1 99%	1 99%										
Final CY																
<table border="1"> <tr> <td>Difference:</td> <td>2007-2008</td> <td>2008-2009</td> <td>2009-2010</td> <td>2010-2011</td> </tr> <tr> <td></td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> </tr> </table>							Difference:	2007-2008	2008-2009	2009-2010	2010-2011		0	1	1	0
Difference:	2007-2008	2008-2009	2009-2010	2010-2011												
	0	1	1	0												

Citation/Adjudication – Timeliness						
Measure ID: CT-M-00009						
Status	Performance Area	System			Direction	
Underway	Timeliness	Citation/Adjudication			Increase	
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).						
Measure Description						
Percent of electronic citations received by the CIB/courts within 14 days.						
	Baseline	2007	2008	2009	2010	2011
Goal CY	-	99%	99%	99%	99%	99%
Final CY						
Difference:		2007-2008	2008-2009	2009-2010	2010-2011	

Citation/Adjudication – Timeliness						
Measure ID: CT-M-00002						
Status	Performance Area	System			Direction	
Underway	Timeliness	Citation/Adjudication			Increase	
Measurement						
Improve the timeliness of the citation/adjudication system in terms of an increase in the percent of citations received by courts/CIB within 10 days.						
Measure Description						
Percent of citations received by courts/CIB within 10 days.						
	Baseline	2007	2008	2009	2010	2011
Goal CY	-	75%	80%	85%	90%	95%
Final CY						
Difference:		2007-2008	2008-2009	2009-2010	2010-2011	

Citation/Adjudication – Timeliness						
Measure ID: CT-M-00009						
Status	Performance Area	System			Direction	
Underway	Timeliness	Citation/Adjudication			Increase	
Measurement						
Improve the timeliness of the citation/adjudication system in terms of an increase in the percent of citations received by the courts/CIB within 14 days (<i>related to CT-M-00002</i>).						
Measure Description						
Percent citations received by courts/CIB within 14 days.						
	Baseline	2007	2008	2009	2010	2011
Goal CY	-	99%	99%	99%	99%	99%
Final CY						
Difference:		2007-2008	2008-2009	2009-2010	2010-2011	

Citation/Adjudication – Timeliness						
Measure ID: CT-M-00010						
Status	Performance Area	System			Direction	
Underway	Timeliness	Citation/Adjudication			Increase	
Measurement						
Improve the timeliness of the citation/adjudication system in terms of an increase in the percent of cases transferred from CIB to courts that are processed within 90 days of receipt.						
Measure Description						
Percent of cases transferred from CIB to courts that are processed within 90 days of receipt.						
	Baseline	2007	2008	2009	2010	2011
Goal CY	-	70%	75%	80%	85%	90%
Final CY						
Difference:		2007-2008	2008-2009	2009-2010	2010-2011	

Citation/Adjudication/Driver – Timeliness			
Measure ID: CT-M-00011			
Status	Performance Area	System	Direction

Underway	Timeliness	Citation/Adjudication		Increase		
Measurement						
Improve the timeliness of the citation/adjudication system in terms of an increase in the percent of convictions sent to DMV within 10 days of the conviction.						
Measure Description						
Percent of convictions sent to DMV within 10 days of the conviction.						
	Baseline	2007	2008	2009	2010	2011
Goal CY	-	85%	90%	95%	99%	99%
Final CY						
Difference:		2007-2008	2008-2009	2009-2010	2010-2011	

Citation/Adjudication – Integration						
Measure ID: CT-M-00003						
Status	Performance Area	System		Direction		
Underway	Integration	Citation/Adjudication		Increase		
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.						
Measure Description						
Percent of TCAS citation data linked to DMV license information.						
	Baseline	2007	2008	2009	2010	2011
Goal CY	-	85%	90%	95%	99%	99%
Final CY						
Difference:		2007-2008	2008-2009	2009-2010	2010-2011	

Citation/Adjudication – Integration						
Measure ID: CT-M-00004						
Status	Performance Area	System		Direction		
Underway	Integration	Citation/Adjudication		Increase		
Measurement						
Improve the integration of the citation/adjudication system in terms of an increase in the percent of TCAS citation data linked to CIB.						

Measure Description																
Percent of TCAS citation data linked to the CIB.																
	Baseline	2007	2008	2009	2010	2011										
Goal CY	-	80%	90%	95%	99%	99%										
Final CY																
<table border="1"> <tr> <td>Difference:</td> <td>2007-2008</td> <td>2008-2009</td> <td>2009-2010</td> <td>2010-2011</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>							Difference:	2007-2008	2008-2009	2009-2010	2010-2011					
Difference:	2007-2008	2008-2009	2009-2010	2010-2011												

Citation/Adjudication/Vehicle – Integration																
Measure ID: CT-M-00012																
Status	Performance Area	System	Direction													
Underway	Integration	Citation/Adjudication	Increase													
Measurement																
Improve the integration of the citation/adjudication system in terms of an increase in the percent of TCAS citation data linked to DMV vehicle registration information.																
Measure Description																
Percent of TCAS citation data linked to DMV vehicle registration information.																
	Baseline	2007	2008	2009	2010	2011										
Goal CY	-	85%	90%	95%	99%	99%										
Final CY																
<table border="1"> <tr> <td>Difference:</td> <td>2007-2008</td> <td>2008-2009</td> <td>2009-2010</td> <td>2010-2011</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>							Difference:	2007-2008	2008-2009	2009-2010	2010-2011					
Difference:	2007-2008	2008-2009	2009-2010	2010-2011												

Citation/Adjudication/Crash – Integration						
Measure ID: CT-M-00013						
Status	Performance Area	System	Direction			
Underway	Integration	Citation/Adjudication	Increase			
Measurement						
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.						
Measure Description						
Percent of crash related citation data linked to crash data.						
	Baseline	2007	2008	2009	2010	2011

Goal CY	-	50%	75%	95%	97%	99%
Final CY						
Difference:		2007-2008	2008-2009	2009-2010	2010-2011	

Citation/Adjudication – Integration						
Measure ID: CT-M-00014						
Status	Performance Area	System			Direction	
Underway	Integration	Citation/Adjudication			Increase	
Measurement						
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).						
Measure Description						
Percent of vehicular misdemeanors and arrests linked to the CRMVS.						
	Baseline	2007	2008	2009	2010	2011
Goal CY	-	50%	75%	95%	97%	99%
Final CY						
Difference:		2007-2008	2008-2009	2009-2010	2010-2011	

Citation/Adjudication – Accessibility						
Measure ID: CT-M-00005						
Status	Performance Area	System			Direction	
Underway	Accessibility	Citation/Adjudication			Increase	
Measurement						
Improve the accessibility of the citation/adjudication system in terms of an increase in the percent of data and system availability.						
Measure Description						
Percent of data and system availability.						
	Baseline	2007	2008	2009	2010	2011
Goal CY	-	90%	95%	97%	99%	99%
Final CY						

Project Summaries / 3rd Year (2008 – 2009)

The first three projects concern the electronic capture, and submittal/processing of citation data. The fourth project represents a continuation of a three year effort to provide Toughbook computers and Gold NEMSIS compliant software to EMS providers for patient care reporting. The fifth also represents a three year effort to incorporate electronic reporting of crash data to the DOT, GPS-GIS applications for route and cumulative mileages and for state highway mapping, and file linkage for crash, roadway and ADT data. The sixth project represents electronic reporting of the PR-1 by local law enforcement using the same NexGen software as the State Police.

The six projects promoted in 2008 – 2009, which will continue to be tracked in 2010 include:

- Electronic Citation Processing System
- Integrate CAPTAIN/CRCOG Mobile Data Users with State PR-1 and Citation Pilot
- Electronic Citation Pilot Program involving the State Police
- Electronic Patient Care Reporting System
- Electronic Motor Vehicle Accident Reporting to DOT
- Electronic PR-1 Data Improvement Program – Ansonia Group

The electronic capture and submittal of traffic safety data almost always results in more timely, accurate, complete and consistent (uniform) data at both the capture and submittal phases of the data process. The electronic data capture and submittal processes also facilitate the integration of safety data files to either provide for or corroborate data. Improving the timeliness, accuracy, completeness and consistency of traffic safety data benefits users by helping them to more readily identify traffic safety problems, develop appropriate countermeasures and evaluate countermeasures. Another benefit to the electronic capture and submittal of traffic safety data is that efficiencies are inevitably gained at the points of data collection and submittal.

Electronic Citation Processing System

Goals and Objectives Accomplished in 2008-2009:

Completed much of the background work required to implement an electronic citation system. In phase I the data is printed and used for scanning and data entry at CIB. In phase II, with the completion of the “back-end” system, the data will be automatically populated into the CIB automated system.

Unfinished Tasks:

Completion of the “back-end” system to accept electronic tickets.

Project’s Basis/Expected Impact:

The existing citation system in Connecticut is a manual system, vulnerable to human error. Information from handwritten tickets is data entered and subsequently transmitted to various entities. Exception processing is time consuming. It is expected that an Electronic Processing System will create efficiencies in several areas.

The electronic system will incorporate a mobile application, providing law enforcement in the field the capability to immediately reference motor vehicle statutes; swipe or scan operator license information; integrate DMV operator and registration information into the citation; print a citation for the violator, and forward an electronic copy to Judicial for processing.

This program will speed the citation-writing process, reduce errors in both citation-writing and record-keeping steps, and increase the completeness of data collected.

Project Update/Status:

The e-Citation Processing System, also discussed as a 4th year project, during which time, pilot testing with State and Local law enforcement was conducted, accepting electronic citation data submitted to CIB. This project was also proposed as a 5th year project to complete back-end development of the e-Citation System.

Integrate CAPTAIN Mobile Data Users with State PR-1 and Citation Pilot**Goals and Objectives Accomplished in 2008-2009:**

The Capitol Region Council of Governments (CROG) and the Connecticut Judicial Department (CJD) have completed much of the “background” work required to create an electronic citation system. The Judicial Department has resolved issues regarding electronic citation format and choice of paper upon which the citations will be printed. Mobile printers and scanners have been identified, tested, and can be procured using cooperative purchasing contracts.

Unfinished Tasks:

Unfinished tasks include: completion and testing of the software application; completion of the “back-end” system at Judicial to accept the electronic tickets; linking the software to the CAPTAIN and COLLECT mobile systems; purchase of necessary hardware, sufficient for the pilot towns; install the hardware and software in pilot town vehicles; train officers in the use of the equipment; and finally put the equipment on the road and evaluate the pilot program.

A second goal of this project is the electronic collection of crash data and forwarding to a central repository. This will require the development of additional software to match the ad hoc XML standards promulgated by the departments of Public Safety and Transportation. The same integration requirement is necessary within the CT: CHIEF records management system. That system will be used by the cities of Bridgeport, Hartford, and New Britain and will be made available to other Connecticut communities at a modest cost.

Challenges:

Interagency dependencies are problematic in all application development projects. This project was no exception. Delays in completing the process arose because certain aspects could not move forward without the completion of earlier steps. Examples are: software application could not be completed without a decision regarding printers; decisions about printers could not be completed without a decision on the citation paper; decisions about citation paper could not be completed without agreement on the information collected and in what format. The entire process was, and is, a long one, especially since we are addressing legal issues and are working with a multitude of agencies. Significant policy changes that required the support and endorsement of the Chief Court Administrator have been achieved, and the General Assembly has passed a law authorizing electronic signatures on documents destined for the courts. These are significant accomplishments and demonstrate considerable team efforts.

Project's Basis/Expected Impact:

When completed, this project will give the participating municipalities and other law enforcement agencies the ability to immediately reference motor vehicle statutes maintained by the Judicial Department; swipe or scan operator license information; integrate DMV operator and registration information into the citation; and print a citation for the violator, forward an electronic copy to Judicial for processing, and as an interim measure, print a hard copy of the citation. This program will speed the citation-writing process, reduce errors in both the citation-writing and record-keeping steps, and increase the completeness of data collected. When the collection of crash data is integrated in the mobile application, timeliness, accuracy and completeness will extend to that procedure as well. In addition, towns will have access to the data and will be able to make informed decisions about spending funds for safety improvements.

Project Update/Status:

The e-Citation Pilot project is also discussed as a 4th year project, during which time, pilot testing with the Central Infractions Bureau (CIB) was conducted. This project was also proposed as a 5th year project to continue to expand the number of law enforcement vehicles equipped to enable the issuance of electronic citations.

Electronic Citation Pilot Program – State Police

Goals and Objectives Accomplished in 2008-2009:

Improve the timeliness of citation data received from law enforcement. After receipt of citation data from law enforcement, improve the timeliness of citation data to CIB and improve the timeliness of the availability of citation data to the courts. Improve the accuracy and completeness of collected and submitted citation data.

Unfinished Tasks:

Awaiting CIB to determine and implement method for assigning infraction control numbers to electronic citations.

Challenges:

Considerable amount of time had to be spent on equipment and paper selection that would best integrate into current work flows of Law Enforcement and CIB.

Project's Basis/Expected Impact:

Dramatically improves efficiency and accuracy of the issuance of motor vehicle infractions. Clerk involvement is dramatically reduced by eliminating copying, filing and transmitting infractions to CIB.

Project Update/Status:

The e-Citation Pilot project, which was also proposed as a 5th year project, has been undergoing pilot testing with the Central Infractions Bureau (CIB). The focus of the 5th year is to expand the number of State Police vehicles equipped to enable the issuance of electronic citations.

Electronic Patient Care Reporting System

Goals and Objectives Accomplished in 2008-2009:

Increase the number of electronically collected PCRs from zero to 250,000 by June 15, 2009 – objective exceeded

Increase the percentage of electronic PCR data that provide for the collection of Gold NEMSIS compliant data elements from zero prior to funding to 100% by June 15, 2009 – objective met

Note: The number of NEMSIS compliant data elements captured for each PCR depends on the seriousness of the call for service.

Unfinished Tasks:

Unable to obtain release of matching funds money to purchase 30 Toughbook computers with remaining funds, data due to budget restrictions of legislature and Governor and DPH management.

Unable to process 315,000+ PCR cases for analysis; limiting factors – Obtained s 64bit OS (Win XP x64) that can address adequate RAM, but unable to purchase 8Gb of random access memory (RAM) to be able to download and process the data due to budget restrictions of legislature and Governor, and DPH management.

Challenges:

Expiration of the Department of Information Technology (DOIT) ToughBook Computer contract. The DoIT has not to date renewed the Toughbook Computer contracts in order to purchase remaining laptops needed to equip additional EMS services.

Project's Basis/Expected Impact:

Improved numbers of PCR reports received, NEMSIS compliance of data elements collected, quality of data, and enhanced capabilities for linkage, and data analysis.

Project Update/Status:

The e-PCR System was also proposed/included as 4th and 5th year projects to complete the order and purchase of laptops to equip the remaining EMS providers in the state.

Electronic PR-1 Data Improvement Program – Ansonia Group**Goals and Objectives Accomplished in 2008-2009:**

Goals and objectives completed were the installation and implementation of in-car reporting for Ansonia, Shelton, North Branford, and Fairfield Police Departments. All departments have the new version of NexGen software installed on servers and Fairfield, North Branford and Shelton are in testing and training phases. Ansonia has software installed and will be in the testing and training phases in the near future.

These accomplishments, together with the earlier Madison Group (Madison, North Haven, Hamden, East Haven, and Branford), currently generate 100's of electronic PR-1s per month using the NexGen software.

Unfinished Tasks:

Final installation of NexGen software in Police cruisers for Ansonia and connection through AT&T wireless.

Challenges:

The ability to contract a newer wireless service and schedule NexGen Solutions to install CAD and Reporting software.

Project's Basis/Expected Impact:

This project will allow departments to utilize immediate uploads of Motor Vehicle Accident Data to the Department of Public Safety (DPS) and then to ConnDOT. This program will also allow each department to utilize other data initiatives such as e-citation in the future.

Project Update/Status:

Begun as a 3rd year project, the Ansonia Group, together with the Madison Group has progressed into the 4th and 5th years. According to participant agencies, the new system for capturing electronic PR-1s is impacting the way officers would normally complete the PR-1 and coding. At this point, officers seem to have learned the use of the PR-1 reporting pretty well and are getting used to having the system direct them (through edit/validity checks) to eliminate errors.

e-PR-1s completed

The nine jurisdictions listed above currently generate 100's of electronic PR-1s per month using the NexGen software. PR-1s are being stored electronically. Not all are uploading data to DPS at this stage; however work is underway with DPS to assure completion of MOUs for data sharing.

- All PR-1s are required to pass DOT edits prior to supervisor approval.
- Contacts have been made to representatives from the above departments to begin communications with DOT representatives to initiate local PD uploads of e-PR-1 reports to the DOT in similar fashion already in operation with DPS.
- DOT currently pursuing next steps for local police departments to follow in establishing e-PR-1 data transfers, assuring edit checks are being followed and proceeding with data uploads

Jurisdictions are continuing to work with DPS to assure completion of Memorandums of Understanding (MOUs) for data sharing, and with DPS/ConnDOT on edit/validity checks for the ePR-1s.

Electronic Motor Vehicle Accident Report to DOT**Goals and Objectives Accomplished in 2008-2009:**

Developed, tested and ready to implement an electronic version of the PR-1 which will replace the current DCR system.

Developed and currently testing a crash data processing system that will provide receipt of PR-1 crash data electronically from Connecticut State Police.

ASCII formatted file has been developed and currently being tested against written programs.

Developed into the data processing system the ability for the Department's staff to edit/add to reported fields.

Developed an office module to allow staff to code data from hard copies.

Designed the capability of detecting duplicate cases, and track coder productivity statistics.

Unfinished Tasks:

Include system capability of accessing and managing roadway files.

Provide necessary implementation, testing, training, and support including network analysis and database training to aid in the roadway network improvements.

Provide all appropriate documentation.

Development of a new comprehensive road network, including; dual directional Interstates, limited access expressways, state routes, local and private roads to meet needs of crash locations.

Continued development and enhancement of the NexGen Police Interface Pilot to improve collection of accident/crash GPS and location information.

Convert a multitude of mainframe programs used to produce accident reports read from the Department's server.

Develop the ability to generate reports and perform adhoc queries through the Department's server. Integrate other traffic related files, such as Roadway Inventory and ADT files.

Develop the ability to receive accident crash data electronically, from other supporting towns.

Challenges:

Development of the new comprehensive road network will take longer than originally envisioned to complete.

Project's Basis/Expected Impact:

This project allows the Department to upgrade its Accident Crash System to current electronic technology. The Accident Crash System data in place had coded crash data inputted on a UNIX workstation. This data, via a batch process, would then have to be uploaded to the mainframe, to update the mainframe accident file.

Reporting of data would require mainframe programming. The use of collecting and reporting of data in this fashion, consumes time and manpower. More importantly, most of the computer hardware used in this process is no longer supported.

Project Update/Status:

The e-PR-1 Project was discussed as a 4th year project, during which time; efforts continued, resolving outstanding edit/validity checking issues with electronic PR-1s completed by State Police. This project was also proposed as a 5th year project to continue the development of ConnDOT output reporting. This project will allow for the electronic submission of data, provide for a relational database, allow for the use of other files maintained by other sections within ConnDOT for the reporting of data, and allow the Department to perform ad hoc queries.

Project Summaries / 4th Year (2009 – 2010)

The first three projects concern the electronic capture, submittal and payment processing of citation data. Two of these represent new projects. The fourth project represents a continuation of a four year effort to provide Toughbook computers and Gold NEMSIS compliant software to EMS providers for patient care reporting. The fifth also represents a four year effort to incorporate electronic reporting of crash data to the DOT, GPS-GIS applications for route and cumulative mileages and for state highway mapping, and file linkage for crash, roadway and ADT data.

The five initiatives comprising 4th year projects include:

- Electronic Citation Processing System
- Electronic Payment Processing System
- Electronic Citation Pilots for Local Law Enforcement
- Electronic Emergency Medical Services Patient Care Reporting System
- Electronic Motor Vehicle Accident Reporting to DOT

The State's efforts to expand its electronic capture and submittal of traffic safety data continues to result in more timely, accurate, complete and consistent (uniform) data at both the capture and submittal phases of the data process.

Improving the timeliness, accuracy, completeness and consistency of traffic safety data benefits data users in more readily identifying traffic safety problems, developing appropriate countermeasures and in evaluating countermeasures.

Electronic Citation Processing System**Project ID:** CT-P-00009**Core System:**

- Citation/Adjudication

Performance Area:

- Completeness
- Uniformity
- Timeliness

Project Title: Electronic Citation Processing System**Lead Agency:** State of Connecticut Judicial Branch – Court Operations, Centralized Infractions Bureau**Partner Agencies:**

- State and Local Law Enforcement Agencies

Project Director/Primary Contact:

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Project Description:

The creation of an application that enables the receipt by the Centralized Infractions Bureau (CIB) of electronically captured citations data, where in Phase I the data will be printed and used for scanning and data entry at CIB, and subsequently, in Phase II, a full production release in which the data will be automatically populated into the CIB automated system.

Basis for Project:

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

- This project will serve as a complement to the Capitol Region Council of Governments (CRCOG) as well as other law enforcement citation pilot efforts through ultimately building a back-end process for electronic traffic citations
- Based on previous traffic records assessments and recent strategic planning efforts, there is no electronic statewide roadside data capture system for traffic citations.

Goals and Objectives:

Goal: Create an application that enables the Centralized Infractions Bureau (CIB) to receive electronically captured citation data.

Phase I Objective(s):

- Develop electronic architecture standards that will allow electronic transfer of citation data
- Test architecture for processing and error handling capabilities
- Utilizing completed architecture, produce type-written citation data from police departments to use for scanning and data entry at CIB

Phase II Objective(s):

- Eliminate scanning and data-entry phase and allow automatic population of citation data into the CIB automated system

Expected Impact:

It is expected that an Electronic Citation Processing System will create efficiencies in several areas. In Phase One of the pilot, officer handwriting is being replaced by type-written characters, therefore eliminating some entry errors. Fewer entry errors will result in less exception processing. Less exception processing would improve the timeliness of down stream processing transmissions to the Courts and the Department of Motor Vehicles. Phase Two of the project will further minimize data entry, key stroke errors, and exception processing.

Progress/Update:

This project continues the development of the back-end process for the electronic capture of citation data by law enforcement. In 2009, a Senior Net Architect/Designer was hired to establish and document software and hardware requirements; design the XML schema for data transmittal to CIB; develop the protocol for assignment of citation ticket numbering; develop coding and audit procedures for data quality control; and manage/complete software revisions necessary for the efficient operation of the Electronic Citation Processing System. These activities were completed and coordinated in conjunction with the Department of Public Safety, CAPTAIN and CIDRIS initiatives.

As highlighted, in regards to recent pilot-testing, involving State and Local law enforcement, progress includes:

- New Britain Police Department and State Police began to issue electronic citations, on May 3, 2010.
- End-to-end transmission of electronic citation data was also completed with CIB.
- Briefing of the Capitol Region Public Safety Council and demonstration of the new system in April.
- Court Original scan tests at CIB are ongoing. Vendors have passed scanning test.
- Continue to coordinate work with vendors on technical aspects of pilot, including iterative testing.
- Payload file testing in progress from both vendors: both have passed validation tests; the focus now is on business rules.
- Paper defendant citations have been delivered for both vendors to Bank of America for scan testing. Working with Chris Osborn guide testing and required modifications.
- Drafting of documentation of internal CIB workflow and technical issues on hold during testing.
- Completed security document for e-Signature acceptance.

- Minor changes to XML payload schema (v3.2) completed and distributed.
- Delivered XML Schema v3.2 to vendors.
- Test platform for transmission testing pending.
- Statute file addendum in development.
- Bi-weekly meetings with various stakeholders to review adjusted timeline(s), expectations and responsibilities.

This project was also proposed as a 5th year project to complete the back-end processing for the e-Citation Processing System.

Electronic Payment Processing System**Project ID:** CT-P-00012**Core System:**

- Citation/Adjudication

Performance Area:

- Completeness
- Uniformity
- Timeliness

Project Title: Electronic Payment Processing System**Lead Agency:** State of Connecticut Judicial Branch – Court Operations, Centralized Infractions Bureau**Partner Agencies:**

- State and Local Law Enforcement Agencies

Project Director/Primary Contact:

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Description/Basis for Project:

Connecticut is currently unable to accept payments for infractions and certain payable violations by means of credit card via the Internet and relies upon a labor intensive process of matching tickets with payments received by mail or delivered in-person. This slows the process of transferring funds from the defendant to the State, diverts Judicial Branch resources from other activities, and may discourage defendants from making timely payments due to the cumbersome and inconvenient nature of the payment process compared to on-line payment.

This project will create a web-based, automated system that will allow Connecticut to receive and process credit card payments from defendants via the Internet for infractions and certain payable violations. It will create an application that enables the receipt by the Centralized Infractions Bureau (CIB) of electronic payment of all infractions tickets issued in the State of Connecticut. It will compliment the on-going Electronic Citation System project, and is anticipated to contribute to the eventual development of a paperless system of ticketing and payment for infractions and violations.

The Centralized Infractions Bureau (CIB) currently processes approximately 435,000 tickets annually which results in revenue of \$30,000,000 to the State of Connecticut. The initial volume of credit card payments is expected to be approximately 64,000 cases per year; however, this would likely increase as more customers become aware of the web-based payment option.

Giving defendants the option to pay their tickets through the Internet will result in quicker payments to the State with less manual processing by staff at CIB. The timeliness of disposition of infraction matters where drivers intend to plead nolo and pay their tickets will increase the timeliness and accuracy of this current somewhat manual process. Drivers would also be able to access the system to enter pleas of not guilty without the delay of mailing and human resources for processing. This will provide the potential to dispose and transfer payment to the Treasurer within days of issuance of the ticket when combined with the E-Citation project.

Project Goal(s):

Create a secure, web-based automated system that will allow defendants to submit credit card payments to the State of Connecticut for infractions and violations.

Objectives:

- Develop electronic architecture standards that will allow electronic transfer of funds
- Test architecture for processing and error handling capabilities
- Deploy system to allow for on-line payment of infractions and violations

Activities:

- Contract for the services of a Senior Developer
- Analyze data, select XML standard and define Judicial structure
- Document volumes and define hardware/software needs
- Design centralized payment acceptance structure
- Code audit, error and data entry reports
- Test audit, error and data entry reports
- Research online systems (through conferences or site visits)

Expected Impact:

- Improved timeliness of the receipt of payment and or transfer to courts via electronic not guilty plea
- Improved timeliness of disposition of cases and transmission of revenue to the State Treasurer
- Improved accuracy of payments
- Improved customer service

Progress/Update:

This project was completed and is now operational. The project involved the creation of an application that enables the receipt by the Centralized Infractions Bureau (CIB) of electronic payment of all infraction tickets issued in the State of Connecticut. Involved the creation of a web-based automated system to electronically accept credit card payments via the Internet for infractions and certain payable violations.

Refer to Judicial and DMV websites for the procedure allowing credit card payments over the web.



Electronic Citation Pilots for Local Law Enforcement**Project ID:** CT-P-00011**Core System:**

- Citation/Adjudication

Performance Area:

- Completeness
- Accuracy
- Timeliness

Project Title: E-Citation Pilots for Local Law Enforcement**Lead Agency:** Capitol Region Council of Governments (CRCOG)**Partner Agencies:**

- State Judicial Department

Project Director/Primary Contact:

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Project Description/Basis:

This project continued the roll out of e-citation systems in local law enforcement agencies. Software has already been procured for the existing e-citation effort and printers and scanners will be installed in police vehicles shortly. The existing project covers the Capitol Region and this one will expand the e-citation effort to additional law enforcement agencies in Fairfield and New Haven counties.

The requested grant funds were used to purchase mobile printers and handheld scanner hardware for law enforcement vehicles within the selected statewide municipalities. Once vehicles are equipped with the required hardware, law enforcement personnel will use CAPTAIN and e-citation software developed under the first phases of the related project to electronically upload collected citation data to the centrally located CRCOG server. The CRCOG server will then upload the citation data electronically to the State of Connecticut's Judicial Centralized Infractions Bureau (CIB). CRCOG and CIB have been working closely to define the e-citation templates and XML schema.

Automated citation data collection is only available in a few law enforcement jurisdictions. Collection and submission of citation data in the paper oriented manual form is largely an inefficient process.

The use of the e-citation software 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 citation data and decrease the time it takes this data to be received by the courts. The CRCOG server interface will provide linkage for law enforcement for querying driver licensing and vehicle data as well as provide a secondary linkage to emergency responders (i.e., EMS, fire, etc.).

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 Capitol Region Council of Governments (CRCOG) and the State of Connecticut Judicial Department have initiated a pilot electronic citation program. This program has the support of the Department of Public Safety and the Department of Transportation along with local law enforcement. In the past year, 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 system that will provide not only automated ticketing and docketing, but eventually full payment and Department of Motor Vehicles' adjudication of the infractions. These are significant policy changes that required the support and endorsement of the Chief Court Administrator.

At the local end, the Capitol Region Council of Governments has hired a contractor to develop its mobile application. Concurrently, the Judicial Department is finishing its back end system that will accept the electronic tickets. The two applications are in-sync and should be ready for the pilot test in December, 2009. The next steps are to complete software development including the linkage to the CAPTAIN and COLLECT mobile systems, purchase the necessary equipment for the pilot towns, install the software and hardware and begin training officers in the use of the equipment. The final step will be to put the equipment on the road and evaluate the pilot program before rolling out to additional law enforcement agencies.

Expected Impact:

Expected impacts include:

- Expand management information and targeted enforcement activities in equipped municipalities
- Improved timeliness of the availability of citation data to the courts
- Improved accuracy and completeness of collected and submitted citation data

Goals and Objectives:

Technical Objectives:

This project builds on prior investments of the State of Connecticut Department of Transportation and the Capitol Region Council of Governments member towns. CRCOG will modify its CAPTAIN mobile data communications system accident function as follows:

1. The electronic citation application currently being built will be tested, implemented, and integrated into the CAPTAIN system as a pilot. This application will provide the following:

- 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.

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

Currently, there is no charge to users of the CAPTAIN system for application software. An annual user fee covers the costs of communications, including communications hardware, the server suite and its database applications, and maintenance of the field software. If successful, the citation application would be expanded to all marked vehicles in the Capitol Region.

CAPTAIN is natively a collaboration. It is a system that was originally designed for the 39 member towns in the Capitol Region Chiefs of Police Association and has now been expanded to 81 law enforcement agencies. The system is the base for a whole series of law enforcement and public safety enhancements and improvements in the Capitol Region. In this iteration, it pilots a citation system for selected local police agencies ranging from large urban departments with specialized traffic enforcement organizations to suburban and rural police agencies with generalized crash incident investigation and enforcement processes.

All of these impacts are consistent with the traffic records strategic plan of the State of Connecticut and meet the needs of the local users and the state policy officials.

Project Status:

This project continues into the 5th year, involving the roll out of e-citation systems in local law enforcement agencies.

For Capitol Region law enforcement agencies the software has already been procured and the system only requires the installation of printers and scanners in the police vehicles. After law enforcement in the participating towns is provided the requisite equipment and software, training will be completed, consisting of the following two sessions:

- Strategic direction and overview, demonstration, and training
- Installation and checking of all related equipment, including scanners, printers, and pre-printed paper

Current progress includes:

- Rolled out e-Citation initiative involving the Central Infractions Bureau on May 3, 2010
- Conducted earlier pilot testing of client side e-citation for limited audience, including an interface between e-citation and Bluelink; printed samples of citations
- CRCOG's mobile application has focused on an e-citation format and paper document to be used in printing the citation
- Equipment purchased including scanners, printers, and vehicle mounts for the printer
- Ticket issue settled; will use Global Justice standard for ethnicity
- Continued review of e-citation data edits/validation checks from Judicial
- Continued review of ConnDOT edit rules and XML specifications for motor vehicle crash reporting using the PR-1 crash report form
- Emphasizing importance of meeting with Judicial and other project contributors in demonstrating the e-Citation mobile application together with the e-Citation system link
- Coordination with pilot towns to help expedite e-citation pilot start-up

Because of the struggling economy and severely constricted municipal budgets, the match for this project is being provided in several ways. Towns will be provided a choice of the following options:

- Participating towns that will be equipping their entire fleet of police vehicles despite being limited to a “seed” number of devices will be credited for the extra dollars that they expend on above “seed” devices toward the collective match.
- Participating towns may offer all or a part of their match requirement in soft activities such as user training in e-citation, installation and configuration of devices, local system administration including review of issued citations and management reports. In order to qualify for this option, the CRCOG will require pre-approval of the format for recording such activities from the Department of Transportation Office of Highway Safety.
- Participating towns may simply pay 20% of the cost of the hardware.

In addition, an extension of the citation application will be made available to non-CAPTAIN mobile data users via an electronic interface. This will allow the software to be used by more communities without requiring additional custom applications.

Completing the project to send crash reports to the state’s ad hoc repository, will include the appropriate software authorized by the Department of Transportation to edit and validate local crash data prior to acceptance in the repository. Such an effort has long been an objective of the Traffic Records Coordination Council.

Emergency Medical Services Patient Care Report Data Collection System**Project ID:** CT-P-00001**Core System:**

- Injury Surveillance/EMS

Performance Area:

- Improve the timeliness, accuracy and completeness of PCR data.
- Improve access to PCR data for completing analyses for determining the quality of care provided by local EMS providers.
- Improve access to PCR data for other users such as the CODES and NEMSIS projects.

Project Title: Emergency Medical Services Patient Care Report Data Collection System**Lead Agency:** Department of Public Health (DPH)/Office of Emergency Medical Services (OEMS)**Partner Agencies:**

- Department of Information Technology (DoIT)
- Department of Public Health/Operations Branch Information Technology Section
- EMS Health Care Providers Statewide

Project Director/Primary Contact:

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Project Description/Basis:

This project is managed by the Department of Public Health (DPH)/Office of Emergency Medical Services (OEMS). The project provides for the purchase and distribution of Toughbook laptops to all Connecticut EMS providers. Toughbook laptops have been provided contingent upon EMS providers acquiring NEMSIS gold standard compliant Patient Care Reporting (PCR) software to be used to collect patient care data for all patients transported to the ED.

PCR data is being analyzed to determine the level of patient care provided and how care might be improved. The PCR data will also be made available to the Connecticut Crash Outcome Data Evaluation System (CODES) and the NEMSIS projects.

There has been a lack of EMS Patient Care data to analyze in order to improve the care Connecticut residents receive by calling 911. Both Fire and Police have extensive data collection efforts. DPH has had a project to implement EMS data collection since 2001. Funds have been limited to move the project along. NHTSA funding has helped to provide computers to EMS providers to collect EMS PCR data.

Objectives:

Continue obtaining Toughbooks to distribute to all EMS providers. Toughbook computers are used to collect EMS Patient Care data that can then be sent to DPH electronically over the Internet. Having this data is important for DPH to be able to improve the emergency medical care received by Connecticut residents. The DPH plans to submit data to the NEMSIS project in the 2010 time frame after initial data cleaning and identifiers are removed assuming if funding continues at an adequate level.

Connecticut State Agency and Research Institution Access to EMS Patient Care Report (PCR) Data

To complement data collection and entry into the EMS PCR Data Collection System, the sub grantee shall develop a plan to provide for the access by State Agencies and Research Institutions to the NEMSIS gold standard compliant EMS Patient Care Report (PCR) data. The action plan will include a range of access options, including -

The data will be made available to NEMSIS and researchers can apply to NEMSIS to obtain the Connecticut data. Data can be made available to other State of Connecticut Agencies with a Memorandum of Understanding mechanism to share EMS data. A fee may be involved for non-governmental institutions. Most research will best be served by using data from many states and contacting NEMSIS to obtain multi state data.

Initially provide tables and reports that can be made available on the DPH/OEMS website to the public. This will be available when additional funding is provided for web support creation.

Expected Impact:

Impact of the electronic reporting of EMS patient care reports include:

Increase in the percentage of electronic PCR data that provide for the collection of Gold NEMSIS compliant data elements from zero prior to funding to 100%. The number of NEMSIS data elements captured for each PCR depends on the seriousness of the call for service.

Improve linkage of electronically collected EMS data to ED and inpatient hospital discharge data to obtain outcome and diagnosis data to improve the quality of EMS care.

This is also proposed as a 5th year 408 project, to complete the purchase of laptop computers for EMS providers.

Status/Update:

- Number of EMS PCR records submitted to-date - 700,000
- Transports included in the EMS PCR data as a result of miscodes are now being deleted
- New version of NEMSIS Version 3 draft dataset still under review
- Largest EMS provider online and sending in electronic PCRs
- Application to download data from the server that can be translated into a format for statistical analysis using Stata (software), developed
- Working on data cleaning of approximately 10,000 records, which are missing incident city FIPS codes
- Follow-up July 2009 memo to vendors and EMS providers requesting that 400+ NEMSIS required data elements be submitted for each emergency response, as each case dictates
- Following up standardizing data to Gold NEMSIS standard

Electronic Motor Vehicle Accident Reporting CSP to DOT**Project ID:** CT-P-00006**Core System:**

- Crash

Performance Area:

- Completeness
- Uniformity
- Timeliness

Project Title: Electronic Motor Vehicle Accident Reporting to DOT**Lead Agency:** Connecticut Department of Transportation**Partner Agencies:**

- State Department of Public Safety (DPS)
- NexGen Local Law Enforcement

Project Director/Primary Contact:

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Basis for the Project:

Currently, the Connecticut Department of Transportation (Department) relies on receiving hard copies of the police accident report (PR-1) forms from State and local police. Approximately 115,000 PR-1's are sent to the Department annually. Selected data fields from the PR-1's are coded using Unisys direct entry terminals where validity checks are performed on the data fields. The coded data resides on a UNIX workstation. Periodically, a batch ASCII file is created, copied to a 9-track tape, mounted on a mainframe tape server, and read by mainframe programs to update the mainframe accident file. This hard copy reporting procedure and manual coding process consumes time and manpower. More importantly, most of the computer hardware used in this process is no longer supported.

The current mainframe accident file was established in 1995 as the result of a revision to the PR-1 form. The file currently resides on tapes in an ASCII format. No applications have been developed to read this file, and no relational database file exists to allow the Department to perform ad hoc queries. The file is converted to the pre-1995 format for the production of all reports. Since some information is lost in the conversion process, the data contained in reports produced by the Department does not reflect the data recorded from the PR-1 form.

Project Goals/Objectives:

Continue development of an accident location reference system that would convert the GPS coordinates to route and mile point.

Complete the development of a PC/database system that has the same functionality as the existing mainframe system.

Develop two integrated reporting modules: a formalized report set to replicate reports previously developed on the mainframe, and an adhoc query database. All current reports will be created from newly generated specifications, relying on end user interviews, websites or new requests. All current file transfer formats are included in this report modules phase.

Accident Records Utilities/Reports requiring conversion:

Upgrade the platform of the Traffic Accident Viewing System (TAVS) - TAVS is a PC based Microsoft Windows application that displays and prints traffic accident data based on criteria selected and/or inputted by the user. The application contains traffic accident data for a seven year period.

Convert Traffic Accident Surveillance Report (TASR) - TASR is produced for the latest 3-year period available, showing accident totals, traffic counts, accident rates and various roadway features for the entire state highway system. For each state road location, TASR displays location characteristics, accident totals, number of vehicles passing through the location, million vehicle miles of travel, average accident rate for that type of location, actual accident rate for that location, critical accident rate for that location, and the ratio of the actual accident rate to the critical accident rate. TASR is sorted by route and cumulative mileage.

Suggested List of Surveillance Study Sites (SLOSSS) - SLOSSS is a list of TASR locations that experienced abnormally high accident rates for the corresponding 3-year period. Each TASR location with 15 or more accidents and whose actual accident rate is greater than its critical accident rate is included on SLOSSS. SLOSSS displays similar information to TASR, with the addition of a sequence number that is used to rank the locations by the ratio of the actual accident rate to the critical accident rate. SLOSSS is sorted both by route and cumulative mileage and also by sequence number. The objective in developing SLOSSS is to define those locations which have the greatest promise of accident reduction and thus to give a broad measure of overall needs of highway safety improvements.

Q-Factors - This is a report that displays injury and fatal accident cost factors by roadway group and intersection types for state roads. Q-Factors, which is produced for a 3-year period, displays fatal accidents, injury accidents, property damage only accidents, fatalities, injuries, accident totals, and cost factors derived from injury and fatality costs reported annually by the National Safety Council.

Before and After Studies - In conjunction with the Annual Safety Report prepared by the ConnDOT Division of Traffic Engineering, Before and After Studies of accident frequencies are periodically performed on safety improvement projects to evaluate their cost effectiveness. The Annual Safety Report is annually submitted to the Federal Highway Administration (FHWA).

Accident Experience - This is a history of accidents for a specific location and time period, which describes the dynamics of each accident in detail. These are prepared daily for various sources.

Connecticut Accident Summary Tables (CAST) - These tables distribute accident, vehicle and person totals by major fields that are contained in the ConnDOT database file. They can be produced for any type of accident as well as for all accidents on file.

Develop system capability of accessing and managing all applicable roadway files for the purpose of maintaining accident files.

Provide necessary implementation, testing, training and support, including network analysis and database training to aid in the roadway network improvements.

Activities:

- The GIS/Computer Systems Section will develop and implement an accident location reference system that will convert the GPS coordinates to route number and cumulative mileage to those cases on the Department's server, and improve the accuracy of the Department's geocoded roadway network. The Department will also seek improvements in accident location information by providing accident location through GPS coordinates, and integrate the accident data with the State's GIS system.
- The Department will finalize a PC/database system that has the same functionality as the existing mainframe system, and write reports to read data on the Department's server, which is to be maintained by the Office of Information Systems. Department staff will be able to generate reports and perform ad hoc queries through the Department's server. The Office of Information Systems will also transfer historical data on the mainframe from ASCII file on cartridge tapes to relational database on the Department's server. Staff will have the ability to directly view and edit historical cases on the server. The Department will also integrate other traffic files, such as roadway and ADT files, with the accident file, and write reports that read data from the other traffic files. A decision will be made on whether the Accident Records Section must continue to maintain its own roadway and ADT files, or if new reports can read traffic files maintained by other sections.
- Develop two integrated reporting modules: a formalized report set to replicate reports previously developed on the mainframe, and an adhoc query database. All current reports will be created from newly generated specifications, relying on end user interviews, websites or new requests. All current file transfer formats are included in this report modules phase.
- Develop system capability of accessing and managing all applicable roadway files for the purpose of maintaining accident files.
- Provide necessary implementation, testing, training and support, including network analysis and database training to aid in the roadway network improvements.
- All appropriate documentation must be included.
- Development of New Comprehensive Road Network inclusive of dual directional Interstates and limited access expressways, State Routes, Local and Private Roads in phases, having the ability to meet the needs for accident location, routing address matching and geocoding for the Department and State.
- Development of new dual directional interstates and limited access expressways.
- Develop the ability to apply adjustments of roadway inventory data to historical locations of accident crash records.
- Update the Traffic Monitoring system to provide needed ADT data information for accident data reporting.
- Replicate all required mainframe reports.
- Provide the capability to develop adhoc query reporting of accident crash data.
- Finalize the development and enhancement of the NexGen Police Interface Pilot to improve collection of accident/crash GPS and location information.

- Develop of electronically receiving accident crash data from other supporting towns along developing validation of the acquired data

Expected Impact:

Expected impacts in the electronic reporting of PR-1 crash records from the CSP to ConnDOT include:

- Improve the timeliness, accuracy and completeness of crash data from CSP with emphasis on reducing the time required to submit PR-1 crash reports from CSP to ConnDOT.
- Improve the accuracy of crash location data.
- Improve the completeness of crash data through entry of PDO crash data with emphasis on increasing the total number (both hard copy and electronic) of local road PDO crash reports that are submitted and entered onto the ConnDOT crash file each year.
Improve the integration of crash data with roadway and ADT files.
Improve the access of crash data to users.

Project Status:

This was also proposed as a 5th year project (refer to project status for 2010 Interim Performance Measure result for local road PDO crash reporting).

Accident Records and I/T staff have been working with DPS to open flow of e-PR-1s onto the ConnDOT server. Testing PR-1s loaded onto the system. PR-1 info and diagram seem ok. Some cases missing part of the narrative. Some cases don't seem to be going through edit check process.

Once electronic PR-1s being submitted by the DPS have been verified for edit/validity checking, the Department will then move to begin accepting electronic PR-1s from NexGen involved local law enforcement agencies, including the towns of Madison, Branford, East Haven, North Haven, Hamden, Ansonia, Fairfield, North Branford, and Shelton, as well as towns represented in CAPTAIN/CRCOG pilot initiatives.

Upon implementation, project continuation will be supported through the Transportation Planning Work Program as facilitated under various tasks of the State Planning and Research (SPR) Program.

The Office of Information Systems will provide continual support of the hardware and software development for this project, as well as make modifications to the system as necessary for required enhancements.

Project Summaries / 5th Year (2010 – 2011)

For the first project, a Motor Vehicle Crash Data Repository, this third attempt by the TRCC out of five years of Section 408 funding, addresses the top recommendation from the 2007 Traffic Records Assessment. Considerable emphasis for traffic records system improvements continues to focus on mobile reporting of traffic citation and motor vehicle crash data by law enforcement in the field. Back-end systems development for the E-Citation Processing System and expansion of the EMS Patient Care Reporting System continue.

The projects selected by the TRCC in the 5th year of Section 408 include:

- State Motor Vehicle Crash Data Repository
- E-Citation Processing System
- E-Citation Pilots for Local Law Enforcement
- E-Citation Pilots for State Law Enforcement
- E-EMS Patient Care Reporting Data Collection System
- E-Motor Vehicle Crash Reporting CSP to DOT
- Crash Outcome Data Evaluation System (CODES)

State Motor Vehicle Crash Data Repository

Project ID: CT-P-00003

Core System:

- Crash

Performance Area:

- Completeness
- Uniformity
- Timeliness

Project Title: Development of the Connecticut Motor Vehicle Crash Data Repository

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:

The purpose of this project is to develop a Connecticut Crash Data Repository (CTCDR), data query and analysis toolset to provide members of the traffic-safety community with timely, accurate, complete and uniform crash data. The Crash Repository designed at the University of Connecticut will allow agencies that capture PR-1 data to submit accident files electronically to the repository. The system will be designed so that agencies regardless of whether they utilized electronic or manual entry would be able to upload or enter data into the repository. The system will be designed as a secured web portal so that only registered users are able to enter, view and download data. This will allow Law Enforcement agencies across Connecticut to populate this database and have access to the statewide data if they choose.

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. Furthermore, roadway inventory, traffic volumes and even land use information are all critical for evaluating the safety of any road segment or intersection, and other safety analysis exercises such as demographic or behavioral studies require driver licensure, motor vehicle registration and other institutional databases.

Currently, Connecticut has two disparate crash repositories: one at the Department of Public Safety (DPS); and one at the Connecticut Department of Transportation (ConnDOT). In addition to two large scaled repositories, there are numerous small scale repositories retained at local police departments throughout the state. However, these crash data repositories are not easily linked to roadway information, traffic volumes or land use data. These other databases are maintained by other state agencies and require significant manual reformatting to combine the crash data and roadway information. The non-highway information is maintained by other State agencies such as the Department of Motor Vehicles or the Department of Public Health. Compiling and linking these data requires additional steps, especially contacting multiple offices. Having the information from all of these databases assembled into a single data repository would reduce duplicative effort on the part of State agency employees and researchers on projects funded by the State.

Historically, a Centralized Accident Records System (CARS) served as the state’s records repository. However, Connecticut’s crash data had to be hand-entered from crash forms submitted by law enforcement agencies. The move to electronic crash report generation provides the opportunity to create a centralized single data repository for Connecticut.

The first phase of CTCDR development will focus on designing and building a CDR for PR-1 files. This data repository will serve as the foundation for future, more advanced versions of the data repository. The base CDR will allow law enforcement agencies across the state to submit collected crash information via XML specification standards, and will make the crash data available to authorized agencies. The first phase of the CTCDR development will:

1. Design the structure and foundation for the CTCDR database
2. Develop the data entry, query, and analysis tool set program
3. Design a secure web portal that will allow users to display and analyze, export, and print PDF copies of crash records

Phase 2 and 3 will be proposed in subsequent years if funding is available. Phase two of the data repository would work to establish a georeferencing crash application. This GIS based application would allow users to plot the physical location of every file in the database onto the statewide road network. Once each accident is georeferenced spatial relationships can be added to the dataset by individual users. Users will be able to add roadway geometry and traffic volume information to queried crash files, or query data based on its location within the transportation network, road geometry or traffic volume. The joining of roadway information with accident data will provide researchers with a wealth of information for future studies with minimal effort to obtain the data.

Phase three of this research would be to link or merge the Patient Care Reporting (PCR) software to the crash data repository. This would allow users access to not only crash data but medical reports detailing the care provided to and the severity of the injuries to crash victims.

Expected Impact:

Completion of this project will provide members of the traffic-safety community and submitting law enforcement agencies with timely, accurate, complete and uniform crash data, within 30 days of the crash event, by creating a Data Repository at the University of Connecticut.

Project Milestones:

Tasks/Milestones	Projected Completion Date	Actual Completion Date
Submit HS-1 grant application for 5 th year Section 408 project	11-15-2010	

Receive approval of the HS-1 and initiate project	12-1-2010	
Establish a technical advisory committee (TAC) to establish user requirements and functionality for Connecticut's Crash Data Repository	12-15-2010	
Document and report on the TAC recommendations for the CRD	1-15-2011	
Design updated crash data repository structure	4-1-2011	
Design specifications for crash web access and analysis structure	6-1-2011	
Design web front application to take advantage of the web services, to display/print a crash report, retrieve XML file for download	7-1-2011	
Crash database repository database modifications complete	8-1-2011	
Web access and analysis programming complete	9-1-2011	
Web front application programming complete	10-1-2011	
Pilot application launch available for TRCC and TAC comments	10-1-2011	
CDR launched for use in Connecticut	11-30-2011	

Project Status:

The base CDR will allow law enforcement agencies that capture PR-1 data to submit motor vehicle crash files electronically to the repository. The CDR will contain all of the crash data as recorded on the PR-1. This data query and analysis toolset will provide members of the traffic-safety community with timely, accurate, complete and uniform crash data, within 30 days of the crash.

Using crash data from 1995 to 2008 obtained from ConnDOT, a foundation for the CDR has been constructed and completed. The design of the web front to serve as the access portal to the database is under construction. A Memorandum of Understanding (MOU) is being drafted that will allow electronic PR-1 data to flow from DPS to the repository. Continuing meetings of the Technical Advisory Committee (TAC) are planned as progress on the CDR continues.

E-Citation Processing System

Project ID: CT-P-00009

Core System:

- Citation/Adjudication

Performance Area:

- Completeness
- Uniformity
- Timeliness

Project Title: Electronic Citation Processing System

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

Partner Agencies:

- State and Local Law Enforcement Agencies

Project Director/Primary Contact:

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Project Description:

The creation of an application that enables the receipt by the Centralized Infractions Bureau (CIB) of electronically captured citations data, where in Phase I the data will be printed and used for scanning and data entry at CIB, and subsequently, in Phase II, a full production release in which the data will be automatically populated into the CIB automated system.

Basis for Project:

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

- This project will serve as a complement to all law enforcement citation pilot efforts statewide through ultimately building a back-end process for electronic traffic citations
- Based on previous traffic records assessments and recent strategic planning efforts, there is no electronic statewide roadside data capture system for traffic citations.

Goals and Objectives:

Goal: Create an application that enables the Centralized Infractions Bureau (CIB) to receive electronically captured citation data.

Phase I Objective(s):

- Develop electronic architecture standards that will allow electronic transfer of citation data
- Test architecture for processing and error handling capabilities
- Utilizing completed architecture, produce type-written citation data from police departments to use for scanning and data entry at CIB

Phase II Objective(s):

- Eliminate scanning and data-entry phase and allow automatic population of citation data into the CIB automated system

Tasks/Milestones:

Submit/finalize HS-1 grant application to DOT, Transportation Safety Section.

Assess Phase I Initiatives

1. State and Local law enforcement e-citation pilot initiatives
2. Production of electronic-citation data submitted by law enforcement to CIB for scanning and data entry
3. Design Intake at the Centralized Infractions Bureau: Audit error handling and reporting module
4. Design/code/test populate at CIB new fields, file conversions, edits, records written, log records, batch analysis of impacts, online analysis of impacts, image analysis of impact
5. Bank testing of paper – tickets printed out
6. Payload testing – parsing/loading data, error codes
7. Code/test audit, error and data entry reports

Assess Phase II Initiatives

1. Production of electronic-citation data submitted by law enforcement resulting in automatic population into CIB database
2. Document volumes and define hardware/software needs
3. Architecture design
4. Web services application
5. Streamlining of CIB workflow

Expected Impact:

It is expected that an Electronic Citation Processing System will create efficiencies in several areas. In Phase One of the pilot, officer handwriting is being replaced by type-written characters, therefore eliminating some entry errors. Fewer entry errors will result in less exception processing. Less exception processing would improve the timeliness of down stream processing transmissions to the Courts and the Department of Motor Vehicles. Phase Two of the project will further minimize data entry, key stroke errors, and exception processing.

Responsibility for the continuation and upkeep of the system developed as a result of this project will be assumed by the Judicial Branch.

Status:

As stated under the 4th year project status, this project continues the development of the back-end process for the electronic capture of citation data by law enforcement. Activities have been completed and coordinated in conjunction with the Department of Public Safety, CAPTAIN and CIDRIS initiatives.

As highlighted, in regards to recent pilot-testing involving State and Local law enforcement, progress includes:

- New Britain Police Department and State Police began to issue electronic citations, on May 3, 2010.
- End-to-end transmission of electronic citation data was also completed with CIB.
- Briefing of the Capitol Region Public Safety Council and demonstration of the new system in April.
- Court Original scan tests at CIB are ongoing. Vendors have passed scanning test.
- Continue to coordinate work with vendors on technical aspects of pilot, including iterative testing.
- Payload file testing in progress from both vendors: both have passed validation tests; the focus now is on business rules.
- Paper defendant citations have been delivered for both vendors to Bank of America for scan testing. Working with Chris Osborn guide testing and required modifications.
- Drafting of documentation of internal CIB workflow and technical issues on hold during testing.
- Completed security document for e-Signature acceptance.
- Minor changes to XML payload schema (v3.2) completed and distributed.
- Delivered XML Schema v3.2 to vendors.
- Test platform for transmission testing pending.
- Statute file addendum in development.
- Bi-weekly meetings with various stakeholders to review adjusted timeline(s), expectations and responsibilities.

E-Citation Pilots for Local Law Enforcement

Project ID: CT-P-00011

Core System:

- Citation/Adjudication

Performance Area:

- Completeness
- Accuracy
- Timeliness

Project Title: E-Citation Pilot for Local Law Enforcement

Lead Agency: Capitol Region Council of Governments

Partner Agencies:

- State Judicial Department
- State Department of Transportation

Project Director/Primary Contact:

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Project Description/Basis:

This project will continue the roll out of e-citation and e-crash systems in law enforcement agencies. Software has already been procured for the existing e-citation/e-crash efforts and printers, scanners and other appropriate hardware/software will be installed in police vehicles.

The requested grant funds will be used to purchase mobile printers, handheld scanners, and other appropriate hardware for select law enforcement vehicles. Once vehicles are equipped with the required hardware, law enforcement personnel will use e-citation and/or e-crash software developed under previous year Section 408 initiatives. Citation/crash data will be electronically uploaded to the appropriate law enforcement servers. These servers will then upload the citation/crash data electronically to the appropriate State of Connecticut agency servers via XML specification standards.

The use of the e-citation/e-crash software 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 citation/crash data and decrease the time it takes this data to be received by the appropriate State agency.

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 and the Department of Transportation along with local law enforcement. In the past year, 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 system that will provide not only automated ticketing and docketing, but eventually full payment and Department of Motor Vehicles' adjudication of the infractions.

Expected Impact:

Expected impacts include:

- Expand management information and targeted enforcement activities in equipped municipalities
- Improved timeliness of the availability of citation data to the courts
- Improved accuracy and completeness of collected and submitted citation data

Goals and Objectives:

Technical Objectives:

This project builds on prior investments of the State of Connecticut Department of Transportation.

1. The electronic citation applications currently being built/tested and implemented will provide:
 - 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.
2. Using existing hardware and communications facilities, this system will provide a GPS reference on all electronic crash records and citations.

Tasks/Milestones:

1. Provide "train the trainer" instruction to selected individuals from participating towns, who will in turn train the police officers in their communities in the operation of the equipment and the full e-citation application.
2. Local law enforcement records management system, being initiated, contains the standard for the XML interface for crash reporting. Select towns will send all of their crash reports through the new system by the end of 2010.

3. As an adjunct to the e-Citation project, a records management system will be made available to any local law enforcement agency, thereby fully encouraging use of the shared resource with access to the ad hoc state crash repository.

4. Pilot communities will be selected for e-citation that are reflective of urban, suburban, and rural police agencies.

5. All equipment and services will be acquired using competitive procurements through GSA and/or cooperative procurement approved methods. The source has already been identified for the ruggedized printers and mobile scanners. These items have been tested by the application developers hired by the Judicial Department.

Activities:

Ruggedized mobile printers and scanners would be acquired for selected police traffic and patrol vehicles. The contract software product developed in the fourth year would be connected to the mobile data systems and fully interconnected with the Judicial Department.

Project Milestones:

Tasks/Milestones	Projected Completion Date	Actual Completion Date
Submit HS-1 grant application to DOT, Transportation Safety Section.	9-01-2010	
Select recipient law enforcement agencies in advance and collect baseline citation data for the months of July and August. This data would enumerate both crash related and non-crash related enforcement actions using the existing manual systems.	9-15-2010	
Finalize HS1 agreement with the State of Connecticut Transportation Safety Section.	10-15-2010	
Meet with pilot towns/agencies and determine the number of officers/vehicles in each town to be equipped with the e-citation pilot system.	11-15-2010	
Purchase and provide pilot towns with printers, scanners, and e-citation software.	12-15-2010	
Install applications in vehicles, including printers, scanners and software.	1-15-2011	
Provide training in use of e-citation data capture software, printers and scanners.	1-30-2011	
Test applications in preparation for pilot towns going live with their e-citation pilots.	2-15-2011	
Initiate the pilot and begin to upload collected citation data to the law enforcement server.	3-01-2011	
Upload citation data from the law enforcement server to the Centralized Infractions Bureau.	3-15-2011	
Continue to provide necessary training and support.	3-30-2011	

Employ a survey instrument for users of the e-citation pilot system: <ul style="list-style-type: none"> • To assess the satisfaction level of the users participating in the pilot; • To assess their impressions of productivity improvements; • To assess citizen satisfaction with the system. 	7-30-2011	
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Project Status:

As stated in the 4th year project status, this project will continue the roll out of e-citation systems in local law enforcement agencies.

For Capitol Region law enforcement agencies the software has already been procured and the system only requires the installation of printers and scanners in the police vehicles. After law enforcement in the participating towns is provided the requisite equipment and software, training will be completed.

Current progress includes:

- Rolled out e-Citation initiative involving the Central Infractions Bureau on May 3, 2010
- Conducted earlier pilot testing of client side e-citation for limited audience, including an interface between e-citation and Bluelink; printed samples of citations
- CRCOG’s mobile application has focused on an e-citation format and paper document to be used in printing the citation
- Equipment purchased including scanners, printers, and vehicle mounts for the printer
- Ticket issue settled; will use Global Justice standard for ethnicity
- Continued review of e-citation data edits/validation checks from Judicial
- Continued review of ConnDOT edit rules and XML specifications for motor vehicle crash reporting using the PR-1 crash report form
- Emphasizing importance of meeting with Judicial and other project contributors in demonstrating the e-Citation mobile application together with the e-Citation system link
- Coordination with pilot towns to help expedite e-citation pilot start-up

In addition, an extension of the citation application will be made available to non-CAPTAIN mobile data users via an electronic interface. This will allow the software to be used by more communities without requiring additional custom applications.

E-Citation Pilots for State Law Enforcement

Project ID: CT-P-00010

Core System:

- Citation/Adjudication

Performance Area:

- Completeness
- Accuracy
- Timeliness

Project Title: E-Citation Pilots for Connecticut State Police

Lead Agency: Department of Public Safety

Partner Agencies:

- State Judicial Department

Project Director/Primary Contact:

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Project Description:

This project will continue the roll out of e-citation systems for the Connecticut State Police. Mobile data capture software has already been developed for the existing e-citation effort. Printers, scanners, and other required software and/or peripheral devices will be installed in State Police vehicles.

The requested grant funds will be used to purchase seventy (70) mobile printers and other peripheral devices for Connecticut State Police vehicles. Once vehicles are equipped with the required hardware, and related software/peripherals, State Police personnel will use their e-citation application to electronically upload collected citation data to the State Police server and then to the State of Connecticut's Judicial Centralized Infractions Bureau (CIB).

Basis for Project:

Automated citation data collection is only available in a few law enforcement jurisdictions. Collection and submission of citation data in the paper oriented manual form is largely an inefficient process.

The use of the e-citation software 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 citation data and decrease the time it takes this data to be received by the courts.

A law enforcement server interface will provide linkage for law enforcement to query driver licensing and vehicle data as well as provide a secondary linkage to emergency responders (i.e., EMS, fire, etc.).

Expected Impact:

Expected impacts include:

- Expand management information and targeted enforcement activities
- Improved timeliness of the availability of citation data to the courts
- Improved accuracy and completeness of collected and submitted citation data

Project Milestones:

Tasks/Milestones	Projected Completion Date	Actual Completion Date
Submit/Finalize HS-1 grant application to DOT, Transportation Safety Section.	10/01/10	
Determine the number of officers/vehicles to be equipped with the e-citation pilot system.	10/15/10	
Purchase/provide officers with necessary hardware/software applications.	11/01/10	
Install applications in vehicles, including printers and software.	2/15/11	
Provide training in use of e-citation data capture software, printers.	2/01/11	
Conduct tests in preparation for going live with e-citation applications.	4/30/11	
Initiate and begin to upload collected citation data to the State Police server.	4/30/11	
Upload citation data from the law enforcement server to the Centralized Infractions Bureau.	4/30/11	
Continue to provide necessary training and support.	2/15/11	

Project Status:

Discussed under the 3rd year project status, and continuing into the 4th year, the focus of 2010-2011 (5th year) for this project will be the expansion of the number of State Police vehicles equipped to enable the issuance of electronic citations. Status to-date includes:

- Traffic trooper issued first e-citation on May 3, 2010. End-to-end transmission of e-citation data was also completed with CIB.
- E-Tickets issued in the first half of May 2010 – totaled 701.
- Completion of the development portion for the e-citation.
- Completion of the citation design and creation.
- 34 Test printer packages received at DPS.
- Awaiting further direction regarding testing and any modifications that may be necessary to interface.
- CIB is still working on method of assigning infraction numbers, and whether they will be given to the agency in a bulk lot or individually assigned at time of request.
- On going coordination with the CIB designers regarding the Judicial Electronic Citation Processing System Project.

E-EMS Patient Care Report Data Collection System

Project ID: CT-P-00001

Core System:

- Injury Surveillance/EMS

Performance Area:

- Improve the *timeliness*, *accuracy* and *completeness* of PCR data.
- Improve access to PCR data for completing analyses for determining the quality of care provided by local EMS providers.
- Improve access to PCR data for other users such as the CODES and NEMSIS projects.

Project Title: Emergency Medical Services Patient Care Report Data Collection System

Lead Agency: Department of Public Health (DPH)/Office of Emergency Medical Services (OEMS)

Partner Agencies:

- Department of Information Technology (DoIT)
- Department of Public Health/Operations Branch Information Technology Section
- EMS Health Care Providers Statewide

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Project Description:

This project is managed by the Department of Public Health (DPH)/Office of Emergency Medical Services (OEMS). The project provides for the purchase and distribution of Toughbook laptops to all Connecticut EMS providers. Toughbook laptops are provided contingent upon an EMS provider acquiring NEMSIS gold standard compliant Patient Care Reporting (PCR) software to be used to collect patient care data for all patients transported to the ED. PCR data is being analyzed to determine the level of patient care provided and how care might be improved. The PCR data will also be made available to the Connecticut Crash Outcome Data Evaluation System (CODES) and the NEMSIS projects.

Basis for Project:

Previously there has been no electronic collection of emergency medical services (EMS) patient care data. A central State repository for collected PCR data has also not been available. Consequently the opportunity to review and analyze PCR data to determine the standard of care provided by EMS service providers has not been possible nor have PCR data been available to other users such as CODES. The DPH, Office of EMS has attempted to ameliorate this circumstance for a number of years. To date, the

DPH has spent over \$1,000,000 to develop the backend software to archive and store patient care reports that will be sent by the EMS providers to the Office of EMS.

Expected Impact:

Impact of the electronic reporting of EMS patient care reports include:

Increase in the number of electronically collected patient care reports (PCR).

Increase in the percentage of electronic PCR data that provide for the collection of Gold NEMSIS compliant data elements. The number of NEMSIS data elements captured for each PCR depends on the seriousness of the call for service.

Improve linkage of electronically collected EMS data to ED and inpatient hospital discharge data to obtain outcome and diagnosis data to improve the quality of EMS care.

Project Priority:

Completion of the EMS electronic patient care reporting system statewide has been extended over several years.

Project Milestones:

Tasks/Milestones	Projected Completion Date	Actual Completion Date
Submit/Finalize HS-1 grant application	10-15-2010	
Purchase/Provide Toughbooks to EMS providers	01-10-2011	
Test receipt of EMS PCR data sent over Internet	02-10-2011	
Continue checking data submitted by EMS providers	Ongoing	
Look at data variations at individual EMS provider level	Ongoing	
Maintain effort to assure data cleaning	Ongoing	
Continue translation of NEMSIS 4 digit codes into English phrases	Completed	
Continue to analyze EMS PCR data	Ongoing	
Develop and apply meaningful metrics to improve patient care	Ongoing	
Share EMS PCR/NEMSIS data with CODES project	Ongoing	
Implement plan to provide access to EMS PCR data to NEMSIS, State Agencies and Research Institutions	Completed	
Provide monthly reports	Ongoing	
Yearly summary of EMS data analysis	07-15-2011	
EMS quality control education component	Ongoing	

Project Status:

- As described under the 4th year project status, Number of EMS PCR records submitted to-date - 700,000
- Transports included in the EMS PCR data as a result of miscodes are now being deleted
- New version of NEMSIS Version 3 draft dataset still under review
- Largest EMS provider online and sending in electronic PCRs
- Application to download data from the server that can be translated into a format for statistical analysis using Stata (software), developed

- Working on data cleaning of approximately 10,000 records, which are missing incident city FIPS codes
- Follow-up July 2009 memo to vendors and EMS providers requesting that 400+ NEMSIS required data elements be submitted for each emergency response, as each case dictates
- Requested frequencies/crosstabs report from PCR records
- Following up standardizing data to Gold NEMSIS standard

Note: The DPH Office of Emergency Medical Services has made progress in adding electronically collected PCRs to its database server. Electronic reporting is the only means of PCRs being added to this database, which prior to 2008, did not exist. Progress is expected to continue in the next twelve months.

Plans also include the linkage of EMS data with ED and inpatient hospital discharge data to analyze outcomes and diagnosis to gauge the appropriateness of EMS care received by Connecticut residents, and improve the quality of patient care.

E-Motor Vehicle Crash Reporting CSP to DOT**Project ID:** CT-P-00006**Core System:**

- Crash

Performance Area:

- Completeness
- Uniformity
- Timeliness

Project Title: E-Crash Reporting to DOT/GPS-GIS/Crash-Roadway-ADT File Integration**Lead Agency:** Connecticut Department of Transportation (ConnDOT)**Partner Agencies:**

- State Department of Public Safety (DPS)
- NexGen Local Law Enforcement

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Project Description:

The GIS/Computer Systems Section will develop and implement an accident location reference system that will convert the GPS coordinates to route number and cumulative mileage to those cases on the Department's server, and improve the accuracy of the Department's geocoded roadway network. The Department will also seek improvements in accident location information by providing accident location through GPS coordinates, and integrate the accident data with the State's GIS system.

The Department will finalize a PC/database system that has the same functionality as the existing mainframe system, and write reports to read data on the Department's server, which is to be maintained by the Office of Information Systems. Department staff will be able to generate reports and perform ad hoc queries through the Department's server. The Office of Information Systems will also transfer historical data on the mainframe from ASCII file on cartridge tapes to relational database on the Department's server. Staff will have the ability to directly view and edit historical cases on the server. The Department will also integrate other traffic files, such as roadway and ADT files, with the accident file, and write reports that read data from the other traffic files. A decision will be made on whether the Accident Records Section must continue to maintain its own roadway and ADT files, or if new reports can read traffic files maintained by other sections.

Develop two integrated reporting modules: a formalized report set to replicate reports previously developed on the mainframe, and an adhoc query database. All current reports will be created from

newly generated specifications, relying on end user interviews, websites or new requests. All current file transfer formats are included in this report modules phase.

Some of the major Accident Records Utilities/Reports requiring conversion:

Upgrade the platform of the Traffic Accident Viewing System (TAVS). TAVS is a PC based Microsoft Windows application that displays and prints traffic accident data based on criteria selected and/or inputted by the user. The application contains traffic accident data for a seven year period.

Convert Traffic Accident Surveillance Report (TASR). This report, which is produced for the latest 3-year period available, shows accident totals, traffic counts, accident rates and various roadway features for the entire state highway system. For each state road location, TASR displays location characteristics, accident totals, number of vehicles passing through the location, million vehicle miles of travel, average accident rate for that type of location, actual accident rate for that location, critical accident rate for that location, and the ratio of the actual accident rate to the critical accident rate. TASR is sorted by route and cumulative mileage.

Suggested List of Surveillance Study Sites (SLOSSS). This is a list of TASR locations that experienced abnormally high accident rates for the corresponding 3-year period. Each TASR location with 15 or more accidents and whose actual accident rate is greater than its critical accident rate is included on SLOSSS. SLOSSS displays similar information to TASR, with the addition of a sequence number that is used to rank the locations by the ratio of the actual accident rate to the critical accident rate. SLOSSS is sorted both by route and cumulative mileage and also by sequence number. The objective in developing SLOSSS is to define those locations which have the greatest promise of accident reduction and thus to give a broad measure of overall needs of highway safety improvements.

Q-Factors. This is a report that displays injury and fatal accident cost factors by roadway group and intersection types for state roads. Q-Factors, which is produced for a 3-year period, displays fatal accidents, injury accidents, property damage only accidents, fatalities, injuries, accident totals, and cost factors derived from injury and fatality costs reported annually by the National Safety Council.

Before and After Studies. In conjunction with the Annual Safety Report prepared by the ConnDOT Division of Traffic Engineering, Before and After Studies of accident frequencies are periodically performed on safety improvement projects to evaluate their cost effectiveness. The Annual Safety Report is annually submitted to the Federal Highway Administration (FHWA).

Accident Experience. This is a history of accidents for a specific location and time period, which describes the dynamics of each accident in detail. These are prepared daily for various sources.

Connecticut Accident Summary Tables (CAST). These tables distribute accident, vehicle and person totals by major fields that are contained in the ConnDOT database file. They can be produced for any type of accident as well as for all accidents on file.

Develop system capability of accessing and managing all applicable roadway files for the purpose of maintaining accident files.

Provide necessary implementation, testing, training and support, including network analysis and database training to aid in the roadway network improvements.

Basis for Project:

Currently, the Connecticut Department of Transportation (Department) relies on receiving hard copies of the police accident report (PR-1) forms from the State and local police. Approximately 115,000 PR-1's are sent to the Department annually. Selected data fields from the PR-1's are coded using Unisys direct entry terminals where validity checks are performed on the data fields. The coded data resides on a UNIX workstation. Periodically, a batch ASCII file is created, copied to a 9-track tape, mounted on a mainframe tape server, and read by mainframe programs to update the mainframe accident file. This hard copy reporting procedure and manual coding process consumes time and manpower. More importantly, most of the computer hardware used in this process is no longer supported.

The current mainframe accident file was established in 1995 as the result of a revision to the PR-1 form. The file currently resides on tapes in an ASCII format. No applications have been developed to read this file, and no relational database file exists to allow ConnDOT to perform ad hoc queries. The file is converted to the pre-1995 format for the production of all reports. Since some information is lost in the conversion process, the data contained in reports produced by ConnDOT do not reflect the data recorded from the PR-1 form.

It should be noted that queries are conducted periodically of the crash file to determine timeliness, completeness, and uniformity.

Specific deficiencies for current reporting of reportable crash data include:

- Crash data entry from hard copy is time-consuming and can potentially introduce error.
- Most of the computer hardware used in the crash data entry process is no longer supported.
- Based on sample cases received at ConnDOT in January and February 2007, the timeliness (average) for law enforcement to complete a paper PR-1 and make it available to ConnDOT for processing is 25 days from the date of the crash. This project emphasizes the entry and availability of crash data more quickly than is currently possible with submission, data entry and availability of crash data received in hard copy.
- No local road PDO crash data (estimated 35,000 crashes per year) were added to the ConnDOT crash file prior to 2007.

Expected Impact:

Expected impacts in the electronic reporting of PR-1 crash records from the CSP to ConnDOT include:

- Improve the *timeliness*, *accuracy* and *completeness* of crash data from CSP with emphasis on reducing the time required to submit PR-1 crash reports from CSP to ConnDOT.
- Improve the *accuracy* of crash location data.
- Improve the *completeness* of crash data through entry of PDO crash data with emphasis on increasing the total number (both hard copy and electronic) of local road PDO crash reports that are submitted and entered onto the ConnDOT crash file each year.
Improve the *integration* of crash data with roadway and ADT files.
Improve the *access* of crash data to users.

Tasks/Milestones

- Develop system capability of accessing and managing all applicable roadway files for the purpose of maintaining accident files,
- Provide necessary implementation, testing, training and support, including network analysis and database training to aid in the roadway network improvements,
- All appropriate documentation must be included,

- Development of New Comprehensive Road Network inclusive of dual directional Interstates and limited access expressways, State Routes, Local and Private Roads in phases, having the ability to meet the needs for accident location, routing address matching and geocoding for the Department and State,
- Development of new dual directional interstates and limited access expressways,
- Develop the ability to apply adjustments of roadway inventory data to historical locations of accident crash records,
- Update the Traffic Monitoring system to provide needed ADT data information for accident data reporting,
- Replicate all required mainframe reports,
- Provide the capability to develop adhoc query reporting of accident crash data,
- Finalize the development and enhancement of the NEXGEN Police Interface Pilot to improve collection of accident/crash GPS and location information, and
- Develop of electronically receiving accident crash data from other supporting towns along developing validation of the acquired data.

Project Status:

The following information was contained in an Interim Progress Report, submitted in April 2010 for the Section 408 application – Local Road Property Damage Only (PDO) Crashes.

Performance Measure used to track Improvements: Number of property damage only (PDO) crashes being entered into the central crash repository at the ConnDOT Accident Records Section.

Improvements Achieved or Anticipated: Completeness of the ConnDOT crash file (no local road PDO crash data were added to the ConnDOT crash file prior to 2007) is expected to continue from calendar year 2007 crash data to the calendar year 2008 crash reporting file with the addition of 31,530 local road PDO crashes to the 2008 calendar year file as of April 2010.

Specification of how Measure is calculated: Number of local road PDO reports received and entered for calendar year 2008 (January through December 2008) as of April 2009 compared to the number received and entered for calendar year 2008 as of April 2010.

Date and Baseline Value for the Measure:

January through December 2008 Crash Totals as of April 2009

All State Roads	Local Road Injury	Local road PDO	Total
28,396	4,536	15,144	48,076

Date and Current Value for the Measure:

January through December 2008 Crash Totals as of April 2010

All State Roads	Local road injury	Local road PDO	Total
62,967	9,687	31,530	104,184

Note:

The ConnDOT’s progress in adding local road PDO crashes to its crash repository continues – The number of local road PDO reports received and entered for 2009 crashes as of April 2010 – 6,658. According to the Accident Records Coding Supervisor, 0 records for 2009 had been entered as of April 2009. Prior to 2007, no local road PDO crash data were added to the ConnDOT crash file.

Work also continues to establish and finalize an xml schema to enable the Department to begin receiving on a pilot basis electronic copies of validated and edited crash reports from the CT State Police and select local jurisdictions.

Progress is also being made for migration of crash data from the mainframe to a PC data base system. Creation of an electronic version of the PR-1 crash report to replace the present DCR system has been completed.

The Department continues to work with the Department of Public Safety (DPS) to discuss electronic files being transferred to ConnDOT, contained on the IT server and to verify edits of the PR-1. Following e-PR-1s from DPS will be local law enforcement agencies, including the towns of Madison, Branford, East Haven, North Haven, Hamden, Ansonia, Fairfield, North Branford, and Shelton, as well as towns represented in CAPTAIN/CRCOG pilot initiatives.

Additional reporting from the April 2010 monthly progress report:

Miles of mainline roadway mileage contained in the Department's network geocoded to-date 2,922

- Interstates – percent completed ... 80.41%
- Other Expressways – percent completed ... 29.33%
- Other State Maintained – percent completed ... 23.78%
- HPMS Upper Functional Class Town Roads – percent completed ... 61.88%
- Other Town Roads – percent completed ... 0
- Private Roads – percent completed ... 2.17%

Crash Outcome Data Evaluation System

Project ID: CT-P-00013

Core System:

- Injury Control

Performance Area:

- Integration

Project Title: Crash Outcome Data Evaluation System (CODES)

Lead Agency: Department of Public Health (DPH)

Partner Agencies:

- Department of Transportation
- Connecticut Hospital Association

Project Director/Primary Contact:

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Project Description:

The Crash Outcome Data Evaluation System (CODES) Project is a set of State-based operational data systems created and maintained to identify priority needs for health promotion and injury prevention. Ownership of the databases that comprise the CODES data system resides with multiple agencies, yet Department of Public Health (DPH), awarded as the CODES Program for Connecticut, serves as the main portal that is able to liaison with the data owners. It is a goal of CODES to assist in creating a data sharing network and integrated system that avoids unnecessary duplication of costs and personnel administration. CODES originated as an innovative means to generate data for outcome-based decision making related to improving traffic safety nationally at a time when traffic injuries and fatalities were at their highest levels. In the years that followed since that initial concept, CODES personnel have become successful in performing data linkage activities, initiating data queries, and performing data analysis using software applications and statistical methodology that few other programs have perfected. CODES is used to identify traffic safety problems, support traffic safety decision makers, support traffic safety legislation, and educate the public.

Basis for Project:

Prior to 2006, there had been no integration of the crash data to the health care system database. As of June 2010, years of linked data, both for hospitalization as well as emergency department visit to crash data totaled 12. CODES electronically tracks victims of a motor vehicle crash from the scene through the health care system to determine crash outcome in terms of mortality, injury, severity, and health care cost.

Expected Impact:

Impact of the integration of crash data to other databases includes:

- Increased number and years of databases linked to the crash database.
- Increased use of integrated data (CODES) to identify traffic safety problems, support traffic safety decision makers, support traffic safety legislation, and educate the public.
- Increased data sharing of crash data linked with health care system data.
- Increased accessibility to crash data linked with health care data for CODES personnel and others to perform data analysis for highway traffic safety.

Goals/Objectives:

The CODES initiative has a primary objective the use of data linkage in pursuit of traffic safety by providing data and analyses to support State and Federal programmatic decisions.

Towards this objective, CODES is designed to foster and cultivate the use and analysis of multiple highway safety data systems for highway safety applications at the State level, and facilitate State participation in CODES Data Network multi-state studies coordinated by NHTSA. NHTSA and State CODES programs work together to:

1. Develop, implement and manage an integrated multi-stakeholder system at the state and national level leveraging necessary resources (time, money, personnel, and equipment) as needed.
2. Advance the interpretation/analysis of multiple data sets to support traffic safety using state-of-the-art methodologies leveraging the use of appropriate software, equipment, and training.
3. Establish a foundation for data sharing with key stakeholders – NHTSA, FARS, State Highway Safety Offices, TRCC, and other potential data users.
4. Create greater demand for CODES data by continuing to educate State government officials on the power, benefit and application of the CODES efforts in a “real world” context.
5. Assess the medical and economic impact of injuries to influence and inform State best practice outreach interventions and policy changes.

Tasks/Milestones:

- Link additional years of crash data to hospitalization and emergency department visit data as made available.
- Obtain approval from and/or form agreements between CODES program and mortality and Emergency Medical Services (EMS) data owners.
- Link crash data to mortality and EMS data as made available.
- Conduct at least one State-specific application annually based on CODES data and expected to provide support to the State’s highway safety goals.
- Develop and maintain a written general data release policy for use of the CODES linked data that is compatible with State confidentiality and data access policies.
- Develop and maintain written documentation of the within-state linkage processes, and use this documentation to contribute, when feasible, improvements to the CODES Basic Linkage Guidelines and other CODES training materials for all states.
- Maintain an administrative governing body, known as the CODES Advisory Board consisting of data owners and users that meets quarterly to review/maintain CODES governing policies and to keep current CODES State network activities.
- Participate in NHTSA-sponsored CODES quarterly meetings, including annual technical assistance and networking meeting.
- Participate in Data Network special studies designed by NHTSA by contributing data specific to the study as coordinated by NHTSA or designated CODES resource centers.

- Contribute, when feasible, by serving as mentors, trainers, and technical support to others in the CODES Data Network System.

Project Status:

The following information was contained in an Interim Progress Report, submitted in April 2010 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 8 data years of linked data as of June 2009 to include an additional data year for hospitalization data and emergency department visit data linked as of April 2010.

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

Dataset integrated with crash	Years linked	# of data years
Hospitalization	2002-2005	4
Emergency department visit	2002-2005	4
		Total = 8

Date and Current Value for the Measure:

Number of additional data years for hospitalization and emergency department visits linked as of April 2010

Dataset integrated with crash	Year linked	# of data years
Hospitalization	2006	1
Emergency department visit	2006	1
		Total = 2

Note: The DPH CODES Project has made progress in integrating hospitalization and emergency department visit data to the crash data. More data years are expected to be integrated. Additionally, the CODES Program is expected to add the integration of mortality data and emergency medical services (EMS) data to the crash data in future years.

Project Summaries / 6th Year (2011 – 2012)

Considerable emphasis for traffic records system improvements continues to focus on mobile reporting of traffic citation and motor vehicle crash data by law enforcement in the field. Back-end systems development for the E-Citation Processing System and expansion of the EMS Patient Care Reporting System continue.

The projects selected by the TRCC in the 6th year of Section 408 include:

- Crash Data Repository
- e-Citation Processing System
- e-Citation State Law Enforcement
- e-Citation Local Law Enforcement (CRCOG)
- e-Citation Local Law Enforcement (Ansonia Group)
- Crash Outcome Data Evaluation System (CODES)

State Motor Vehicle Crash Data Repository

Project ID: CT-P-00003

Core System: Crash

Performance Area:

Integration
Completeness
Timeliness

Project Title: Enhancement of the Connecticut Motor Vehicle Crash Data Repository

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:

The purpose of this project is to enhance the Connecticut Crash Data Repository (CTCDR), data query and analysis toolset created in the first phase of this study. The overall project goal is to provide members of the traffic-safety community with timely, accurate, complete and uniform crash data. The Crash Repository designed at the University of Connecticut compiles data from agencies in Connecticut that capture PR-1 accident data and provides users access to these data. The system is currently designed to allow users access to two individual data repositories. The first repository is collected from the Connecticut Department of Public Safety (DPS) and the second is repository is generated from accident data processed by the Connecticut Department of Transportation. Phase 2 of this project would work to: 1) add additional functionality to the web portal of the repository, 2) incorporate more local police department crash reports (electronic XML) into the repository and 3) integrate other roadway and traffic information databases into the repository.

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. Furthermore, roadway inventory, traffic volumes and even land use information are all critical for evaluating the safety of any road segment or intersection, and other safety analysis exercises such as demographic or behavioral studies require driver licensure, motor vehicle registration and other institutional databases.

Currently, Connecticut has two disparate crash repositories: one at DPS with very limited access; and one at ConnDOT that can be provided a year at a time via CD upon request. Phase 1 of this project established a repository structure which provides users online access to these repositories through a common integrated portal. In addition to two large scaled repositories, there are numerous small scale repositories retained at local police departments throughout the state. The TRCC is currently working with local authorities to convert these repositories to electronic format for inclusion into the UConn Crash repository.

Phase 1 of this project provided users with access to the crash data. However, these crash data repositories are not easily linked to roadway information, traffic volumes or land use data. These other databases are maintained by other state agencies and require significant manual reformatting to combine the crash data and roadway information. Having the information from all of these databases assembled into the crash data repository would reduce duplicative effort on the part of State agency employees and researchers on projects funded by the State. The joining of roadway information with accident data will provide researchers with a wealth of information for future studies with minimal effort to obtain the data. Figure 1 illustrates how we are proposing to establish and integrate a third repository of roadway and traffic characteristics into the current CDR.

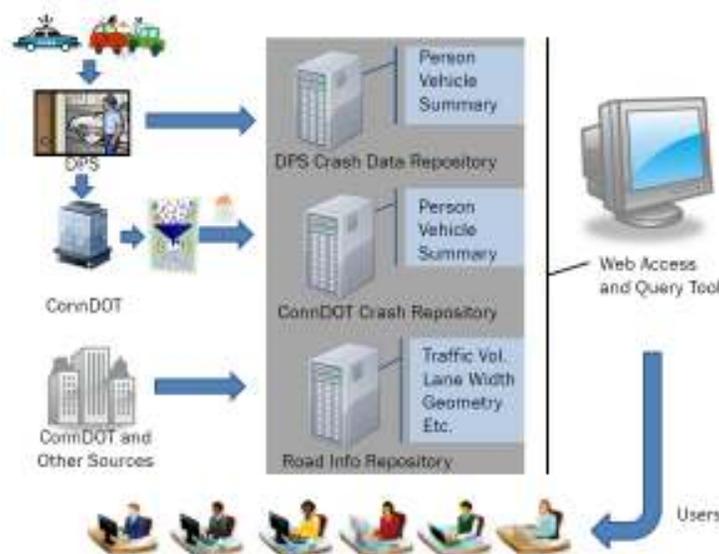


Figure 1: Proposed CDR Structure to Include Roadway Information

As Figure 1 outlines now users will be able to query crash records not only by information contained on the PR-1 but they will be able to query the data based on the physical characteristics of the highway network. Furthermore, the addition of this third repository will integrate crash records and roadway/traffic information. Users will be given the option to include roadway/traffic information for each crash record returned as part of their query. The integration of these datasets will enable rapid analysis of crashes in the state by providing access to the crash records in a timely manner as well as performing tedious data joins from multiple datasets for researchers automatically.

Vision for the Future:

Future advancements of the established repository will be proposed in subsequent years if funding is available. Phase three of the data repository would work to establish a georeferencing crash application as part of the web access tool. This GIS based application would allow users to plot the physical location of every file in the database onto the statewide road network. Once each accident is georeferenced

spatial relationships can be added to the dataset by individual users. There is also a large amount 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 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 medical reports detailing the care provided to and the severity of the injuries to crash victims. 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 this phase 2 of this project will enhance the crash data repository created in Phase 1. This enhanced repository will provide members of the traffic-safety community with **timely** 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 roadway data will provide users with a higher level of query and analysis options that are currently difficult and time consuming to generate on a case by case basis.

Project Milestones:

Tasks/Milestones	Projected Completion Date	Actual Completion Date
Submit HS-1 grant application for 6th year Section 408 project	9/15/2011	
Receive approval of the HS-1 and initiate project	10/1/2011	
Continue efforts of technical advisory committee (TAC) in further development and implementation of Crash Data Repository (CDR)	10/15/2011	
Continue to document and report on the TAC recommendations	12/20/2011	
Continue requirements/design for an updated CDR structure	2/1/2012	
Update design specifications for integration of roadway databases into crash repository and analysis structure	4/1/2012	
Update web front application to provide users new options in data query and analysis.	5/1/2012	
Crash repository database modifications complete	6/1/2012	
Web access and analysis programming complete	7/1/2012	
Update web front application programming	8/1/2012	
Continue application launch for TRCC and TAC comments	8/1/2012	
Continue CDR launch for use in Connecticut	9/30/2012	

Projected Budget by Funding Source:

Funding Source	2006	2007	2008	2009	2010	2011
NHTSA 408	11				225,900	168,400
Match					57,800	42,100
Total Funds					283,700	210,500

Crash Data Repository (CDR) – Memo of Understanding (MOU) with DPS to receive electronic PR-1s. A functional basic web portal for review and comment by the Technical Advisory Committee (TAC). Database and xml scheme to allow for incorporation of DPS data feed.

Crash Outcome Data Evaluation System

Project ID: CT-P-00013

Core System:

- Injury Control

Performance Area:

- Integration

Project Title: Crash Outcome Data Evaluation System (CODES)

Lead Agency: Department of Public Health (DPH)

Partner Agencies:

- Department of Transportation
- Connecticut Hospital Association

Project Director/Primary Contact:

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Project Description:

The Crash Outcome Data Evaluation System (CODES) Project is a set of State-based operational data systems created and maintained to identify priority needs for health promotion and injury prevention. Ownership of the databases that comprise the CODES data system resides with multiple agencies, yet Department of Public Health (DPH), awarded as the CODES Program for Connecticut, serves as the main portal that is able to liaison with the data owners. It is a goal of CODES to assist in creating a data sharing network and integrated system that avoids unnecessary duplication of costs and personnel administration. CODES originated as an innovative means to generate data for outcome-based decision making related to improving traffic safety nationally at a time when traffic injuries and fatalities were at their highest levels. In the years that followed since that initial concept, CODES personnel have become successful in performing data linkage activities, initiating data queries, and performing data analysis using software applications and statistical methodology that few other programs have perfected. CODES is used to identify traffic safety problems, support traffic safety decision makers, support traffic safety legislation, and educate the public.

Basis for Project:

Prior to 2006, there had been no integration of the crash data to the health care system database. As of June 2011, years of linked data, both for hospitalization as well as emergency department visit to crash data totaled 12. CODES electronically tracks victims of a motor vehicle crash from the scene through the health care system to determine crash outcome in terms of mortality, injury, severity, and health care cost.

Expected Impact:

Impact of the integration of crash data to other databases includes:

- Increased number and years of databases linked to the crash database.
- Increased use of integrated data (CODES) to identify traffic safety problems, support traffic safety decision makers, support traffic safety legislation, and educate the public.
- Increased data sharing of crash data linked with health care system data.
- Increased accessibility to crash data linked with health care data for CODES personnel and others to perform data analysis for highway traffic safety.

Goals/Objectives:

The CODES initiative has a primary objective the use of data linkage in pursuit of traffic safety by providing data and analyses to support State and Federal programmatic decisions.

Towards this objective, CODES is designed to foster and cultivate the use and analysis of multiple highway safety data systems for highway safety applications at the State level, and facilitate State participation in CODES Data Network multi-state studies coordinated by NHTSA. NHTSA and State CODES programs work together to:

1. Develop, implement and manage an integrated multi-stakeholder system at the state and national level leveraging necessary resources (time, money, personnel, and equipment) as needed.
2. Advance the interpretation/analysis of multiple data sets to support traffic safety using state-of-the-art methodologies leveraging the use of appropriate software, equipment, and training.
3. Establish a foundation for data sharing with key stakeholders – NHTSA, FARS, State Highway Safety Offices, TRCC, and other potential data users.
4. Create greater demand for CODES data by continuing to educate State government officials on the power, benefit and application of the CODES efforts in a “real world” context.
5. Assess the medical and economic impact of injuries to influence and inform State best practice outreach interventions and policy changes.

Tasks/Milestones:

- Link additional years of crash data to hospitalization and emergency department visit data as made available.
- Obtain approval from and/or form agreements between CODES program and mortality and Emergency Medical Services (EMS) data owners.
- Link crash data to mortality and EMS data as made available.
- Conduct at least one State-specific application annually based on CODES data and expected to provide support to the State’s highway safety goals.
- Develop and maintain a written general data release policy for use of the CODES linked data that is compatible with State confidentiality and data access policies.
- Develop and maintain written documentation of the within-state linkage processes, and use this documentation to contribute, when feasible, improvements to the CODES Basic Linkage Guidelines and other CODES training materials for all states.
- Maintain an administrative governing body, known as the CODES Advisory Board consisting of data owners and users that meets quarterly to review/maintain CODES governing policies and to keep current CODES State network activities.
- Participate in NHTSA-sponsored CODES quarterly meetings, including annual technical assistance and networking meeting.
- Participate in Data Network special studies designed by NHTSA by contributing data specific to the study as coordinated by NHTSA or designated CODES resource centers.

- Contribute, when feasible, by serving as mentors, trainers, and technical support to others in the CODES Data Network System.

Projected Budget by Funding Source:

Funding Source	2006	2007	2008	2009	2010	2011
NHTSA 408						40,000
Match						10,000
Total Funds						50,000

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

Dataset integrated with crash	Years linked	# of data years
Hospitalization	2002-2006	5
Emergency department visit	2002-2006	5
		Total = 10

Date and Current Value for the Measure:

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

Dataset integrated with crash	Year linked	# of data years
Hospitalization	2007	1
Emergency department visit	2007	1
		Total = 2

Note: The DPH CODES Project has made progress in integrating hospitalization and emergency department visit data to the crash data. More data years are expected to be integrated. Additionally, the CODES Program is expected to add the integration of mortality data and emergency medical services (EMS) data to the crash data in future years.

E-Citation Processing System

Project ID: CT-P-00009

Core System:

- Citation/Adjudication

Performance Area:

- Completeness
- Uniformity
- Timeliness

Project Title: Electronic Citation Processing System

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

Partner Agencies:

- State and Local Law Enforcement Agencies

Project Director/Primary Contact:

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Project Description:

The continued development of an application that enables the receipt by the Centralized Infractions Bureau (CIB) of electronically captured citation data, automatically populated into the CIB system, leading to a paperless court in Connecticut for processing infractions.

Basis for Project:

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 will significantly improve processing times and the accuracy of the information processed.

- This project serves as a complement to all law enforcement citation pilot efforts statewide through ultimately building a back-end process for electronic traffic citations
- Based on previous traffic records assessments and recent strategic planning efforts, there has been no electronic statewide roadside data capture system for traffic citations.

Goal:

Create the first completely paperless court in Connecticut for infractions, building on e-Citation, PERKS and e-Payment.

Purpose:

- Streamline citation system process through applied technology
- Increase revenue
- Increase uniformity of infractions processing
- Utilize staff more efficiently
- Assist law enforcement initiatives

Tasks/Milestones:

1. Submit/finalize HS-1 grant application to DOT, Transportation Safety Section
2. Production of electronic-citation data submitted by law enforcement resulting in automatic population into CIB database
3. Document volumes and define hardware/software needs
4. Architecture design
5. Web services application
6. Streamlining of CIB workflow
7. Longer term enhancements may include absorbing additional jurisdictions and/or the creation of more e-Infractions courts.

Equipment Needs:

- Laptop computers for Magistrates and State’s Attorneys
- Scanners
- Programming (potential assistance of a consultant) to enhance current process including PERKS, and expansion of e-Pay
- e-Pay Kiosk at regional facility

Projected Budget by Funding Source:

Funding Source	2006	2007	2008	2009	2010	2011
NHTSA 408		75,000	75,000	75,000	150,000	100,000
Match		19,000	19,000	19,000	37,500	25,000
Total Funds		94,000	94,000	94,000	187,500	125,000

Expected Impact:

It is expected that an Electronic Citation Processing System will create efficiencies in several areas. In Phase One, officer handwriting was being replaced by type-written characters, therefore eliminating some entry errors. Fewer entry errors resulted in less exception processing. Less exception processing helped to improve the timeliness of down stream processing transmissions to the Courts and the Department of Motor Vehicles. Phase Two of the project further minimizes data entry, key stroke errors, and exception processing.

Responsibility for the continuation and upkeep of the system developed as a result of this project has been assumed by the Judicial Branch.

Status:

As stated under the 5th year project status, this project continues the development of the back-end process for the electronic capture of citation data by law enforcement. Activities have been completed and coordinated in conjunction with the Department of Public Safety, CAPTAIN and CIDRIS initiatives.

As highlighted, in regards to recent pilot-testing involving State and Local law enforcement, progress includes:

- To-date, CIB has processed 25,000+ e-citations
- 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 the State Police

- CIB beginning development on streamlining the citation workflow. This involves taking the e-Citations received and automatically uploading them into the legacy system
- Currently, CIB is receiving the citations electronically and printing and scanning them, then performing data entry from the now-typed citations
- Continuing to meet with various stakeholders to review adjusted timeline(s), expectations and responsibilities
- e-Pay component, a web-based automated system to electronically accept credit card payments for infractions and certain payable violations, now operational – is targeted for June to be able to allow violators to pay multiple tickets, rather than requiring individual transactions per ticket

Proposed Performance Measure Comparisons

- Pre-Program Yearly Totals - Tickets issued 425,000 - Average # of Days from Issuance to Receipt 28 Days - Error Rate 11%
- Phase I - Tickets issued 10,000 - Average # of Days from Issuance to Receipt 6-10 Days Error Rate 5%
- It is anticipated that the number of tickets issued will continue to increase as additional municipalities join. It is also anticipated that delays and errors will be reduced to near zero as automated population of the CIB infractions database is brought online

E-Citation Enhancement Program - State Law Enforcement

Project ID: CT-P-00010

Core System:

- Citation/Adjudication

Performance Area:

- Completeness
- Accuracy
- Timeliness

Project Title: E-Citation Enhancement for Connecticut State Police

Lead Agency: Department of Public Safety / Division of State Police

Partner Agencies:

- State Judicial Department

Project Director/Primary Contact:

Name: George Battle
Title: Captain
Agency: Department of Public Safety
Office: Bureau of Communications & Technology
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Project Description:

This project will continue to enhance the deployment of e-Citation systems for the Connecticut State Police. Mobile data capture software has already been developed for the existing e-Citation effort. Printers, and other required software and/or peripheral devices will be installed in State Police vehicles.

The requested grant funds will be used to purchase at least one hundred (100) mobile printers and other peripheral devices for Connecticut State Police vehicles. Once vehicles are equipped with the required hardware, and related software/peripherals, State Police personnel will use their e-Citation application to electronically upload collected citation data to the State Police server and then to the State of Connecticut's Judicial Department, Centralized Infractions Bureau (CIB).

Basis for Project:

Automated citation data collection is only available in a few law enforcement jurisdictions. Collection and submission of citation data in the paper (manual) format is largely an inefficient process.

Additionally, the use of the e-Citation software will reduce data input errors and improve the completeness of the collected data. In the pilot phase, it has also proven to increase police officer efficiency by reducing the amount of time that officers spend collecting citation data and decrease the

time it takes this data to be received by the courts. The law enforcement server interface provides a direct link for law enforcement officers to query driver licensing and vehicle data as well as provide a secondary linkage to emergency responders (i.e., EMS, fire, etc.).

Expected Impact:

Expected impacts include:

- Expand management information and targeted enforcement activities
- Improved timeliness of the availability of citation data to the courts
- Improved accuracy and completeness of collected and submitted citation data

Project Milestones:

Tasks/Milestones	Projected Completion Date	Actual Completion Date
Submit/Finalize HS-1 grant application to DOT, Transportation Safety Section.	10/01/11	
Determine the number of officers/vehicles to be equipped with the e-Citation pilot system.	10/15/11	
Purchase/provide officers with necessary hardware/software applications.	11/01/11	
Install applications in vehicles, including printers and software.	2/15/12	
Provide training in use of e-Citation data capture software, printers.	2/01/12	
Conduct tests to monitor e-Citation applications with increased users / volume.	4/30/12	
Upload collected citation data to the State Police server.	4/30/12	
Upload citation data from the law enforcement server to the Centralized Infractions Bureau.	4/30/12	
Continue to provide necessary training and support.	2/15/12	

Projected Budget by Funding Source:

Funding Source	2006	2007	2008	2009	2010	2011
NHTSA 408			25,000		50,000	100,000
Local Funds			6,250		12,500	25,000
Total Funds			31,250		62,500	125,000

Project Status:

Discussed under the 4th year project status, and continuing into the 5th year, the focus of 2011-2012 (6th year) for this project will be the expansion of the number of State Police vehicles equipped to enable the issuance of electronic citations. The project status to-date includes:

- Completion of the development portion for the e-Citation
- Completion of the e-Citation design and creation

- Completion of the interface testing and modification
- August 2009 – Initial thirty five (35) e-Citation printers ordered & received by CT State Police
- May 3, 2010 – Traffic Unit Trooper issued first e-Citation printer; End-to-end transmission of e-Citation data was also completed with Judicial Department, Centralized Infractions Bureau (CIB).
- E-Tickets issued in the first half of May 2010 – totaled 701.
- November 2010 – Fifty (50) additional e-Citation printers ordered by CT State Police.
- On going coordination with the CIB designers regarding the Judicial Electronic Citation Processing System Project.
- As of April 1, 2011 – 71 of the 85 e-printers have been installed in the vehicles of State Police Traffic & Patrol personnel. Remaining 14 units are scheduled to be installed prior to May 1, 2011.
- Between June 2010 and April 2011, over 25,330 e-Citations have been issued by CT State Police personnel, totaling over \$5,400, 000 in fines.

E-Citation Enhancement Program - Local Law Enforcement (CRCOG)**Project ID:** CT-P-00011**Core System:**

- Citation/Adjudication

Performance Area:

- Completeness
- Accuracy
- Timeliness

Project Title: E-Citation Pilot for Local Law Enforcement**Lead Agency:** Capitol Region Council of Governments**Partner Agencies:**

- State Judicial Department
- State Department of Transportation

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 will continue the roll out of e-citation and e-crash systems in law enforcement agencies. Software has already been procured for the existing e-citation/e-crash efforts and printers, scanners and other appropriate hardware/software will be installed in police vehicles.

The requested grant funds will be used to purchase mobile printers, handheld scanners, and other appropriate hardware for select law enforcement vehicles. Once vehicles are equipped with the required hardware, law enforcement personnel will use e-citation and/or e-crash software developed under previous year Section 408 initiatives. Citation/crash data will be electronically uploaded to the appropriate law enforcement servers. These servers will then upload the citation/crash data electronically to the appropriate State of Connecticut agency servers via XML specification standards.

The use of the e-citation/e-crash software 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 citation/crash data and decrease the time it takes this data to be received by the appropriate State agency.

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 and the Department of Transportation along with local law enforcement. In the past year, 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 system that will provide not only automated ticketing and docketing, but eventually full payment and Department of Motor Vehicles' adjudication of the infractions.

Expected Impact:

Expected impacts include:

- Expand management information and targeted enforcement activities in equipped municipalities
- Improved timeliness of the availability of citation data to the courts
- Improved accuracy and completeness of collected and submitted citation data

Goals and Objectives:

Technical Objectives:

This project builds on prior investments of the State of Connecticut Department of Transportation.

1. The electronic citation applications currently being built/tested and implemented will provide:
 - 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.
2. Using existing hardware and communications facilities, this system will provide a GPS reference on all electronic crash records and citations.

Tasks/Milestones:

1. Provide "train the trainer" instruction to selected individuals from participating towns, who will in turn train the police officers in their communities in the operation of the equipment and the full e-citation application.
2. Local law enforcement records management system, being initiated, contains the standard for the XML interface for crash reporting. Select towns will send all of their crash reports through the new system by the end of 2010.

3. As an adjunct to the e-Citation project, a records management system will be made available to any local law enforcement agency, thereby fully encouraging use of the shared resource with access to the ad hoc state crash repository.

4. Pilot communities will be selected for e-citation that are reflective of urban, suburban, and rural police agencies.

5. All equipment and services will be acquired using competitive procurements through GSA and/or cooperative procurement approved methods. The source has already been identified for the ruggedized printers and mobile scanners. These items have been tested by the application developers hired by the Judicial Department.

Activities:

Ruggedized mobile printers and scanners would be acquired for selected police traffic and patrol vehicles. The contract software product developed in the fourth year would be connected to the mobile data systems and fully interconnected with the Judicial Department.

Project Milestones:

Tasks/Milestones	Projected Completion Date	Actual Completion Date
Submit HS-1 grant application to DOT, Transportation Safety Section.	9-01-2011	
Select recipient law enforcement agencies in advance and collect baseline citation data for the months of July and August. This data would enumerate both crash related and non-crash related enforcement actions using the existing manual systems.	9-15-2011	
Finalize HS1 agreement with the State of Connecticut Transportation Safety Section.	10-15-2011	
Meet with pilot towns/agencies and determine the number of officers/vehicles in each town to be equipped with the e-citation pilot system.	11-15-2011	
Purchase and provide pilot towns with printers, and e-citation software.	12-15-2011	
Install applications in vehicles, including printers, and software.	1-15-2012	
Provide training in use of e-citation data capture software, and printers.	1-30-2012	
Test applications in preparation for pilot towns going live with their e-citation pilots.	2-15-2012	
Initiate the pilot and begin to upload collected citation data to the law enforcement server.	3-01-2012	
Upload citation data from the law enforcement server to the Centralized Infractions Bureau.	3-15-2012	
Continue to provide necessary training and support.	3-30-2012	
Employ a survey instrument for users of the e-citation pilot system: <ul style="list-style-type: none"> • To assess the satisfaction level of the users participating in the pilot; • To assess their impressions of productivity improvements; • To assess citizen satisfaction with the system. 	7-30-2012	

Projected Budget by Funding Source:

Funding Source	2006	2007	2008	2009	2010	2011
NHTSA 408				300,000	50,000	50,000
Local Funds				75,000	12,500	12,500
Total Funds				375,000	62,500	62,500

Project Status:

As stated in the 5th year project status, this project will continue the roll out of e-citation systems in local law enforcement agencies. For Capitol Region law enforcement agencies the software has already been procured and the system only requires the installation of printers in the police vehicles. After law enforcement in the participating towns is provided the requisite equipment and software, training will be completed.

Current progress includes:

- Continuing to issue printers, software, training materials, and user manuals to police departments; joining New Britain recently were Enfield, Glastonbury, Orange and East Hartford; towns to be rolled out include Bloomfield, Manchester, Newington, Rocky Hill, Wethersfield, East Hampton and East Windsor.
- Participating agencies will have the ability to immediately reference motor vehicle statutes; operator license information; integrate DMV operator and registration information into the citation; and print a citation for the violator, and forward an electronic copy to Judicial for processing
- e-Citation will speed the citation-writing process, reduce errors in both citation writing and record-keeping steps, and increase the completeness of collected data
- When the collection of crash data is integrated into the mobile application, timeliness, accuracy and completeness will extend to that procedure as well; towns will have access to the data and be able to make informed decisions about spending funds for safety improvements
- Collected citation data uploaded to the centrally located CRCOG server; citation electronically transmitted along with paper copy to CIB
- Continued review of e-citation data edits/validation checks from Judicial
- Continued review of ConnDOT edit rules and XML specifications for motor vehicle crash reporting using the PR-1 crash report form
- Emphasizing importance of meeting with Judicial and other project contributors in demonstrating the e-Citation mobile application together with the e-Citation system link
- Coordination with pilot towns to help expedite e-citation pilot start-up

In addition, an extension of the citation application will be made available to non-CAPTAIN mobile data users via an electronic interface. This will allow the software to be used by more communities without requiring additional custom applications.

E-Citation Enhancement Program - Local Law Enforcement (Ansonia Group)**Project ID:** CT-P-00014**Core System:**

- Citation/Adjudication

Performance Area:

- Completeness
- Accuracy
- Timeliness

Project Title: E-Citation Pilot for Local Law Enforcement**Lead Agency:** Ansonia Police Department**Partner Agencies:**

- State Judicial Department
- State Department of Transportation

Project Director/Primary Contact:

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Title: Lieutenant
Agency: Ansonia Police Department
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Project Description/Basis:

This project will add e-citation to the e-crash systems in law enforcement agencies. Software is already available for the e-citation/e-crash efforts and printers, and other appropriate hardware/software will be installed in police vehicles.

The requested grant funds will be used to purchase mobile printers, and other appropriate hardware for select law enforcement vehicles. Once vehicles are equipped with the required hardware, law enforcement personnel will use e-citation and/or e-crash software developed under previous year Section 408 initiatives. Citation/crash data will be electronically uploaded to the appropriate law enforcement servers. These servers will then upload the citation/crash data electronically to the appropriate State of Connecticut agency servers via XML specification standards.

The use of the e-citation/e-crash software 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 citation/crash data and decrease the time it takes this data to be received by the appropriate State agency.

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 and the Department of Transportation along with local law enforcement. In the past year, the Judicial Department has resolved issues regarding an electronic citation format. Moreover, mobile printers 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 system that will provide not only provide automated ticketing and docketing, but eventually full payment and Department of Motor Vehicles' adjudication of the infractions.

Expected Impact:

Expected impacts include:

- Expand management information and targeted enforcement activities in equipped municipalities
- Improved timeliness of the availability of citation data to the courts
- Improved accuracy and completeness of collected and submitted citation data

Goals and Objectives:

Technical Objectives:

This project builds on prior investments of the State of Connecticut Department of Transportation, Highway Safety Office.

1. The electronic citation applications currently being built/tested and implemented will provide:
 - Ability to reference the motor vehicle statute files maintained by the Connecticut Judicial Department.
 - Operator license information from crash participants or violators.
 - Integrate DMV operator and registration information to the citation.
 - Print a citation for the violator; and forward an electronic citation to the Judicial Department's Central Infractions Bureau.
2. Using existing hardware and communications facilities, this system will provide a GPS reference on all electronic crash records and citations.

Tasks/Milestones:

1. Provide "train the trainer" instruction to selected individuals from participating towns, who will in turn train the police officers in their communities in the operation of the equipment and the full e-citation application.
2. Local law enforcement records management system, being initiated, contains the standard for the XML interface for crash reporting.
3. Pilot communities have been selected for the e-citation initiative (refer to table on following page).

4. All equipment and services will be acquired using competitive procurements through GSA and/or cooperative procurement approved methods. The source has already been identified for the ruggedized printers. These items have been tested by the application developers hired by the Judicial Department.

Activities:

Ruggedized mobile printers would be acquired for selected police traffic and patrol vehicles. The contract software product developed in the fourth year would be connected to the mobile data systems and fully interconnected with the Judicial Department.

Project Milestones:

Tasks/Milestones	Projected Completion Date	Actual Completion Date
Submit HS-1 grant application to DOT, Transportation Safety Section.	9-01-2011	
Finalize HS1 agreement with the State of Connecticut Transportation Safety Section.	10-15-2011	
Meetings with the following pilot towns/agencies (Ansonia, Woodbridge, Shelton and Fairfield) to determine the number of officers/vehicles in each town to be equipped with the e-citation pilot system.	11-15-2011	
Purchase and provide pilot towns with printers, and e-citation software.	12-15-2011	
Install applications in vehicles, including printers, and software.	1-15-2012	
Provide training in use of e-citation data capture software, and printers.	1-30-2012	
Test applications in preparation for pilot towns going live with their e-citation pilots.	2-15-2012	
Initiate the pilot and begin to upload collected citation data to the law enforcement server.	3-01-2012	
Upload citation data from the law enforcement server to the Centralized Infractions Bureau.	3-15-2012	
Continue to provide necessary training and support.	3-30-2012	

Projected Budget by Funding Source:

Funding Source	2006	2007	2008	2009	2010	2011
NHTSA 408						\$50,000
Local Funds						12,500
Total Funds						\$62,500

Project Status:

The e-citation system will easily integrate with the e-crash reporting system through the NexGen mobile reporting systems. Software and hardware are already installed in the participating agencies patrol vehicles. The e-citation portion will be installed in conjunction with the required hardware.

Utilizing e-citation software and hardware will expedite the process of issuing enforcement options and providing the information to the appropriate state agencies. In addition to timeliness, accuracy will improve because officers will not be required to transcribe data from license and registration checks. This information will be imported directly from COLLECT and NCIC and entered into the citation paperwork.

Other Project Summaries

e-Crash PR-1 Based on National Guidelines & New Approach to Crash Data Capture

This past year, the TRCC revisited the State's PR-1 crash report form to determine if it still meets user needs. Stakeholders agreed to the forming of an e-Crash PR-1 working group to look into. After nearly a year of planning and review, including data elements, editing procedures, electronic data capture, records management systems, and training for law enforcement, the e-Crash working group agreed to follow National Guidelines for data element recommendations, pilot testing an electronic "question-based" approach being designed by CRCOG as well as the existing "tab-based" (RMS) approach used by the DPS. The Workgroup also agreed to further explore data element recommendations for a subset of all reportable crashes; those resulting in property damage only (PDO). A proposed reduced set of data elements for PDO crashes as a subset of the National Guidelines will be explored as a component of the design/implementation of a question-based approach to crash reporting.

Proposed steps for testing the feasibility/acceptance of e-Crash, a new approach to electronic motor vehicle data capture for the state.

1. Explore existing edit/validation rules used by other states, which have also chosen to adopt National Guideline data element recommendations. Adopt edit/validation rules to meet Connecticut's needs.
2. Develop pilot testing of electronic motor vehicle crash data capture involving proposed e-Crash data element recommendations; comparing CRCOG's new browser (Web) question-based approach, as well as the existing RMS based approach utilized by the DPS. Both systems propose to use the EZ-DRAW™ crash diagramming tool as a part of the baseline product.
3. Develop a paper version of a new/revised PR-1 for purposes of crash reporting backup to electronic data capture. A rough draft currently exists in the format as prescribed according to the 3rd Edition 2008 National Guidelines for motor vehicle crash reporting.
4. Conduct actual pilot testing to determine feasibility/acceptance by law enforcement of electronic motor vehicle crash reporting statewide, incorporating recommendations for revising the state's PR-1 crash report. Implement modifications to e-Crash data/software according to field testing by state and local law enforcement, as well as involvement and acceptance by the Connecticut Police Chief's Association (CPCA).
5. Transfer e-Crash data collected from the pilot test to the new developing Crash Data Repository (CDR) at the University of Connecticut for review/evaluation, comparison and data analysis.
6. Adopt National Information Exchange ¹²Model standards for crash reporting Guidelines as soon as they become formalized so as to promote a common approach and expanded data sharing across traffic safety disciplines.
7. Develop an extract from a new/revised PR-1 back to the content from the old (existing) PR-1 for purposes of continuity, trend comparisons, and to be able to back-fill old PR-1 reporting from the new electronic reporting.

Proposed Timeline

First year will be dedicated to testing the feasibility/acceptance of a new approach to electronic motor vehicle data capture for the state. Subsequent phases will be focused on further clarification and updates to the rules for editing and validating motor vehicle crash data, manual as well as online instruction manuals and related training documentation, train-the-trainer program development, and actual training and implementation of a new updated approach to electronic motor vehicle data capture for the state.

Connecticut Integrated Vehicle and Licensing System (CIVLS)

Critical needs supporting DMV Mission being addressed – Solution Approach will:

- **Improve timeliness and responsiveness** to Connecticut's citizens and DMV Stakeholders and Business Partners
- **Streamline** business processes
- **Standardize and integrate** business and systems processes
- **Improve DMV operational efficiency** in performing key business processes and transactions
- **Modernize (all) agency-wide systems** and supporting technologies

Proven solution, proven benefits, proven vendors

- Building on other states' experiences
- MOTS approach reduces risk, accelerates realization of benefits – Revenue improvements, Cost Savings, Benefits to all Constituents: Public, Stakeholders, State

Fixed price contract – approximately \$30M

Payback within 7-10 years (extremely conservative → based on Registration/Title only)

Schedule – 2010 - 2014

- Implementation addresses agency-wide needs
- Release 1 - Completed
 - Infrastructure (hardware, software, environments, network)
 - Customer Database
 - License/Manage Regulated Businesses
 - Certain Fiscal Functions
- Release 2 – JADs underway on registration and title-related business processes
- Release 3 – To focus on credential issuance and sanctioning business processes

CIVLS Benefits

- Real time processing
- Internet and web portal for self service
 - Provide the customer the ability to “self-help” and check compliance issues at home
- Lead through processing (on-line) to reduce training requirements
- Enterprise-wide and integrated
- One Data Base
- Customer-centric database will eliminate 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. Therefore, the DMV began with the forms it most commonly receives – NY, MA, RI, etc, and then began to expand the application to other states.

Connecticut Impaired Driver Records Information System

Current planning for the Connecticut Impaired Driver Records Information System (CIDRIS) includes 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. The CIDRIS project will lead to more timely and accurate driver, vehicle and enforcement-adjudication data and a records management and tracking system enabling law enforcement, licensing and criminal justice agencies and others to better enforce, adjudicate and impose sanctions against impaired driving offenders.

Since March 2001, DPS – Troop B has been pilot testing and deploying CIDRIS.

- Troop B has successfully processed several live “Operating Under the Influence” (OUI) cases, which were sent to DMV and Judicial
- Focus has been on training documentation and overcoming obstacles toward full deployment
- The opportunity for local Police departments to use CIDRIS will be available through several CAD/RMS vendors in the near future

CIDRIS - 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.
- Real-time based and 24x7 so that entries made at the roadside or desk are immediately available to all CIDRIS users.

Commercial Vehicle Accident Reporting System (CVARS)

Funding: All funding provided by the Federal Motor Carrier Safety Administration (FMCSA)

Funding for CVARS continues primarily to the Connecticut State Police who have incorporated Commercial Vehicle Crash reporting software into the NexGen software platform. The NexGen Commercial Vehicle Crash reporting software has also been made available to local law enforcement.

Filing PR-1s using Adobe Forms

PR-1 possibility without a PC in the cruiser - Law enforcement users would only need to have the Adobe reader. The developer would need to use a special version of the Adobe software to design the PR-1 into a special .pdf file, fillable when only using the reader. This special .pdf file could be posted on any website, or e-mailed to anyone. Files could be restricted so once certain fields (e.g., personal information) were filled in, the file would only allow access by the original officer and the receiving server. Such a restriction would guarantee data confidentiality. It would also be possible to let the officer fill out the form, print it for his own internal uses, and then submit after his internal reviews are complete. When an officer did fill out this Adobe form, he would have a special button to submit. The entire form would be sent to a special Adobe server, which would put the filled out form into XML, ready to upload to the appropriate server/repository.

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 to 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. A bi-Regional Conference was held in Saratoga Springs, New York in February 2010.

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

Open source, no cost full function accident diagramming tool for both thick and thin client users

Data analysis software/all stakeholders

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 SafetyNet; EMS services utilizing NEMSIS data; CARE data analysis software; Crash data repository and the National Information Exchange Model.

¹ The traffic engineer planning to resurface a road, the city planner developing safe school routes, the high school driver education teacher planning a curriculum, the public works director applying for a State grant for reconstructing a hazardous intersection, the sergeant targeting selective enforcement, the motor vehicle administrator, the highway safety planner as well as other stakeholders need timely and complete motor vehicle traffic crash information.

² During the 2010 National Traffic Records Forum, representatives from state and local Law Enforcement together with Judicial and Highway Safety representatives in Connecticut participated in a joint poster session/demonstration of the state's new e-Citation project. In 2011, these representatives will be participating in a National Traffic Records Forum session, updating attendees nationwide on the status of Connecticut's new program.

³ 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.

⁴ Use of the MMUCC Guideline is voluntary. The Model Minimum Uniform Crash Criteria (MMUCC) Guideline was updated in 2008, and published as the 3rd Edition.

⁵ Review conducted by InfoGroup, Inc., technical advisor to the State TRCC.

⁶ Verified by the Manager of the Accident Records Section in the 2006 Section 408 Application.

⁷ Most crash data collected by State and local law enforcement agencies are 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.

⁸ 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 SafetyNet.

⁹ 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.

¹⁰ CARE a public domain, user-friendly analytical procedure that facilitates analysis of crash data. CARE was developed with NHTSA funding.

¹¹ The concept of a Crash Data Repository was proposed by the TRCC in 2006 and in 2007; however, due to the lack of a sponsoring agency each year, the proposal failed. In 2009, the Department of Public Safety (DPS) offered to serve as the lead agency for the development of a Crash Data Repository, but then had to decline.

¹² The National Information Exchange Model (NIEM) represents a collaborative U.S. Dept of Transportation and Dept of Justice effort.