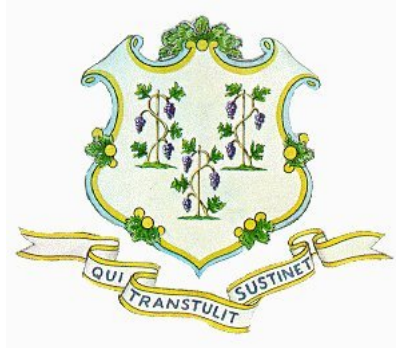


State of Connecticut



TRAFFIC RECORDS STRATEGIC PLAN

CT-TRCC

July 1, 2019



STATE CONNECTICUT
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1.0 GOVERNOR’S REPRESENTATIVE CERTIFICATION

State of Connecticut
SECTION 405 (c) GRANT CERTIFICATIONS
Fiscal Year 2020

I hereby certify that:

- ▶ The lead State Agency responsible for Traffic Safety Information System Improvements will maintain its aggregate expenditures for Traffic Safety Information System Improvements programs at or above the average level of such expenditures maintained by the state in FFY 2017 and FFY 2018;
- ▶ The State Traffic Records Coordinating Committee continues to operate and support the Strategic Plan;
- ▶ The State has adopted and is using the Model Minimum Uniform Crash Criteria (MMUCC) and the National EMS Information System (NEMSIS) data elements; and the State of Connecticut will make available or provide to NHTSA;
- ▶ A Current Report or Annual Report demonstrating the state's measurable progress in implementing the Strategic Plan;
- ▶ An Assessment or Audit of the State's highway safety data and traffic records systems, conducted or updated within the preceding five years;
- ▶ To the extent that the State of Connecticut Traffic Records Coordinating Committee (CT TRCC) charter or membership has changed since the state's previous 405 (c) application, an updated charter or membership list; and that, if awarded Section 405 (c) grant funds, the State will:
 - ▶ Use the funds only to evaluate, improve, and link its highway safety data and traffic records systems, in accordance with the eligible uses detailed in 23 U.S.C. 405 (c);
 - ▶ Administer 405 (c) grant funds in accordance with 23 C.F.R. Part 1300.22
 - ▶ Maintain its aggregate expenditures from all other sources for highway safety data programs at or above the average level of such expenditures maintained by the State in FY 2018 and FY2019

Date

Thomas J. Maziarz, Governor’s Highway Safety Representative



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2.0 FY2019 Progress Report

Performance Measure

The Connecticut Traffic Records Coordinating Committee and Stakeholders continued to manage and supervised projects funded under the Section 405(c) Grant. With the funding received in FFY2019 the traffic records improvement initiatives focused on improvements to the citation and adjudication through the court online adjudication system. Also, the state crash system continued to mature. Ongoing training and daily follow up with law enforcement agencies throughout the state result in an improvement of crash timelines from occurrence to available in the centralized crash database for analysis and reporting.

- 1) Citation Adjudication & Disposition Timeliness - Decrease the number of days for Citation Adjudication and posting of disposition to Driver History File.
- 2) Crash Timelines - Decrease the number of crash occurrence to when it is available in the State Central Database for analysis and report.



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Demonstrated Improvement

CT-CA-002- Citation /Adjudication Timeliness

Performance Measure Based on C/A-T-2 Model (Timeliness)

Connecticut Judicial Branch deployed an **Online Adjudication System** which enabled individuals who pled “not guilty” to an infraction to participate in the court electronically process, rather than be required to physically appear in court (not including trials). Currently available in all locations in the State, the online dockets have reduced costs, improved the quality and timeliness of hearings, and improved the convenience and efficiency of the process for both the court and the individual who receives the infraction. These adjudications results are subsequently available in a timely manner to members of the highway safety community for use in subsequent offender sanctioning, training, and education of high-risk driver populations.

Prosecutors have real time access to driver histories, pending cases and registration information to consider when disposing infractions. Disposition results are now entered immediately to the Drive History File

Performance Area: CT-CA-002 Timeliness – C/A-T-2

Summary of Deficiency: There is a significant time lag in the date of charge disposition to the date the charge disposition is entered into the statewide adjudication database and Driver History File.

Measurement: The mean number of days from the date a citation is issued to the date the citation/adjudication disposition is entered into the Driver Record file.

C/A-T-2 - Average number of days for Citation /Adjudication and Disposition Entry to the Driver History File



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	Start Date	End Date
Baseline	4/1/2017	3/31/2018
Target	4/1/2018	3/31/2019

ECitation Adjudication & Disposition Timelines

Average number of days for Citation Adjudication and Disposition Entry to the Driver History File

	04/01/2016 - 03/31/2017	04/01/2017 - 03/31/2018	Change
Total number of Citation	123	2238	1719.51%
Summation of days required for all ECitation Disposition and Post to Driver History File	151	615	307.28%
Average # of days per Citation Improvement (Reduction)	1.227642276	0.274798928	-77.62%

of days 0.952843349

*Citation Adjudication Disposition improved from 1.227642276 to 0.274798928 days=**77.62% reduction** (0.952843349 days) for Citation Adjudication Disposition to posting in Driver History File*



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Year	Month	Paper Ticket with Court Disposition		ECitation with On-Line Payment		ECitation with On-Line Disposition	
		Ticket Total	No. Of days	Ticket Total	No. Of days	Ticket Total	No. Of days
2017	Apr	968	135	5081	22		
2017	May	411	152	4019	23		
2017	Jun	363	154	3740	23		
2017	Jul	390	141	4535	23		
2017	Aug	979	149	5402	22		
2017	Sep	451	170	4008	23		
2017	Oct	353	178	3686	23		
2017	Nov	372	193	4381	23		
2017	Dec	263	192	3264	24		
2018	Jan	305	177	3171	22	23	54
2018	Feb	351	170	3300	23	43	51
2018	Mar	324	150	3697	22	57	46
2018	Apr	995	144	4814	21	65	52
2018	May	407	148	5331	22	95	55
2018	Jun	317	144	3996	23	95	53
2018	Jul	309	143	4276	23	99	54
2018	Aug	463	149	4638	22	159	50
2018	Sep	200	141	3636	23	135	55
2018	Oct	199	125	3764	23	178	57
2018	Nov	115	113	3767	23	284	55
2018	Dec	78	99	3915	25	412	52
2019	Jan	46	87	3866	23	347	53
2019	Feb	2	74	4070	21	299	45
2019	Mar			3901	16	70	34

Backup data for ECitation Online Disposition.



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CT-CR-001- Crash Timeliness

Performance Measure Based on C -T-1- Model (Timeliness)

Electronic Crash Reporting System

CT Electronic Crash Reporting System timeliness improved during this period as training and local law enforcement outreach continued.

C-T-1- Crash Timeliness – The median number of days from the crash date to the date the crash report is entered into the centralized database

Connecticut methods for calculation is the total number of days and hours from crash occurrence to crash report entry to the database for analysis and reporting (summed across all of the reports)



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	Start Date	End Date
Baseline	4/1/2017	3/31/2018
Target	4/1/2018	3/31/2019

Average number of days from the occurrence of a crash to the entry of the crash report into the centralized database.

	04/01/2017 - 03/31/2018	04/01/2018 - 03/31/2019	Change
Total number of crashes	113813	111281	-2.22%
Summation of time required for all reports to reach the database (Seconds)	1641600	3542400	115.79%
Summation of time required for all reports to reach the database (Days:Hours:Minutes:Seconds)	41	19	
Average time per report (Seconds)	14.42365986	31.83292745	120.70%
Average time per report (Days:Hours:Minutes:Seconds)	24	19	
Improvement (Reduction)		-120.70%	

Crash Timeliness Improved from 24 days to 19 days=5 days reduction from Crash Occurrence to available in Central for analysis and reporting.



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3.0 TRAFFIC RECORDS COORDINATING COMMITTEE DOCUMENTATION

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

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

ConnDOT - <http://www.ct.gov/dot> (Department of Transportation)

Highway Safety Programs -

<http://www.ct.gov/dot/cwp/view.asp?a=2094&q=432886>

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



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Highway Safety Office

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

Traffic Records Coordinating Committee - Website

TRCC website located at -

<http://www.ct.gov/dot/cwp/view.asp?a=2094&q=435916>

DMV - <http://www.ct.gov/dmv> (Department of Motor Vehicles)

- Online - License Services
- Driver License Suspension Payments
- Check Driver License Status
- Commercial Driver Self Certification
- Vehicle Services

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

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

http://www.ct.gov/dph/cwp/view.asp?a=3127&q=387370&dphNav_GID=1827&dphNav

- Injury Prevention
<http://www.ct.gov/dph/cwp/view.asp?a=3137&q=400094>

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

- Division of State Police

http://www.ct.gov/despp/cwp/view.asp?a=4201&q=494678&desppNAV_GID=2077&desppNav=|

CPCA - <http://www.cpcanet.org/> (Connecticut Police Chiefs Association)



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

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

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

- Connecticut Information Sharing System (CISS)



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3.1 TRCC CHARTER

Objective

To create an inter-agency traffic records committee composed of all agencies involved in highway safety for the purpose of providing direction on all matters related to the State of Connecticut Traffic Records System.

Mission

Promote the effective use of information technology in support of the highway safety goals and objectives of the State. The CT_TRCC will adopt a global view of the data required to make the business of highway safety work and develop information systems and business processes that promote the sharing of highway safety data among all agencies involved. We will support data improvements that eliminate duplication, improve uniformity, promote electronic data collection, and facilitate data access and use.

Goal

Ensure that accurate, complete, and timely traffic safety data is collected, analyzed, and made available for decision making among appropriate partners.

Memorandum of Understanding

(I) Have authority to review any of the State's highway safety data and traffic records systems and any changes to such systems before the changes are implemented;

(ii) Consider and coordinate the views of organizations in the State that are involved in the collection, administration, and use of highway safety data and traffic records systems, and represent those views to outside organizations;

(iii) Review and evaluate new technologies to keep the highway safety data and traffic records system current; and

(iv) Approve annually the membership of the TRCC, the TRCC coordinator, any change to the State's multi-year Strategic Plan required under paragraph (c) of this section, and performance measures to be used to demonstrate quantitative progress



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in the accuracy, completeness, timeliness, uniformity, accessibility or integration of a core highway safety database.

3.2 TRCC 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 (see appendix A), from the following Administrators, designate individual(s) to attend, as their representatives and participate on the TRCC.

Crash Data and Roadway Data Systems:

Name: Joseph Giulietti
Title: Commissioner
Agency: Department of Transportation

Driver License / History and Vehicle Registration Data Systems:

Name: Michael Bzdyra
Title: Commissioner
Agency: Department of Motor Vehicles

Injury Surveillance / EMS Data System:

Name: Raul Pino
Title: Commissioner
Agency: Department of Public Health

Citation / Adjudication Data System:

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

TRCC (Technical Level) - The Connecticut TRCC, supported by the Highway Safety Office, continues an active, full schedule. In its efforts to seek improvements in the State's traffic records system, as outlined in this Strategic Plan and reflected in both the 2012 and



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2017 Traffic Records Assessments, the TRCC's emphasis has followed the original recommendations from the Section 408/405c process for measures of improvements – *completeness, uniformity, timeliness, accuracy, integration, and accessibility* of the data by stakeholders.

3.3 CT RCC CERTIFICATION

The Connecticut Traffic Records Coordinating Committee continues to operate and function as the organization responsible for the planning and implementation of the state traffic safety data system improvements.

The CTRCC members voted and approved the Strategic Plan along with the projects selected for the FY 2020 funding under the "Section 405 (c) Program" in the June 20, 2019 meeting.

Joseph T. Cristalli, Jr.
Transportation Principal Safety Program Coordinator
Connecticut Department of Transportation



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3.4 MEMBERSHIP ROSTER

The Connecticut Traffic Records Coordinating Committee (CT-TRCC) members are listed in the following table.

Traffic Records System	Role	Name	Organization	Agency
Crash/Citation Roadway	Manager/User	Joseph T. Cristalli, Jr. , Transportation Principal Safety Program Coordinator	Highway Safety Office Department of Transportation	ConnDOT
Crash/Citation Roadway	User	Kerry Ross , Supervising Planner Highway Safety Office	Highway Safety Office Department of Transportation	ConnDOT
Crash/Citation Roadway	User	Aaron Swanson , Traffic Records Coord. Transportation Planner II	Highway Safety Office Department of Transportation	ConnDOT
Crash/Citation Roadway	User	Juliet Little Transportation Planner II	Highway Safety Office Department of Transportation	ConnDOT
Crash/Citation Roadway	User	Robert Klin LEL - CTDOT	Highway Safety Office Department of Transportation LEL - CTDOT	ConnDOT



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Crash	Collector (FARS)/User	Harley Polverelli Transportation Planner I / FARS Analyst	Crash Data & Analysis Section	ConnDOT
Crash	User	Linda Ackerman Trans. Planning Assistant II / FARS	Crash Data & Analysis Section	ConnDOT
Crash	User	Scott Schleicher Trans. Planning Assistant II	Crash Data & Analysis Section	ConnDOT
Crash	User	Maxine Trout Trans. Planning Assistant II	Crash Data & Analysis Section	ConnDOT
Crash	Collector/User	Sean Fogarty DOT HSO	Crash Data & Analysis Section	ConnDOT
Crash	Management	Robbin Cabelus Transportation Planning Director	Transportation Planning	ConnDOT
Crash	Management	Mike Connors Assistant Trans Planning Director	Transportation Planning	ConnDOT
Crash	User	Al Iallonardo Transportation Supervising Planner	Transportation Planning	ConnDOT
Crash	User	Greg Ciparelli	Transportation Planning	ConnDOT



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		Transportation Planner II		
Crash/Roadway	User	James Spencer , Photolog GeoSpatial Planner	GIS/Construction/Engineering	ConnDOT
Crash/Roadway	User	Jeff Hunter , Office of Construction	GIS/Construction/Engineering	ConnDOT
Crash/Roadway	User	Joe Quелlette Traffic Engineering	GIS/Construction/Engineering	ConnDOT
Crash/Roadway	User	Eamon Flannery Traffic Engineering	GIS/Construction/Engineering	ConnDOT
Crash/Roadway	Management	Robert Muzzy	Office of Information Systems	ConnDOT
Driver/Vehicle	Management	George White Division Chief	Division Chief	DMV
Driver/Vehicle	User	Donald Bridge , (Lt.) Commercial Vehicle Safety Division	Commercial Vehicle	DMV
Driver/Vehicle	User	Cindy Zuerblis , Division Manager, Driver Regulation Division	Driver Regulation	DMV
Driver/Vehicle	Management	Daniel Silbo , Division Manager Registry Division	Registry	DMV
Driver/Vehicle	User	Darlene Labonte , Driver Services	Help Desk	DMV



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		CDL Help Desk, MV Related Programs		
Driver/Vehicle	Collector/User	Catherine Lam	Child Safety	DMV
Driver/Vehicle	Collector/User	Janice Floyd	Child Safety	DMV
Driver	Management	Brian Clarke	Driver Services	DMV
Driver	Collector/User	Grace Hurd	Driver Services	DMV
Crash/Citation/Adjudication	Collector/User	Mary Muzzulin, TFC State Police	State Police	DES&PP
Crash/Citation/Adjudication	Collector/User	Kevin Gridley, Sgt State Police	State Police	DES&PP
Crash/Citation	Support	Gregory Zeoli, CAD/RMS NexGen Support, LPR	State Police	DES&PP
Crash/Citation/Adjudication	Management	Erik Costa, Commanding Officer Troop F	State Police	DES&PP
Crash/Citation/Adjudication	Management	Mark Tezaris, CJIS Program Manager CJIS Governing Board	Governing Board Criminal Justice Information System	CJIS
Crash/Citation/Adjudication	Liaison	Hank Lindgren, Sergeant, Ret. Public Safety Liaison, CJIS	Criminal Justice Information System	CJIS
Crash/Citation/Adjudication	Liaison	Patrick Farrell Trainer and Public Safety Liaison	Criminal Justice Information System	CJIS



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EMS/Injury Surveillance	Collector/User	Ann Kloter, Epidemiologist Office of EMS	Office the EMS	DPH
EMS/Injury Surveillance	Management	Raffaella Coler, Director Office of EMS	Office of EMS	DPH
EMS/Injury Surveillance	User	Susan Logan, MS, MPH Epidemiologist, DPH, OIP	Epidemiologist	DPH
EMS/Injury Surveillance	Support	John Baker IT Consultant	IT	DPH
Crash/Citation/Adjudication	User	Brenda L. Hans Asst. State's Attorney	Traffic Safety Prosecutor	State Attorney
Crash/Citation/Adjudication	User	Richard Colangelo, Jr. State's Attorney	Prosecutor	State Attorney
Crash/EMS/Injury Surveillance	User	Pina Violano, Injury Prevention	Hospital Research Outreach & Research	Yale New Haven Hospital
Crash/EMS/Injury Surveillance	User	Calvin Norway, Adult Trauma, Systems Coordinator	Hospital Research Medical Information	Yale New Haven Hospital
Citation/Adjudication	Management	Stacey Manware, Deputy Director	Superior Court Operations	Judicial Branch
Citation/Adjudication	Support	Antonio Pinho,	Judicial Information Systems	Judicial Branch



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Crash/Citation	Management	Andrew Cota, Lt, Ansonia PD Local LE Coordinator	Ansonia PD	Local Law Enforcement
Crash/Citation	Collector/User	Chris Perry, Sgt.	Newington PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Marc Mikulski, Dept. Chief	Wallingford PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Kevin Halloran, Chief	Branford PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Ray Dunbar, Capt.	Branford PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Rob Daniello, Lt.	Hamden PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User/S upport	Mario DiNatale	Hamden PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Mike Krzynowek	Enfield PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Mark Squires	Enfield PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Matthew Meier	Enfield PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Brian Schechter	Cheshire PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Brian Pichnarck, Dept Chief	Cheshire PD	Local Law Enforcement



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Crash/Citation/ Adjudication	Collector/User	Matt Damore	Plainville PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Kevin Gilleran	Bridgeport PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Ray LaPlante, Sgt.	Orange PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Matthew Donadio Sgt.	Brookfield PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	James Dzanko, Sgt	New Milford PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Anthony Diaz, Sgt.	Hamden PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Andre' Rosedale, Officer First Class	Norwich PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Wayne Burroughs, Officer	Norwich PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Thomas Lazzaro, Sgt.	Norwich PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Dexter Herron, Sgt.	Groton Town PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	Stephen Breshano, Sgt.	Manchester PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector/User	TJ Moore, Sgt.	Darien PD	Local Law Enforcement



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Crash/Citation/ Adjudication	Collector /User	Andrew Power, Lt.	Wethersfield PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector /User	Thomas Cossette, Lt.	Meriden PD	Local Law Enforcement
Crash/Citation/ Adjudication	Collector /User	Jason Lee, Lt.	Hartford PD	Local Law Enforcement
Crash/Citation	Support/Trainer	Chuck Grasso Field Coordinator for MMUCC-PR1	UCONN	UCONN Transportation Institute
Crash/Citation	Support/Trainer	Brandon O'Brien Field Coordinator for MMUCC-PR1	UCONN	UCONN Transportation Institute
Crash/Citation Roadway	Management	Mark Nielsen, Naugatuck Valley, Assistant Director	NVCOG	Regional Planning Organizations
Crash/Citation Roadway	User	Christian Meyer, Transportation Planner	NVCOG	Regional Planning Organizations
Crash/Citation Roadway	User	Cheryl Assis, Capitol Region Council of Governments	CRCOG	Regional Planning Organizations
Crash/Citation	Consultant	James Donnelly, Project Manager Public Safety Planning Div.	CRCOG	Regional Planning Organizations



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Crash/Citation Roadway	User	Pramod Pandey, CRCOG Senior GIS Coordinator	CRCOG	Regional Planning Organizations
Crash/Roadway	User	Terri Thompson, CRCOG Traffic Incident Management	CRCOG	Regional Planning Organizations
Crash/Roadway	User	Ben Muller, Transportation Planner	NVCOG	Regional Planning Organizations
Crash/Roadway	User	Devon Lechtenberg, CRCOG Transportation Planner	CRCOG	Regional Planning Organizations
Crash/Citation Roadway	User	Katie Raboin, Research Associate	Research	Preusser Group
Crash/Citation Roadway	Management	Neil Chaudhary, President	Research	Preusser Group
Crash/Citation Roadway	User	Ravindra Sharma	Research	Preusser Group
Crash/Roadway	Management	John Ivan, Professor & Associate Dept. Head	UCONN	UCONN Transportation Institute
Crash/Roadway	Management	Eric Jackson, Assoc. Research Professor	UCONN	UCONN Transportation Institute



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Crash/Roadway	User	Donna Shea	UCONN	UCONN Transportation Institute
Crash/Roadway	User	Marisa Auguste	UCONN	UCONN Transportation Institute
Crash/Roadway	Management	Mario Damiatata, RDIP Planning Coord	UCONN	UCONN Transportation Institute
Crash/Citation	User	Gerard O'Sullivan	Connecticut Insurance Dept.	Insurance
Crash/EMS	User	Carol P. Meredith, Dir of Prevention	Dept. of Mental Health/Addiction Services	Mental Health
Crash/Citation		Alec Slatky, Mgr. of Public & Gov.	Affairs for AAA NE	Insurance
Crash/Citation	User	Amy Parmenter	AAA	Insurance
Roadway	Advisor	Robert Ramirez	Federal Agency	FHWA
Roadway	Advisor	Daniel Suarez	Federal Agency	FHWA
Commercial Motor Vehicle Safety	Advisor	Christopher Henry FMCSA, CT Division Administrator	Federal Agency	FMCSA
Commercial Motor Vehicle Safety	Advisor	David M. West, FMCSA State Programs Specialist	Federal Agency	FMCSA
Highway Safety	Advisor	Shannon Purdy, Regional Program	Federal Agency	NHTSA



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		Manager		
Highway Safety	Advisor	Allison Beas, Traffic Records Coordinator, NH TSA Region	Federal Agency	NHTSA
Highway Safety	Advisor	Shannon Trice, Lead Regional Program Manager, for CT	Federal Agency	NHTSA
Crash/Citation	Consultant	Jon Travisano	Local Agency Support	NEXGEN
Crash/Citation	Consultant	Ken Dudas	Local Agency Support	Telepartner
Crash/Citation	Consultant	Bridget Vuolo	Local Agency Support	TriTech
State	Advisory	Tyler Kleykamp Chief Data Officer	State Agency	OPM
NGA	Advisory	Garrett Eucalitto, NGA Facilitator	NGA	NGA



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4.0 TRAFFIC RECORDS SYSTEM STRATEGIC PLAN

4.1 TRAFFIC RECORDS SYSTEM DEFICIENCIES

A Traffic Records Assessment was conducted for the State between January and April 2017. This assessment was conducted using the National Highway Transportation Safety Administration (NHTSA), State Traffic Records Assessment Program (STRAP). STRAP is the web-based application for the assessment. The NHTSA assigned assessment facilitator works with the State assessment coordinator to prepare for the assessment and establish a schedule.

Following the kickoff meeting that explained the assessment process, a system token was provided that enabled the State Traffic Records Coordinator to log onto STRAP to enter answers to questions received or designate responsible stakeholders. Three Hundred and Ninety-one (391) assessment questions were answered that addressed all territory traffic records data systems.

A group of qualified selected independent assessors by NHTSA rate the responses and determined how closely State's capabilities match those of the ideal system outlined in the Traffic Records Advisory. The following is the Executive Summary of the Assessment results:

Out of 391 assessment question, Connecticut met the Advisory ideal for 147 questions (37.6%), partially met the Advisory ideal for 66 questions (16.9%) and did not meet the advisory ideal for 178 questions (45.5%).

As Figure 1 illustrates, within each assessment module, Connecticut met the criteria outlined in the Traffic Records Program Assessment Advisory 52.6% of the time for Traffic Records Coordinating Committee Management, 81.3% of the time for Strategic Planning, 77.3% of the time for Crash, 35.9% of the time for Vehicle, 40% of the time for Driver, 57.9% of the time for Roadway, 29.6% of the time for Citation/Adjudication, 11.4% of the time for EMS/Injury Surveillance, and 46.2% of the time for Data Use and Integration..



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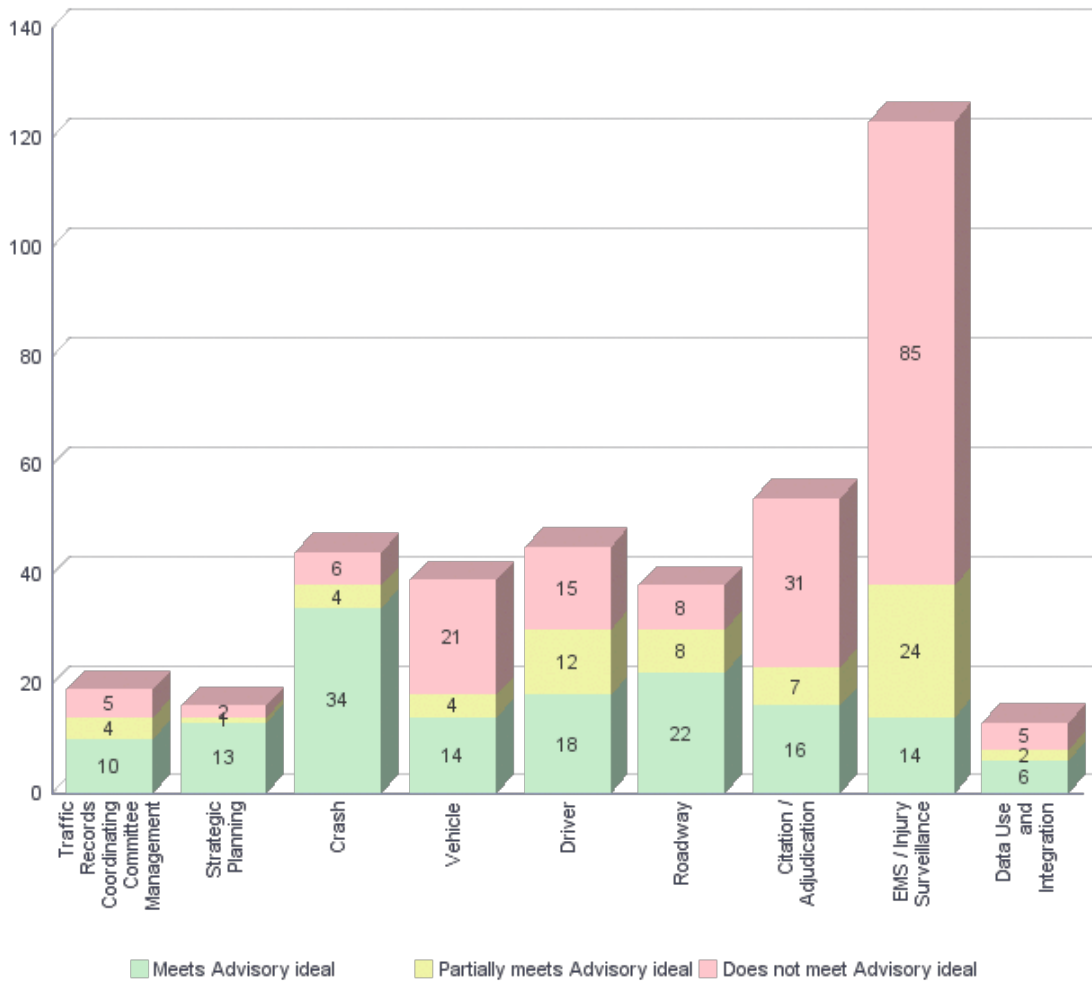


Figure 1. Assessment Rating Distribution by Module

The Connecticut Traffic Records Coordinating Committee (TRCC) has reviewed the recommendations provided by the National Highway Traffic Safety Administration Technical Assessment Team.

The TRCC develop and voted to adopt the following solutions as part of the on-going updates to Traffic Records System Strategic Plan to address the Technical Assessment Team recommendations.



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**4.2 STRATEGIC PLANNING AND TRAFFIC RECORDS SYSTEM
RECOMMENDATIONS**

4.2.1 CRASH RECOMMENDATIONS

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

4.2.2 VEHICLE RECOMMENDATIONS

- Improve the data dictionary for the Vehicle data system to reflect best practices identified in the Traffic Records Program Assessment Advisory
- Improve the procedures/process flows for the Vehicle data system to reflect best practices identified in the Traffic Records Program Assessment Advisory
- Improve the data quality control program for the vehicle data system to reflect best practices identified in the Traffic Records Program Advisory

4.2.3 DRIVER RECOMMENDATIONS

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

4.2.4 ROADWAY RECOMMENDATIONS

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

4.2.5 CITATION/ADJUDICATION RECOMMENDATIONS

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



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- Improve the procedures/process flows for the Citation and Adjudication system to reflect best practices identified in the Traffic Records Program Assessment Advisory
- Improve the interface with the Citation and Adjudication systems to reflect best practices identified in the Traffic Records Program Assessment Advisory

4.2.6 EMS/INJURY SURVEILLANCE RECOMMENDATIONS

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

4.2.7 NHTSA GO-TEAM REPORT

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

- Scheduling regular conversations via phone, webinar, or in-person with partner agencies and vendors,
- Using NHTSA's Performance Measure Guide, www-nrd.nhtsa.dot.gov/Pubs/811441.pdf, for the development of performance measures, establish measures for the six data quality attributes,
- Establish templates and set deadlines for system documentation for, *User manuals, *Data dictionaries, *Edit checks and validation rules,
- Track communication among partners using the following methods: *Set timelines for returning email and telephone correspondence, *Set timelines for dissemination of system changes, *Establish a formal feedback loop for questions or issues



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- Document and disseminate data-sharing parameters (data confidentiality, DPH Institutional Review Board, etc.),
- Track progress of performance measures and update TRCC regularly at meetings,
- Establish a training schedule, either in-person or online, to provide an avenue for the developers to review modifications and updates and to allow an opportunity for users to have question and answer sessions,
- Re-establish annual reports of trauma registry data to help identify trends and to identify potential problems in the data collection and reporting processes,
- Coordinate activities with the State TRCC and any data governance processes that are established for the injury surveillance and traffic records data sources, and
- Develop a report writer to assist EMS agencies and the State with quality metric reporting and aggregate data analyses of the pre-hospital data. Adding analytical resources will enhance the quality of the EMS system as a component of the State Traffic Records Injury Surveillance System.



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4.3 PROJECT SELECTION METHODOLOGY

The TRCC reviewed each system’s deficiencies and developed goals, projects, and tasks to address the deficiencies as they relate to the goal of the state’s traffic records system.

The TRCC voted and selected projects for the FY 2020-year funding. The Lead Agency for the projects selected submitted project descriptions for the FY 2020 Section 405 (c) Grant Application.

- Degree of Difficulty

How difficult is the project in terms of:

- Infrastructure
- Inter-Agency
- Policy

- 5 - Not Difficult
- 4 - Somewhat Difficult
- 3 - Difficult
- 2 - Very Difficult
- 1 - Unattainable

- Impact

How significant will the project impact the Traffic Safety Information System if successful:

- 5 - Very Significant Impact
- 4 - Significant Impact
- 3 - Somewhat Significant

Impact

- 2 - No Significant Impact
- 1 - No Impact

- Cost

How expensive will the Project be (include life cycle cost in your estimate):

- 5 - Less than \$200K
- 4 - More than \$200K, but less than \$500K
- 3 - More than \$500K
- 2 - More than \$500K, but less than \$1.0M
- 1 - Over \$1.0M

- Measurable Progress

Will the Project show measurable progress during the 1st year of funding:

- 5 - Significant Measurable Progress
- 4 - Measurable Progress
- 3 - Somewhat Measurable Progress
- 2 - No Measurable Progress
- 1 - No Progress



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4.3.1 SELECTED PROJECT TABLE

The table below provides a summary for each of the projects that are being proposed for funding under the FY 2020 "Section 405 (c) Grant". A detailed description of each project is provided in this section of the application.

Project Title	Project Description	Funding 2020 Grant
Electronic Citation Processing System - Version 2	Integration with Online Disposition	\$174,840.00
Electronic Citation Processing System - Version 2	Online Disposition	\$187,000.00
Electronic Citation	Technology/Software Support for Local Law Enforcement Agencies	\$800,000.00
FY2020 BUDGET		\$1,161,840.00



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4.4 SYSTEM MEASURES

4.4.1 CRASH SYSTEM COMPONENT

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

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

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

4.4.1.1 SYSTEM UPDATE

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 crash reports must be captured into a searchable database. Roadway inventory, traffic volumes and even



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land use information are all critical for evaluating the safety of any road segment or intersection. These were added as part of phase 3 of the CTCDR. However, other safety analysis exercises require data such as driver history, motor vehicle registration information, and vehicle miles traveled (VMT).

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

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

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

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



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4.4.1.2 TRAFFIC RECORDS ASSESSMENT PLAN OF ACTION

Recommendation

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

Plan of Action

The Crash System is designed to interface with all the Traffic Records Systems (Driver System, Vehicle System, Roadway System, Citation/Adjudication System and the EMS).

Connecticut's CTSRC is leading a large-scale traffic records data integration project, linked to the NGA initiative in #1, aimed at ultimately linking all the six core datasets of the State's traffic records system. Connecticut was one of three states participating in an NGA Data Integration Webinar on Nov 29, 2018 - promoting the State's data integration efforts led by the CTSRC.

The CT Crash Data Repository now has an approved MOU for linking to Citation and Adjudication as well as Driver Records.

Deficiency Analysis & Performance Goal Matrix

Performance Area: **CT-CR-001 Timeliness - C-T-1**

Summary of Deficiency: Time delay between crash events and when the data is available for use. The crash data location processing and validation are heavily dependent on manual operations.

Measurement: Reduce the number of days between crash event and when the data is available for use in the centralized repository.



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	Benchmark	2018	2019	2020	2021	2022
Goal	8hrs	19 days	10 days	5 days	1 day	8 hrs.
Actual	19 days					

Activity This Period:

Project: Electronic Crash Reporting System

Measurement: The % of crash reports entered into the database within 1 days after the crash

	Benchmark	2018	2019	2020	2021	2022
Goal	95 %					
Actual						

Performance Area: **CT-CR-002 Accuracy - C-A-1**

Summary of Deficiency: Submitted crash data is mostly accurate except for location and incorrectly completed data fields.

Measurement: % of Crash Records with no errors in Critical data elements (that passed all Validations).

	Benchmark	2018	2019	2020	2021	2022
Goal	100%	93.57%	100%	100%	100%	100%
Actual	93.57%					

Performance This Period:

93.57%

Performance Area: **CT-CR-003 Completeness - C-C-1**



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Summary of Deficiency: Incorrect/Incomplete or Missing critical Data Elements (Crash Location)

Measurement: % of crash records with no missing critical data elements (Crashes with accurate crash location using Geo Code data provided by the Crash Data Collection System Map Interface)

	Benchmark	2018	2019	2020	2021	2022
Goal	100%	100%	100%	100%	100%	100%
Actual	95%					

Performance This Period: 100%

Previous Activity

Project: Electronic Crash Reporting System (Map Interface/Longitude & Latitude)

Performance Area: **CT-CR-004 Consistency (Uniformity) C-U-1**

Summary of Deficiency: None - 100% Compliant with MMUCC 4th Edition

Measurement: Number of MMUCC compliant data elements entered into the crash database or obtained via linkage to other databases

Project: Redesign of the Crash Form (MMUCC 4th Edition Compliant)

The goal in the upcoming fiscal year is to analyze the crash form and prepare for MMUCC 5th Edition update.



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Performance Area: CT-CR-005 Integration - C-I-1

Measurement: % of appropriate records in the crash dataset that are linked to another system or file (e.g., integration between the crashes with violation linked to the citation file).

	Benchmark	2018	2019	2020	2021	2022
Goal	100%					
Actual	40%					

Performance This Period:

None

Previous Activity:

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

TRCC website is located at -

<http://www.ct.gov/dot/cwp/view.asp?a=2094&q=435916>

Data Users and Decision-Makers

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



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Crash Data Repository (CDR) website is located at -
<http://www.ctcrash.uconn.edu/>

Project: - Electronic Citation System

Integration - ECitation fully integrated with the Crash System for analysis and reporting.

Performance Area: **CT-CR-006 Accessibility - C-X-1**

Summary of Deficiency: Increase the number of authorized agencies capable of accessing the Crash File for analysis and reporting.

Measurement: Number of authorized agencies with access to crash data for analysis and reporting.

	Benchmark	2018	2019	2020	2021	2022
Goal	100%	100%	100%			
Actual						

Performance This Method:

Previous Activity

Project:

Anticipated Improvement -



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4.4.2 ROADWAY SYSTEM

Roadway information is used to group all of the data generally used by engineers to plan, design, construct, operate, and maintain the roadways. Roadway improvements, pavement improvements, and pedestrian or bicyclist access are measures that can be introduced as part of highway safety improvements program. Other engineering activities for improving highway safety might include design of crash barriers and other roadside devices intended to reduce crash severity and damage. Information required for these activities may include the following:

- Traffic information – number of vehicles per hour, day, week, or annual average, number of axles, weight, and speed.
- Structures – inventory and characteristics of bridges.
- Roadway Inventory – number of centerline miles and number of lane miles from pavement type, or number of total miles within any jurisdiction.

ConnDOT has historically maintained its roadway related data in a non-geospatial LRS, built on an Oracle database platform, known as the Roadway Information System (RIS). Roadway attributes and characteristics were stored utilizing database tables that organized information based upon a route and milepoint structure, with no geospatial representation; although certain fields were utilized to store single point geographic location information for certain operational and roadway identification needs.

The structure of that data was such that it was substantially similar to the MIRE FDE requirements regarding many of the elements. Additionally, ConnDOT has performed local road data collection activities for all 169 towns and 5 boroughs in the state, on approximately 17,000 miles of locally owned roads, for elements such as: roadway location, identification, asset location, mileage, and classification status, as well as traffic volume on a select set of local roads.

ConnDOT began an effort in 2012 to transition from RIS to a geospatially accurate LRS utilizing Bentley's EXOR program. This transition will eliminate many of the limitations in storing and attributing roadway data in the LRS that are associated with using a 15-year-old software application, along with enabling additional analysis capabilities that come with the LRS being geospatially accurate. Data maintenance in both systems, and migration from RIS to EXOR as the primary database of record, has



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been an ongoing responsibility of ConnDOT's Roadway Inventory Office, who is tasked with maintenance of the road network and all road network related attribution.

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

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

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

Concurrently, ConnDOT has been developing a Transportation Enterprise Database (TED) that takes advantage of the geospatially accurate LRS and is in the process of establishing linkages for a wide variety of roadway related data (MIRE and otherwise) that will ideally provide authoritative sources for safety and non-safety related data resources. These linkages will help address the accessibility, timeliness, completeness, accuracy, and uniformity of the data that is utilized throughout the Department, particularly for safety analysis. Better data, from the authoritative source, will lead to better analysis.

ConnDOT has recently undergone both a Roadway Data Improvement (RDIP) Assessment (MIRE FDE Appendix A) and RDIP Workshop (MIRE FDE Appendix C) with regional and federal partners in order to identify data gaps and create a business plan for improving and integrating roadway data throughout the Department. The recommendations and summaries of those activities are included at the end of this



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plan as appendices. The workshop findings and business plan development recommendations (MIRE FDE Appendix B) are still a work in progress and are subject to change as discussions between ConnDOT and VHB continue on how to best tackle the relatively unique structure of Connecticut’s data integration effort to date.

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

Table 1– Roadway Segment MIRE FDE

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

The following table outlines the MIRE FDE for road junctions and interchanges, their applicability to certain road types within Connecticut, the compliance status utilizing current system capabilities, and who will be responsible for maintaining the data element.



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Table 2 – Roadway Junction/Interchange MIRE FDE

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



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4.4.2.1 TRAFFIC RECORDS ASSESSMENT PLAN OF ACTION

Recommendation

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

Plan of Action

MIRE is the major guideline pertaining to the roadway system. There is a total of 202 elements that comprise MIRE Version 1.0 and 38 of those elements have been identified as FDEs. The MIRE elements are divided among three broad categories: roadway segments, roadway alignment, and roadway junctions. Each MIRE element has a definition, a list of attributes (coding) a priority rating, a reference to safety analysis tools, and –when necessary– an illustration that provides supplemental information on the element. It is important to have MIRE-level data for at least the roadway segments that have high crash rates so that causality can be investigated.

The collaborative plan between ConnDOT and CTSRC to populate critical MIRE data elements into the new geospatial LRS, and to maintain the datasets for safety analysis use, directly addresses the Traffic Records Assessment Recommendation. It is an ongoing effort, with plans to comply with federal requirements well before the 2026 deadline.

Recommendation

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

Plan of Action

Custodians of the roadway system should maintain a comprehensive, systematic quality control management process that ensures the efficient functioning of the system. The quality control process should include data quality measures as well. The timeliness, accuracy, completeness, uniformity, integration, and accessibility of the roadway data should be monitored based on a set of metrics established by the State.



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The overall quality of the roadway data should be assured based on a formal program of error and edit checking as the data are entered into the statewide system and procedures should be in place for addressing detected errors. In addition, the custodial agency and the TRCC should work together to establish and review the sufficiency of the quality control program and to review the results of the quality control measures.

Roadway data managers should produce and analyze periodic data quality reports. When these reports identify shortcomings, appropriate measures should be taken and corrections applied. If common errors are identified, training and changes to the applicable instruction manuals, edit checks, and the data dictionaries should be made. Audits and validation checks should be conducted as part of the quality control program to assure the accuracy of specific critical data elements. The measures shown below in Table 3 are examples of high-level management indicators of quality taken from NHTSA’s performance measures report. The managers of individual roadway files should have access to a greater number of measures. The custodial agency should be prepared to present a standard set of summary measures to the TRCC monthly or quarterly.

Table 3 – Example Quality Control Measurements for Roadway Data Systems

ROADWAY DATABASE MODEL PERFORMANCE MEASURES

ROADWAY DATABASE					
TIMELINESS	ACCURACY	COMPLETENESS	UNIFORMITY	INTEGRATION	ACCESSIBILITY
R-T-1: The <i>median or mean</i> number of days from (a) the date a periodic collection of a critical roadway data element is complete (e.g., Annual Average Daily Traffic) to (b) the date the updated critical roadway data element is entered into the database. R-T-2: The <i>median or mean</i> number of days from (a) the date a roadway project is completed to (b) the date the updated critical data elements are entered into the database.	R-A-1: The <i>percentage</i> of all road segment records with no errors in <i>critical</i> data elements. Example: Surface/Pavement	R-C-1: The <i>percentage</i> of road segment records with no missing <i>critical</i> data elements. R-C-2: The <i>percentage</i> of public road miles or jurisdictions identified on the State’s basemap or roadway inventory file. R-C-3: The <i>percentage</i> of unknowns or blanks in <i>critical</i> data elements for which unknown is not an acceptable value. R-C-4: The <i>percentage</i> of total roadway segments that include location coordinates, using measurement frames such as a GIS basemap.	R-U-1: The <i>number</i> of Model Inventory of Roadway Elements (MIRE)-compliant data elements entered into a database or obtained via linkage to other databases.	R-I-1: The <i>percentage</i> of appropriate records in a specific file in the roadway database that are linked to another system or file. Example: Bridge inventory linked to roadway basemap	R-X-1: To measure accessibility of a specific file within the roadway database: <ul style="list-style-type: none"> • Identify the principal users of the roadway file • Query the principal users to assess (a) their ability to obtain the data or other services requested and (b) their satisfaction with the timeliness of the response to their request • Document the method of data collection and the principal users’ responses

ConnDOT and CTSRC have completed the process of identifying critical data elements and are in the process of collecting and integrating that data into the



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roadway inventory file, along with creating linkages to additional databases within the Department. Data quality reports related to roadway and safety data will become a capability of the new geospatial LRS once the initial appropriate data has been loaded. Date/time stamping of changes, integration with a composite project database, and creating publicly available access to datasets and data viewers are going to be capabilities once the new system is completely implemented and the old non-geospatial LRS is decommissioned.

CTDOT has established a sub-committee of its Transportation Enterprise Database (TED) Development group specifically dedicated to data visualization, analytics, and reporting; with members from Information Technology, Engineering, Planning, and UCONN CTSRC collaboratively assessing tools for visualizing and reporting data, as well as assessing data quality.

The Transportation Intelligence Gateway (TIG), a data extract and querying tool that functions as part of Bentley's EXOR product suite, allows administrators of the road network to generate various data quality reports as outlined below. TIG and the Bentley LRS spatial manager are products that are constantly evolving and ConnDOT plans to assess establishing more robust performance measures once the capabilities of the new system are fully implemented. As such, the performance measures offered below are subject to change.



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Deficiency Analysis & Performance Goal Matrix

Performance Area: **Timeliness R-T-1**

Summary of Deficiency: - CT_RW_001 - Lack of update to roadway file

Measurement: The median number of days from (a) the date a periodic collection of critical roadway data elements is complete to (b) the data the updated critical roadway data element is entered into the database.

	Benchmark	2018	2019	2020	2021	2022
N/A	N/A	N/A	60	45	30	15
Actual	Unknown	Unknown				

Activity This Period

Roadway Inventory is exploring ways to automate project completion percentage and required review schedule through CPD extracts and analysis. Full deployment of MAVRIC, with its data update tracking, will facilitate the comparison of field review versus database update tracking.

Performance Area: **Accuracy R-A-1**

Summary of Deficiency - CT_RW_002 - Significant errors and incomplete road segment data elements.

Measurement: - See Note below

	Benchmark	2018	2019	2020	2021	2022
Goal		98	99	99	100	100
Actual	95	98				



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Activity This Period

Deployment of FME as a software solution will enable Roadway Inventory to automate this performance measure with monthly/weekly reports for QA/QC - crossing attribute validations will be built in.

All current errors in road segment records are attributed to knowledge that road segments exist, but lack of presence on the basemap. This includes all federal roads and some state-owned roads such as state institution, state forest, and state parks.

Performance Area: **Completeness R-C-1**

Summary of Deficiency – CT_RW_003 – Limited number of public roadway miles or jurisdictions identified on the State’s Basemap or roadway inventory file.

Measurement: Percent of public roadway miles or jurisdictions identified on the State’s base map or roadway inventory file.

	Benchmark	2018	2019	2020	2021	2022
Goal		98	99	99	100	100
Actual	95	98				

Activity This Period

Active correction and digitization of the remaining approximately 418 miles of public road is ongoing.

Require federal assistance in identified federal public roads - this hampers CTDOT's ability to have 100% coverage.



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Performance Area: **Completeness R-C-2**

Summary of Deficiency - CT_RW_004 - Number of roadway segments that include location coordinates using measurement frame such as GIS Basemap.

Measurement: Percent of total roadway segments that include location coordinates based on GIS Basemap

	Benchmark	2018	2019	2020	2021	2022
Goal						
Actual						

Activity This Period

Note:

All roadway segments digitized in GIS basemap contain location coordinates. Completion of all public roads will result in all road segments having location coordinates. Because the Basemap contains the ability to generate coordinates for all road segments and nodes, this second performance measure might be redundant as it will align exactly with R-C-1. Propose removing it.

Performance Area: **Consistency (Uniformity) R-U-1**

Summary of Deficiency - CT_RW_005 - Roadway data need to be Model Inventory Roadway Elements (MIRE) compliant

Measurement: Number of MIRE compliant data elements entered into a database or obtained via linkage to other databases

	Benchmark	2018	2019	2020	2021	2022
Goal		50	56	85	90	112
Actual	30	56	60			



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Activity This Period

Intersection and approach collection and delivery will result in 29 additional data elements being integrated, hopefully by the end of 2020.

Performance Area: **Integration R-I-1**

Summary of Deficiency - CT_RW_006 - No file linkage with the other Traffic Records System components.

Measurement: % of appropriate records in a specific file in the roadway database that are linked to another system or file.

Measurement: Number of Traffic Records System component databases linked to the Roadway database.

	Benchmark	2018	2019	2020	2021	2022
Goal			3	4	5	6
Actual	2	2	3			

All appropriate records in the Roadway Database contain an LRS location, which is our common linkage element. Percent of records might not be an appropriate measure, but number of disparate systems that have that linkage may be a better measure, along with a list. The propose metric reflects the suggested revision that's highlighted.

Activity This Period

Roadway Data is linked to Traffic Data (Volume/Counts) through Exor Asset

Roadway Data is linked to Crash Data through TED/CRSMS

Roadway Data is linked to Bridge Data through Exor/InspectTech



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Performance Area: **Accessibility R-X-1**

Summary of Deficiency - CT_RW_007 - % of Roadway data is electronically accessible to

Measurement: # of Traffic Records Users with access to roadway file

Measurement: # of Roadway data that is accessible

	Benchmark	2018	2019	2020	2021	2022
Goal			6%	20%	50%	75%
Actual	6%	6%	6%			

Activity This Period

A wide variety of attributes are maintained specifically for Roadway Inventory reporting, but Roadway Inventory is in the process of publishing additional data to the TED platform for availability to more Traffic Records stakeholders.



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4.4.3 VEHICLE SYSTEM

The vehicle system is an inventory of data that enables the titling and registration of each vehicle under the State's jurisdiction to ensure that a descriptive record is maintained and made accessible for each vehicle and vehicle owner operating on public roadways.

Vehicle information includes identification and ownership data for vehicles registered in the State and out-of-State vehicles involved in crashes within the State's boundaries. Information on vehicle make, model, year of manufacture, body type (usually extracted from the VIN), and adverse vehicle history (title brands) is maintained to produce the data needed to support safety programs. Ideally, the vehicle system is capable of recording and reporting title data, registration information, and verification of required insurance and should clearly define both the vehicle itself and the owner or leaseholder.

Connecticut's vehicle registration and titling data is maintained in a separate system from its driver data. The strong points of this system include the use of software to validate the vehicle identification numbers, real-time processing, use of NMVTIS (National Motor Vehicle Title Information System) in real-time, and querying the NMVTIS system prior to issuing a Connecticut title. The vehicle system uses NMVTIS brand codes and the State participates in the PRISM (Performance and Registration Information Systems Management) system at the gold level. Additionally, the State has developed process flows for most of its vehicle-related processing. These are all best practices and deserve recognition.

The State's data dictionary for the system is a combination of the NMVTIS information, AAMVA D.20 data elements, and State-specific data elements. These aspects of the data dictionary should be combined into a Connecticut vehicle data dictionary that is limited to the State's data and definitions and contains its data edits and validation rules. It is commendable that the State uses NMVTIS and AAMVA documentation, as that provides for uniformity, but data users and collectors benefit more from a concise listing of the State's data elements and definitions.

There are some areas in which the State can improve its data, processes, and documentation to further improve an already good system. While the State has developed an error-handling process, it is not contained in the process flows; an error-handling process flow would help to ensure that this information is reviewed and



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updated as needed. Stolen vehicle flags are not added to the registration system upon reporting by law enforcement, with State reliance on NMVTIS in lieu of flagging. However, State-level registration system flags would improve the timeliness of such reporting and could help to ensure that, upon recovery, such vehicles could be immediately cleared on the State system. In the same light, brand history from NMVTIS can be carried forward on to Connecticut titles, but such brands that are listed on out-of-state titles are not necessarily copied onto the Connecticut title. Changing this procedure would help to ensure that brands are not inadvertently washed from titles when moving from State to State.

One concern about uniformity within the State is the fact that personal information is not collected in the same format on the vehicle file as it is on the driver file. The discrepancies are due to the fact that the files are of varying ages and one has greater capacity than the other. It would behoove the State to review the current conventions for collecting and recording names and attempt to make those consistent.

Finally, a comprehensive data quality management program should be initiated for the vehicle data. The State has made efforts to improve its data quality and assumes that those practices and technology have made data quality better. However, the only way to ensure that data quality is and remains improved is to develop specific measures and to take and record those measurements on a regular basis. It is an often-faulty assumption that all errors are prevented by data edits. That is not the case and auditing for errors that might have bypassed the edits is a good way to develop additional edits if needed and to ascertain where training or procedures might need to be updated.

Random audits of the data, independent of customary State processes, help to find and fix problems. A small number of files, randomly selected and reviewed on a regular basis can help to determine what types of transactions are most likely to result in errors, to develop regular audit procedures for most-risky transaction types, and to provide feedback to data collectors and data entry staff to improve accuracy. Performance measures regularly monitored and reported to the TRCC will aid in maintaining the quality of the data and data system that Connecticut has developed.



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4.4.3.1 TRAFFIC RECORDS ASSESSMENT PLAN OF ACTION

Recommendation

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

Plan of Action

The vehicle system data dictionary is under review and once completed the DMV will ensure that it provides definitions for each data element and, where applicable, provides matching edit checks and data collection guidelines. Procedures for collection, reporting, and posting of registration, title, and title brand information will be formally documented. The data dictionary will be accessible to all users and updated regularly to reflect changes to the system.

The Vehicle system will adhere to the American Association of Motor Vehicle Administrators (AAMVA) standard and guidelines and reflects best practices identified in the Traffic Records Program Assessment Advisory.

- Improve the Interfaces with the Vehicle data system to reflects best practices identified in the Traffic Records Program Assessment Advisory

Plan of Action

The vehicle system is under review with plan improvements to include interface with other Traffic Records System.

- Improve the procedures/process flows for the Vehicle data system to reflects best practices identified in the Traffic Records Program Assessment Advisory

Plan of Action

Upon completion of the system review DMV will ensure the system procedures/process flow reflects best practices identified in the Traffic Records Program Assessment Advisory

Deficiency Analysis & Performance Goal Matrix



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Performance Area: **Timeliness V-T-1**

Summary of Deficiency – CT_VH_001 - Improve timeliness of Vehicle Records updates entered into the database within 2 days after the critical status change

Measurement: % of title transactions posted within 24hr: 100%.

	Benchmark	2018	2019	2020	2021	2022
Goal	80%	80%	95%	98%	100%	100%
Actual	Unknown					

All motor vehicle title is posted at the time of vehicle registration

Activity This Period:

Performance Area: **Accuracy V-A-1**

Summary of Deficiency – CT_VH_002 - Improve the number of vehicle records with no errors in critical data elements e.g., Vehicle Identification Number (VIN)

Measurement: % of accurate or valid VIN.

	Benchmark	2018	2019	2020	2021	2022
Goal	90%	90%	98%	98%	100%	100%
Actual	Unknown					

Activity This Period

Performance Area: **Completeness V-C-1**



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Summary of Deficiency - CT_VH_003 - The vehicle file has a significant number of missing fields due to data entry errors.

Measurement: % of vehicle records with no missing data elements.

	Benchmark	2018	2019	2022	2021	2022
Goal	80%	80%	95%	95%	95%	95%
Actual	Unknown					

Activity This Period

Performance Area: **Completeness V-C-1**

Summary of Deficiency - CT_VH_004 - Large Truck and Buses vehicle have incomplete data elements.

Measurement: % of vehicle records from large trucks and buses that have all of the following data elements: Motor Carrier ID, Gross Vehicle Weight Rating/Gross Combination Weight Rating, Vehicle Configuration, Cargo Body Type, and Hazardous Materials (Cargo Only)

	Benchmark	2018	2019	2022	2021	2022
Goal	80%	80%	95%	95%	95%	95%
Actual	Unknown					

Activity This Period



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Performance Area: **Consistency (Uniformity) V-U-1**

Summary of Deficiency - **CT_VH_005** - Increase number of standard/compliant data elements entered into the vehicle database or obtained via linkage to other databases. These standards include AAMVER Standards and the MMUCC.

Measurement: Number of standards-compliant data elements entered or obtained via linkage to other databases. (AAMVER elements in the Vehicle File).

	Benchmark	2018	2019	2020	2021	2022
Goal	100%	100%	100%	100%	100%	100%
Actual	Unknown					

Activity This Period:

Performance Area: **Integration** **V-I-1**

Summary of Deficiency - **CT_VH_006** - No file linkage with the other Traffic Records System components.

Measurement: The percent of appropriate records in the vehicle file that are linked to another system or file.

	Benchmark	2018	2019	2020	2021	2022
Goal	80%	80%	95%	95%	95%	95%
Actual	Unknown					

Activity This Period



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Performance Area: **Accessibility C-X-1**

Summary of Deficiency - **CT_VH_006** - Vehicle file is accessible to Law Enforcement and Department of Public Safety only.

Measurement: % of traffic records data user with access to vehicle file for data analysis.

	Benchmark	2018	2019	2020	2021	2022
Goal	100%	80%	90%	95%	95%	95%
Actual	Unknown					

Activity This Period



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4.4.4 DRIVER SYSTEM

Connecticut's driver system has a number of excellent qualities. Purges of data in the system are made according to State Archival policies. The State keeps an audit log of changes to driver records, including the identity of the employee who made the change, and provides employees with the policy and procedure manual in an electronic format. Additionally, conviction data is relayed electronically from the courts in a nightly batch for upload and posting to the driver history file. The driver file also contains information about driver improvement training, and novice driver training is available in a paper-based file. The State uses a combination of its own data dictionary, the AAMVA D.20 data dictionary, and depends on its driver license vendor to keep the system documentation up-to-date.

To ensure compliance with the Driver Privacy Protection Act, the State has developed Memoranda of Understanding with its data users and audits them regularly.

Connecticut has good external fraud detection policies, procedures, and training. However, there is no enterprise-wide effort to detect internal fraud. Internal fraud can be detected through data audits to ensure that no single office is over-represented in any single type of transaction, and that no licensing transactions take place outside of normal business hours. Additionally, hard stops programmed into the system can prevent issuance of a license without required documentation, such as Commercial Driver's Licenses without appropriate medical or hazmat documentation. A gap analysis might aid the State in determining what measures to take to improve internal fraud detection and prevention.

4.4.4.1 TRAFFIC RECORDS ASSESSMENT PLAN OF ACTION

Recommendation

- Improve the applicable guidelines for the Driver data system to reflect best practices identified in the Traffic Records Program Assessment Advisory

Plan of Action



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Connecticut adopted and deployed the REAL ID compliant Driver Licensing System. The new system ensures that each person licensed to drive in the CT has one identity, once license to drive, and one record. The system resides at the Department of Motor Vehicle and uses a Centralized Issuance process.

The includes a Driver History file that maintains information on all State or unlicensed drivers convicted of traffic violations within the state. The system also supports (in concert with other data systems) both aggregate and detailed analysis of driver behaviors as they relate to safety.

In addition to the REAL ID compliant, the Driver system will ensure compliance with ANSI D-20 standards and maintained in a manner that accommodates interaction with the National Driver Register (NDR) Problem Driver Pointer System (PDPS) and FMCSA's Commercial Driver's License Information System (CDLIS). The system will reflect best practices as identified in the Traffic Records Program Assessment Advisory.

Recommendation

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

Plan of Action

The State Driver Licensing system is well documented. Each data field has an established definition and validated values—including appropriate null codes. All applicable edit checks and data collection guidelines matched the data definitions. The data dictionary will be maintained and updated to keep pace with system, legislative, and other changes.

Driver data system will reflect best practices as identified in the Traffic Records Program Assessment Advisory



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Recommendation

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

Plan of Action

The system will have a formal data quality management program’s review protocols that covers the entire process; the collection, submission, processing, posting, and maintenance of driver data.

An automated edit checks and validation rules will be implemented to ensure entered data falls within the range of acceptable values and is logically consistent between other fields. Edit checks will be applied when data is added to the record. The system will have a Performance measures program that will be tailored to the needs of data managers and address the concerns of all stakeholders.

The Driver system will reflect best practices identified in the Traffic Records Program Assessment Advisory

Deficiency Analysis & Performance Goal Matrix

Performance Area: **Timeliness D-T-1**

Summary of Deficiency - CT_DL_001 - There is a time lag in the processing of convictions file to the driver history file.

Measurement: Number of days from the date of driver’s adverse action to the date the adverse action is entered into the database.

	Benchmark	2018	2019	2020	2021	2022
Goal	100%	80%	90%	95%	95%	95%
Actual	Unknown					

Activity This Period



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Performance Area: **Accuracy D-A-1**

Summary of Deficiency - CT_DL_002 - Improve the percentage of driver records that have no errors in critical data elements, e.g., Date of Birth.

Measurement: % of driver records that have no errors in critical data elements

	Benchmark	2018	2019	2020	2021	2022
Goal	100%	80%	90%	95%	95%	95%
Actual	Unknown					

Activity This Period

Performance Area: **Accuracy D-A-2**

Summary of Deficiency - CT_DL_003 - Improve the percentage of driver records with validated Social Security Number (SSN)

Measurement: The percentage of records on the State driver file with Social Security Numbers (SSN) successfully verified using Social Security Online Verification (SSOLV) or other

	Benchmark	2018	2019	2020	2021	2022
Goal	100%	80%	90%	95%	95%	95%
Actual	Unknown					

Activity This Period



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Performance Area: **Completeness D-C-1**

Summary of Deficiency - CT_DL_004 - Improve the percentage of driver records with no missing critical data elements

Measurement: Increase % of complete driver records with no missing critical elements previous driving records from other states or territories.

	Benchmark	2018	2019	2020	2021	2022
Goal	100%	80%	90%	95%	95%	95%
Actual	Unknown					

Activity This Period.

Performance Area: **Consistency (Uniformity) D-U-1**

Summary of Deficiency: CT_DL_005 - Increase the number of standard-compliant data elements entered into the driver database or obtained vial linkage to other databases

Measurement: % of SSN, Immigration and Vital Statistics documents verified online prior to Driver License issuance.

	Benchmark	2018	2019	2020	2021	2022
Goal	100%	80%	90%	95%	95%	95%
Actual	Unknown					

Activity This Period

Performance Area: **Integration D-I-1**



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Summary of Deficiency - CT_DL_006 - No file linkage with the other Traffic Records System components.

Measurement: Increase percent of appropriate records in the driver file that are linked to another system or file

	Benchmark	2018	2019	2020	2021	2022
Goal	100%	80%	90%	95%	95%	95%
Actual	Unknown					

Activity This Period

Performance Area: **Accessibility D-X-1**

Summary of Deficiency - CT_DL_007 - Driver file is only accessible to DPS and Law Enforcement Agency

Measurement: Increase the number of principal users access to appropriate driver records or file.

	Benchmark	2018	2019	2020	2021	2022
Goal	100%	80%	90%	95%	95%	95%
Actual	Unknown					

Activity This Period



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4.4.5 CITATION AND ADJUDICATION

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

The paper driven manual process for adjudicating traffic violations is labor intensive. Recipients of traffic infractions respond either with payment or a not guilty plea. Some do not respond at all. A not guilty plea received at the CIB can either result in a nolle (decision by the state's attorney to not prosecute the infraction), or a transfer to the court of jurisdiction. Once at the court, the case may be reviewed and nolle or scheduled for an infraction hearing. Once scheduled, outcomes are varied and can include payment, substitution of charges, charitable contributions, nolle, and dismissals, etc.

In addition to creating opportunities for inaccurate and conflicting data to be entered into the system, reliance upon a system based on paper and multiple points of data entry often results in processing delays and time-consuming exceptions processing.

4.4.5.1 SYSTEM UPDATE

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



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The Centralized Infractions Bureau (CIB) receives all infractions (approximately 400,000 annually) from every law enforcement agency in the State of Connecticut. In 2015, CIB received and processed over 148,000 “not guilty” pleas, each of which required the individual who received the infraction to appear in-person to participate in a court hearing. In 2018, the Connecticut Judicial Branch deployed an online adjudication system which enabled individuals who pled “not guilty” to an infraction to participate in the court process electronically, rather than be required to physically appear in court (not including trials). Currently available in nine of the fifteen locations in the State, and scheduled to be in twelve by the end of 2018, these online dockets have reduced costs, improved the quality and timeliness of hearings, and improved the convenience and efficiency of the process for both the court and the individual who receives the infraction. Approximately 70 percent of all individuals who are eligible to participate in the program have opted for this online system rather than an in-person court appearance.

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

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



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4.4.5.2 TRAFFIC RECORDS ASSESSMENT PLAN OF ACTION

- Improve the data dictionary for the **Citation/Adjudication** systems that reflect best practices identified in the Traffic Records Program Assessment Advisory.

Plan of Action

The Judiciary System an old system and a detailed data dictionary is not currently readily available but efforts are underway to develop a detailed data dictionary that describes all the data elements and processes for the system.

TRCC will ensure that both data dictionary reflects best practices in the Traffic Records Program Assessment Advisory.

- Improve the procedures/ process flows for the Citation and Adjudication systems that reflect best practices identified in the Traffic Records Program Assessment Advisory.

Plan of Action

The Judiciary and ECitation systems have a detailed data dictionary that describes all the procedures and process flow for each system.

TRCC will ensure that both systems reflect best practices in the Traffic Records Program Assessment Advisory.

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

Plan of Action

The new Court system and the ECitation are currently undergoing interfacing efforts with Driver, Motor Vehicle and EMS systems.

TRCC will ensure that both systems interfaces reflect best practices in the Traffic Records Program Assessment Advisory.



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Deficiency Analysis & Performance Goal Matrix

Performance Area: **Timeliness C/A-T-1**

Summary of Deficiency - **CT_C/A_001** - There is a time lag in the processing of citations from issuance to when it is entered into the database.

ECitation data transfer to the court system shows a significant improvement in the timeliness.

Measurement: Mean number of days from citations issuance to when it is entered to the court system (centralized database).

	Benchmark	2018	2019	2020	2021	2022
Goal	1 day					
Actual						

Project: ECitation is completed, tested and deployed

Activity This Period:

Performance Area: **Timeliness C/A-T-2**

Summary of Deficiency - **CT_C/A_002** - There is a significant time lag in the date of charge disposition to the date the charge disposition is entered into the statewide adjudication database and Driver History File

Measurement: The mean number of days from the date of charge disposition to the date the charge disposition is entered into the statewide adjudication database.

	Benchmark	2018	2019	2020	2021	2022
Goal						



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Actual						
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Project: Online Adjudication/Disposition System

Activity This Period:

Performance Area: **Accuracy C/A-A-1**

Summary of Deficiency - **CT_C/A_003** - Illegible hand writing on Paper Citations results in data entry errors.

Measurement: % of Citation records with no missing critical data elements, e.g., time citation issued

	Benchmark	2018	2019	2020	2021	2022
Goal						
Actual						

Project:

Activity This Period:



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Performance Area: **Completeness C/A-C-1**

Summary of Deficiency: **CT_C/A_004** - Citation records with missing critical data elements

Measurement: % of citation records with no missing critical data elements

	Benchmark	2014	2015	2016	2017	2018
Goal						
Actual						

Project:

Activity This Period:

Performance Area: **Consistency (Uniformity) C/A-U-1**

Summary of Deficiency - **CT_C/A_005** - Complete the number of Model Impaired Driving Record Information System (MIDRIS) compliant data elements entered into the Citation database or obtained via linkage to other databases

Measurement: The total number of Model Impaired Driving Record Information System (MIDRIS) compliant data elements entered into the Citation database or obtained via linkage to other databases

	Benchmark	2018	2019	2020	2021	2022
Goal						
Actual						



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Project:

Activity This Period:

Performance Area: **Integration C/A-I-1**

Summary of Deficiency - **CT_C/A_006** - Limited number of Citation records that are linked to other Traffic Records System components or file

Measurement: % of appropriate records in the citation file that are linked to another system or file.

	Benchmark	2018	2019	2020	2021	2022
Goal						
Actual						

Project:

Activity This Period:

Performance Area: **Accessibility C/A-X-1**

Summary of Deficiency - **CT_C/A_007** - Limited access to the Citation File

Measurement: Number of principal users of citation data with access to the citation database.

	Benchmark	2018	2019	2020	2021	2022
Goal						
Actual						

Project:



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Activity This Period:



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4.4.6 EMERGENCY MEDICAL SERVICES

The Connecticut Injury Surveillance System (ISS) includes most of the basic components of an ideal system, including Emergency Medical Services (EMS), emergency department (ED) and hospital discharge (HD) databases, and a vital records (VR) system. The VR system is currently paper-based. Trauma registry (TR) data is collected by hospitals, but has not been submitted to the State registry since 2011. Efforts are underway to restore the State trauma registry functionality and begin receiving data from local hospitals. The State does not utilize data from rehabilitation facilities or other data sources as part of the system.

For the most part, the component systems do not track the frequency, nature, and severity of traffic-related injuries, and have not used system data to plan or evaluate highway safety projects. The EMS, ED, and HD systems have a data dictionary, but none of the component systems have formal documentation regarding the collection, management, and maintenance of data. Each system has a fairly complete flow diagram that covers the flow of data through the system.

None of the systems currently have a set of edit checks and/or validation rules for data entering the system, nor do they have documented procedures to track returned records through the correction and resubmission process. Most systems reportedly make aggregate data available to outside parties.

Limited state-level correction authority to correct obvious errors without returning reports to the submitting entity is granted for the EMS, ED, and HD systems. The VR system documents and reports to the submitting entity any changes that would affect the legal portion of death certificates.

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



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

4.4.6.1 TRAFFIC RECORDS ASSESSMENT PLAN OF ACTION

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

Plan of Action

DPH recently acquired a new system and one of the goals is to interface with the Injury Surveillance system. DPH is working on the deployment and will work toward interface to reflect best practices identified in the Traffic Records Program Assessment Advisory.

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

Plan of Action

The new DPH system has a formal data quality management program as well as protocols that covers the entire process – the collection, submission, processing, posting, and maintenance of EMS data. DPH will ensure the system reflects best practices identified in the Traffic Records Program Assessment Advisory



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Deficiency Analysis & Performance Goal matrix

Performance Area: **Timeliness I-T-1**

Summary of Deficiency - CT_EMS/I_001 - There is a time delay from when an EMS run is completed to when the data is entered and uploaded to the system or available for use.

Measurement Method: Number of days from the EMS Run date to the date when the EMS Report is entered into the database

	Benchmark	2018	2019	2020	2021	2022
Goal	1 days	Unknown				
Actual						

Activity This Period

We are still tracking down EMS agencies that either have not submitted data to the state or have not submitted agency demographic files which are required by NEMSIS in order to send the data to them. Now that we are able to see what data has come in from 2017-2019, there are a host of technical problems, personnel changes at local agencies and local software vendor issues to identify and address. In addition, the Digital Information data collector has experienced numerous technical problems. We are concentrating on getting 2019 submissions in order and flowing, then will reach back for 2018 and 2017. Some of the EMS agencies had still not transitioned to the NEMSIS v3.4.0 data structure almost two years after the deadline. We were not able to know that until the data became visible late in the first quarter of 2019.

Performance Area: **Timeliness I-T-2**

Summary of Deficiency - CT_EMS/I_002 - There is a time delay from when an EMS run is completed to when the care report is entered in the state EMS discharge file after EMS run.



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Measurement Method: Percent of EMS patient care reports entered in the State EMS discharge file within 2 days after the EMS run.

	Benchmark	2018	2019	2020	2021	2022
Goal	2 days	Unknown				
Actual						

Activity This Period

As we work through data submission and system issues, the EMS agencies are more likely to be automatically sending closed ePCRs directly to the database via a web service. This has necessitated that each EMS client work together with their local software vendor. That is a challenge, with 80% of our EMS agencies being staffed on a volunteer basis. Some of the agencies have changed software vendors, so the sometimes-changing local staff must keep up that relationship.

Performance Area: **Accuracy I-A-1**

Summary of Deficiency: - CT_EMS/I_003- Errors in critical data elements

Measurement: % of EMS Patient Care Reports with no errors in critical data elements

	Benchmark	2018	2019	2020	2021	2022
Goal	100%	70%	80%	90%	95%	95%
Actual	Unknown					

Activity This Period

NEMESIS is advising us of significant issues in validation overall, but the critical fields, while not error-free, at least have data in them.

Performance Area: **Completeness I-C-1**



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Summary of Deficiency: - CT_EMS/I_004 Missing Critical Data Elements

Measurement: % of EMS Patient Care Reports with no missing critical data elements

	Benchmark	2018	2019	2020	2021	2022
Goal	100%	80%	90%	95%	95%	95%
Actual	Unknown					

Activity This Period

Unknown, we are still trying to get all of the data that should be coming in.

Performance Area: **Consistency (Uniformity) I-U-1**

Summary of Deficiency – CT_EMS_005 – Adopt the use of National Emergency Medical Services Information System Compliant (NEMSIS) data elements.

Measurement: Percent of records on the State EMS data file that are NEMSIS Compliant.

	Benchmark	2018	2019	2020	2021	2022
Goal	100%	80%	90%	95%	95%	95%
Actual	Unknown					

Activity This Period

Still a work in progress, cannot give a percentage on overall data submission.



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Performance Area: **Integration I-I-1**

Summary of Deficiency - CT_EMS/I_006 - No data linkage to any other traffic records system.

Measurement: % of appropriate records in the EMS file that are linked to another system or file.

	Benchmark	2018	2019	2020	2021	2022
Goal						
Actual						

Activity This Period

We are beginning to export subsets of real data for the use of programming by one research partner in preparation for more complete analysis. The recipients have pre-2017 data in the old NEMSIS v2.2.1 data format and will use the subset for programming the very different fields output from NEMSIS v3.4.0

Performance Area: **Accessibility I-X-1**

Summary of Deficiency - CT_EMS/I_007 - There is no access to the EMS file.

Measurement: Number of principal users with access to the EMS Run reports within HIPAA laws.

	Benchmark	2018	2019	2020	2021	2022
Goal						
Actual						

No Measurable Progress

We are beginning to export subsets of real data for the use of programming by one research partner in preparation for more complete analysis.



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5.0 CONNECTICUT TRAFFIC RECORDS SYSTEM FY 2020 PROJECT PLAN

The Connecticut Traffic Records Coordinating Committee (CT-TRCC) reviewed each system's deficiencies and developed goals, objectives and projects to address the deficiencies as they relate to the goal of the traffic records system in the territory.

The Connecticut Plan of Action addresses the traffic safety community needs for traffic safety information that is timely, accurate, complete, uniform, integrated, and accessible. The traffic safety community includes Department of Public Safety, State Police; Local Law Enforcement Agencies; Department of Transportation, Department of Public Health, Judiciary, Attorney General Office, Department of Motor Vehicles and Council of Regional Government.



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5.1 PROJECTS SUMMARY SECTION 405 (c) FUNDING

The table below provides a summary for each of the projects that are being proposed for funding in FY 2020 under Section 405 (c) Grant". A summary description of each project is provided in this section of application.

Project Title	Performance Area	Baseline	Goal 2020	Funding Requirement
Electronic Citation Processing System - Version 2 (Integration with Online Disposition)	Timeliness Accuracy	60%	100%	\$174,840.00
Electronic Citation Processing System - Version 2 (Online Disposition)	Timeliness Completeness	80%	100%	\$187,000.00
Electronic Citation	Timeliness Accuracy	54%	100%	\$800,000.00
Total FY 2020 Budget				\$265,000.00



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5.2 ECITATION PROCESSING SYSTEM – VERSION 2 WITH ONLINE DISPOSITION

On-Going

Agency: <i>Judiciary</i>	Plan Year: <i>2020</i>	Revision Date: <i>06/18/19</i>
Submitted By: <i>Stacey Manware</i>		Email: Stacey.Manware@jud.ct.gov

Article I. Deficiencies:

The legislation requires that States list their system deficiencies and how those deficiencies were determined:

Deficiency ID: (For ease of reference, provide each deficiency with an identifier of up to 10 characters – no spaces) C/A-T-1 - CT_C/A_001/C/A_002

C/A-I-1 - CT_C/A_006

C/A-A-1 - CT_C/A_003

Deficiency Description: (This section contains a brief statement of the deficiency.)

- Improve the procedures/process flows for the Citation and Adjudication systems that reflect best practices identified in the Traffic Records Program Assessment Advisory.
- Improve the interfaces with the Citation and Adjudication systems that reflect best practices identified in the Traffic Records Program Assessment Advisory.

Core System: (What core system is referred to by this deficiency? Check One)

- Crash
- Driver License / History
- Injury Surveillance / EMS
- Roadway
- Citation / Adjudication
- Vehicle Registration

Performance Area: (What performance area is referred to by this deficiency? Check one)



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

Source of Deficiency: (How was the deficiency identified? i.e.: TR Assessment)

A Traffic Records Assessment dated April 18, 2017 and NTHSA Go Team evaluation.



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Agency: <i>Judiciary</i>	Plan Year: <i>2020</i>	Revision Date: <i>06/018/19</i>
Submitted By: <i>Stacey Manware</i>		Email: Stacey.Manware@jud.ct.gov

Article II. Performance Measures & Goals:
Legislation and the Federal Register call for States to identify performance measures and goals as a basis for demonstrating progress. You may use the following template to record your Performance Measures and Goals.

Measure ID: (For ease of reference, provide each performance measure / goal statement with an identifier of up to 10 characters - no spaces)

C/A-T-1 - CT_C/A_001/C/A_002

C/A-I-1 - CT_C/A_006

C/A-A-1 - CT_C/A_003

Core System: (What core system will be affected by this measure? Check One)

- Crash
- Driver License / History
- Injury Surveillance / EMS
- Roadway
- Citation / Adjudication
- Vehicle Registration

Performance Area: (What performance area will be affected by this measure? Check one)

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



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Direction: (What direction will the measure move to demonstrate a success? Check one)

- Increase
- Decrease

What Will Be Measured: (This section contains a brief statement of what will be measured.)

1. Time required for issuing and transmitting citation to the state centralized database.
2. Completeness and accuracy of citation data.
3. Time required for disseminating citation reports to qualified requestors.
4. Time required for disposition and updating Driver History File.
5. Completeness and accuracy of Citation data
6. Integration of Citation/Adjudication and Disposition data with Driver History File.

How Will It Be Measured: (This section contains a brief statement of how the measurement will be determined?)

1. Timeliness - Time periods from citation issuance to disposition and update of Driver History File. This can often be measured in days on the current Online Adjudication System.
2. Completeness and accuracy of Citation data.
3. Integration criminal data with traffic data for developing countermeasures
4. Interface to Driver and Vehicle Data

Goals by Year: (Provide annual values for the baseline and goal levels of the measure for each program year, in terms of its value in June of the given year.)

GOAL: Value as of: *Increase in Time Savings*

June 2016	0%
June 2017	0%



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June 2018	50%
June 2019	80%
June 2020	95%

Status by Year: (When the State provides FINAL VALUES for this performance measure as part of their annual progress report, they may choose to add the following information. Annual values for the baseline and goal levels of the measure for each program year, in terms of its value in June of the given year.)

FINAL (this year - prior year)

Value as of	%	Change	%
June 2016	0%	Change from 2015	0%
June 2017	00%	Change from 2016	0%
June 2018	50%	Change from 2017	50%
June 2019	80%	Change from 2018	30%
June 2020	90%	Change from 2019	10%



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Agency: <i>Judiciary</i>	Plan Year: 2020	Revision Date: 06/018/19
Submitted By: <i>Stacey Manware</i>		Email: Stacey.Manware@jud.ct.gov

Article III. Projects:

The following project description format is SUGGESTED, but not required for use by the State. This sample includes information on all projects that impact directly upon system deficiencies and, therefore, system level performance measures, or which will involve USDOT funding (FHWA, FMCSA or NHTSA), in whole or in part. Exceptions and comments are noted in italics.

Project ID: (For ease of reference, provide each Project with an identifier of up to 10 characters – no spaces) C/A-T-1 - CT_C/A_001/C/A_002

C/A-I-1 - CT_C/A_006

C/A-A-1 - CT_C/A_003

Project Title: ECitation Processing System – Version 2 with Online Disposition

Lead Agency: Superior Court

Project Director / Primary Contact: (Person who is responsible for reporting Project Status.)

While not required, project director / contact information will assist the State Safety Data Coordinator in knowing who to contact for project progress information and will provide project-specific contact information for the NHTSA Safety Data Improvement Program Project Clearinghouse web site. Lacking a project-specific contact, the Clearinghouse will list the State Safety Data Coordinator as the Contact.

Name: Stacey Manware
 Title: Deputy Director
 Agency: Superior
 Court Address: 225 Spring Street
 City, ZIP: Wethersfield, CT 06109



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Phone: 860-263-2752
 Email: Stacey.Manware@jud.ct.gov

Partner Agencies: (Name of the Agencies that are partners with the Lead Agency in the implementation of the project.)

Partner agencies may not be relevant to most projects, but if included, this helps document that more than one agency is responsible for the implementation and ultimate success of the project.

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

Core System & Performance Area:

What Core System(s) and Performance Area(s) will be affected by this project?

Check All that Apply

Performance Area \ Core System	Accuracy	Completeness	Integration	Timeliness	Uniformity	Accessibility
Crash	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Driver License / History	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Injury Surveillance / EMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Roadway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Citation / Adjudication	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Vehicle Registration	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Project Description: *(This section provides a brief overview of what the project will entail.)*

Building on the fiscal year 2019 grant accomplishments and information gleaned through the “Electronic Citation Processing System - Outreach to Police



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Departments” the Connecticut Judicial Branch proposes to implement action plans created to bring all departments to 100% compliance with electronic citation. In addition to the implementation of the action plans created in the 2019 grant year the following improvements are proposed for the 2020 grant year

- In conjunction with the Connecticut Department of Motor Vehicles, add the ability to take possession of a Connecticut Operator’s License as a method of enforcement allowable through the ECitation platform
- Make improvements to the ECitation schema and make code changes to eliminate inconsistencies e.g. suffix of defendant’s name

Basis for Project: *(Provide the deficiencies that will be addressed by this project. If you like, you can list the Deficiency ID’s that are being addressed.)*

- Improve the procedures/process flows for the Citation and Adjudication systems that reflect best practices identified in the Traffic Records Program Assessment Advisory.
- Improve the interfaces with the Citation and Adjudication systems that reflect best practices identified in the Traffic Records Program Assessment Advisory.

Expected Impact: *(Indicate what impact you expect from this Project. This may be done by listing the Performance Measure ID’s that are likely to be impacted by the Project.)*

- C/A-T-1 - CT_C/A_001/C/A_002
- C/A-I-1 - CT_C/A_006
- C/A-A-1 - CT_C/A_003

Project Priority: *(This section provides describes the classification of Project Priority. States may use any prioritization that they choose such as short, medium and long range; low, medium high priority, or a specific rank order.)*

High



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Projected Budget by Funding Source:

Ideally, States should provide funding source and projected budgets by year for any projects that directly impact system performance goals or draw upon USDOT funding sources. This will help establish future year funding estimates for the Section 405 (c) and other USDOT funded programs. (Show estimated thousands of dollars by Section 405 (c) grant year)

Funding Source	2017	2018	2019	2020
Section 405 (c)				\$174,840.00

Project Milestones: *(This section lists the Milestones that will be used to show that the effort is on schedule.)*

Milestones are not required, but by providing them a State can establish a means of demonstrating that the project is on schedule.

Milestones	Projected Completion Date	Actual Completion Date
Police Department Outreach	On-going	
Electronic Citation Deployment	On-going	
ECitation Enhancements	On-Going	

(NOTE: When providing information for your annual progress report the State may add another column that is the "Actual Completion Date" and fill in those values for milestones that have been completed.)

Project Status: *(This section provides a basic category for the status of the project as of the submission date.)*

- Unknown** (Status not currently assigned)
- Proposed** (Project is proposed but has not been funded and / or approved)
- Planned** (Project is approved, but has not yet started)



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- Start-Up** (Project is in organizational or administrative start-up - e.g. waiting for staffing)
- Active** (Project is under way)
- Completed** (Project has been completed)
- Cancelled** (Project was cancelled)
- On Hold** (Project is temporarily on hold)
- Postponed** (Project has been postponed, or tabled at this time)



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5.3 ELECTRONIC CITATION PROCESSING SYSTEM – ONLINE DISPOSITION

On Going

Agency: <i>Judiciary</i>	Plan Year: <i>2020</i>	Revision Date: <i>06/018/19</i>
Submitted By: <i>Stacey Manware</i>		Email: Stacey.Manware@jud.ct.gov

Article I. Deficiencies:

The legislation requires that States list their system deficiencies and how those deficiencies were determined:

Deficiency ID: **(For ease of reference, provide each deficiency with an identifier of up to 10 characters - no spaces)**

C/A-T-1 - CT_C/A_001/C/A_002

C/A-I-1 - CT_C/A_006

C/A-A-1 - CT_C/A_003

Deficiency Description: **(This section contains a brief statement of the deficiency.)**

- Improve the procedures/process flows for the Citation and Adjudication systems that reflect best practices identified in the Traffic Records Program Assessment Advisory.
- Improve the interfaces with the Citation and Adjudication systems that reflect best practices identified in the Traffic Records Program Assessment Advisory.

Core System: **(What core system is referred to by this deficiency? Check One)**

- Crash
- Driver License / History
- Injury Surveillance / EMS
- Roadway
- Citation / Adjudication



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Vehicle Registration

Performance Area: (What performance area is referred to by this deficiency?)

Check one)

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

Source of Deficiency: (How was the deficiency identified? i.e.: TR Assessment, FMCSA Data Quality Audit, and TRCC Input)

Traffic Records Assessment dated April 18, 2017 and NTHSA Go Team evaluation.



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Agency: <i>Judiciary</i>	Plan Year: <i>2020</i>	Revision Date: <i>06/018/19</i>
Submitted By: <i>Stacey Manware</i>		Email: Stacey.Manware@jud.ct.gov

Article II. Performance Measures & Goals:

Legislation and the Federal Register call for States to identify performance measures and goals as a basis for demonstrating progress. You may use the following template to record your Performance Measures and Goals.

Measure ID: **(For ease of reference, provide each performance measure / goal statement with an identifier of up to 10 characters - no spaces)**

C/A-T-1 - CT_C/A_001/C/A_002

C/A-I-1 - CT_C/A_006

C/A-A-1 - CT_C/A_003

Core System: **(What core system will be affected by this measure? Check One)**

- Crash
- Driver License / History
- Injury Surveillance / EMS
- Roadway
- Citation / Adjudication
- Vehicle Registration

Performance Area: **(What performance area will be affected by this measure? Check one)**

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



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Direction: (What direction will the measure move to demonstrate a success? Check one)

- Increase
- Decrease



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What Will Be Measured: (This section contains a brief statement of what will be measured.)

1. Time required for disposition and updating Driver History File.
2. Completeness and accuracy of Citation data
3. Integration of Citation/ Adjudication and Disposition data with Driver History File.

How Will It Be Measured: (This section contains a brief statement of how the measurement will be determined?)

1. Timeliness - Time periods from citation issuance to disposition and update of Driver History File. This can often be measured in days on the current Online Adjudication System.
2. Completeness and accuracy of Citation data.
3. Integration criminal data with traffic data for developing countermeasures
4. Interface to Driver and Vehicle Data
5. Public Accessibility for adjudication process

Goals by Year: (Provide annual values for the baseline and goal levels of the measure for each program year, in terms of its value in June of the given year.)

GOAL: Value as of: *Increase in Time Savings*

June 2016	0%
June 2017	0%
June 2018	5%
June 2019	15%
June 2020	20%

Status by Year: (When the State provides FINAL VALUES for this performance measure as part of their annual progress report, they may choose to add the following



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information. Annual values for the baseline and goal levels of the measure for each program year, in terms of its value in June of the given year.)

FINAL (this year - prior year)

Value as of	%	Change	%
June 2016	0%	Change from 2015	0%
June 2017	0%	Change from 2016	5%
June 2018	50%	Change from 2017	50%
June 2019	60%	Change from 2018	10%
June 2020	80%	Change from 2019	20%



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Agency: <i>Judiciary</i>	Plan Year: 2020	Revision Date: 06/018/19
Submitted By: <i>Stacey Manware</i>		Email: Stacey.Manware@jud.ct.gov

Article III. Projects:

The following project description format is SUGGESTED, but not required for use by the State. This sample includes information on all projects that impact directly upon system deficiencies and, therefore, system level performance measures, or which will involve USDOT funding (FHWA, FMCSA or NHTSA), in whole or in part. Exceptions and comments are noted in italics.

Project ID: (For ease of reference, provide each Project with an identifier of up to 10 characters – no spaces)C/A-T-1 - CT_C/A_001/C/A_002

C/A-I-1 - CT_C/A_006

C/A-A-1 - CT_C/A_003

Project Title: ECitation Processing System – Version 2 with Online Disposition

Lead Agency: Superior Court

Project Director / Primary Contact: (Person who is responsible for reporting Project Status.)

While not required, project director / contact information will assist the State Safety Data Coordinator in knowing who to contact for project progress information and will provide project-specific contact information for the NHTSA Safety Data Improvement Program Project Clearinghouse web site. Lacking a project-specific contact, the Clearinghouse will list the State Safety Data Coordinator as the Contact.

Name: Stacey Manware
Title: Deputy Director
Agency: Superior Court



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Address: 225 Spring Street
 City, ZIP: Wethersfield, CT 06109
 Phone: 860-263-2752
 Email: Stacey.Manware@jud.ct.gov

Partner agencies may not be relevant to most projects, but if included, this helps document that more than one agency is responsible for the implementation and ultimate success of the project.

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

Core System & Performance Area:

What Core System(s) and Performance Area(s) will be affected by this project?
Check All that Apply

Performance Area \ Core System	Accuracy	Completeness	Integration	Timeliness	Uniformity	Accessibility
Crash	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Driver License / History	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Injury Surveillance / EMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Roadway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Citation / Adjudication	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Vehicle Registration	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Project Description: *(This section provides a brief overview of what the project will entail.)*

Building on the fiscal year 2019 grant accomplishments, the Connecticut Judicial Branch Proposes to improve the On-Line Disposition Program by:



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- Make improvements to the On-Line Disposition System to allow improved functioning and communication
 - *Enable clerks to message the prosecutor concerning pertinent information
 - *Enable the public to update email addresses
- Collaborate with the Highway Safety Office to develop or implement additional alternatives for safety interventions prior to disposition e.g. Child Safety Seat Programs
- Analyze current disposition trends and statistics and document opportunities for improvement
- Convene a working group to explore the possibilities of using Artificial Intelligence in the disposition process

Basis for Project: *(Provide the deficiencies that will be addressed by this project If you like, you can list the Deficiency ID's that are being addressed.)*

A Traffic Records Assessment dated April 18, 2017 and NTHSA Go Team evaluation.
Expected Impact: *(Indicate what impact you expect from this Project. This may be done by listing the Performance Measure ID's that are likely to be impacted by the Project.)*

Timely adjudication and disposition of traffic violations and update of Driver History File.

Project Priority: *(This section provides describes the classification of Project Priority. States may use any prioritization that they choose such as short, medium and long range; low, medium high priority, or a specific rank order.)*

High

Projected Budget by Funding Source:

Ideally, States should provide funding source and projected budgets by year for any projects that directly impact system performance goals or draw upon USDOT



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funding sources. This will help establish future year funding estimates for the Section 405 (c) and other USDOT funded programs. (Show estimated thousands of dollars by Section 405 (c) grant year.)

Funding Source	2018	2019	2020
Section 405 (c)			\$187,000.00

Project Milestones: *(This section lists the Milestones that will be used to show that the effort is on schedule.)*

Milestones are not required, but by providing them a State can establish a means of demonstrating that the project is on schedule.

Milestones	Projected Completion Date	Actual Completion Date
System Analysis	On Going	
System Enhancements	On Going	



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(NOTE: When providing information for your annual progress report the State may add another column that is the "Actual Completion Date" and fill in those values for milestones that have been completed.)

Project Status: *(This section provides a basic category for the status of the project as of the submission date.)*

- Unknown (Status not currently assigned)
- Proposed (Project is proposed but has not been funded and / or approved)
- Planned (Project is approved, but has not yet started)
- Start-Up (Project is in organizational or administrative start-up - e.g. waiting for staffing)
- Active (Project is under way)
- Completed (Project has been completed)
- Cancelled (Project was cancelled)
- On Hold (Project is temporarily on hold)
- Postponed (Project has been postponed, or tabled at this time)



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**5.4 ELECTRONIC CITATION – TECHNOLOGY/SOFTWARE SUPPORT
FOR LOCAL LAW ENFORCEMENT**

Agency: <i>Judiciary</i>	Plan Year: <i>2020</i>	Revision Date: <i>06/018/19</i>
Submitted By: <i>Stacey Manware</i>		Email: Stacey.Manware@jud.ct.gov

Article I. Deficiencies:

The legislation requires that States list their system deficiencies and how those deficiencies were determined:

Deficiency ID: (For ease of reference, provide each deficiency with an identifier of up to 10 characters - no spaces)

C/A-T-1 - CT_C/A_001/C/A_002

C/A-I-1 - CT_C/A_006

C/A-A-1 - CT_C/A_003

Deficiency Description: (This section contains a brief statement of the deficiency.)

- Improve the procedures/process flows for the Citation and Adjudication systems that reflect best practices identified in the Traffic Records Program Assessment Advisory.
- Improve the interfaces with the Citation and Adjudication systems that reflect best practices identified in the Traffic Records Program Assessment Advisory.

Core System: (What core system is referred to by this deficiency? Check One)

- Crash
- Driver License / History
- Injury Surveillance / EMS
- Roadway



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- Citation / Adjudication
- Vehicle Registration

Performance Area: (What performance area is referred to by this deficiency?

Check one)

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

Source of Deficiency: (How was the deficiency identified? i.e.: TR Assessment, FMCSA Data Quality Audit, and TRCC Input)

Traffic Records Assessment dated April 18, 2017 and NTHSA Go Team evaluation.



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Agency: <i>Judiciary</i>	Plan Year: 2020	Revision Date: 06/018/19
Submitted By: <i>Stacey Manware</i>		Email: Stacey.Manware@jud.ct.gov

Article II. Performance Measures & Goals:

Legislation and the Federal Register call for States to identify performance measures and goals as a basis for demonstrating progress. You may use the following template to record your Performance Measures and Goals.

Measure ID: **(For ease of reference, provide each performance measure / goal statement with an identifier of up to 10 characters - no spaces)**

C/A-T-1 - CT_C/A_001/C/A_002

C/A-I-1 - CT_C/A_006

C/A-A-1 - CT_C/A_003

Core System: **(What core system will be affected by this measure? Check One)**

- Crash
- Driver License / History
- Injury Surveillance / EMS
- Roadway
- Citation / Adjudication
- Vehicle Registration

Performance Area: **(What performance area will be affected by this measure? Check one)**

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



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Direction: (What direction will the measure move to demonstrate a success? Check one)

- Increase
- Decrease

What Will Be Measured: (This section contains a brief statement of what will be measured.)

1. Time required for Citation issuance and transmission to the state centralized database
2. Completeness and accuracy of Citation data
3. Integration of Citation/Adjudication and Disposition data with Driver History File.

How Will It Be Measured: (This section contains a brief statement of how the measurement will be determined?)

1. Timeliness - Time periods from citation issuance to when it is available for adjudication
2. Completeness and accuracy of Citation data.
3. Integration criminal data with traffic data for developing countermeasures
4. Interface to Driver and Vehicle Data

Goals by Year: (Provide annual values for the baseline and goal levels of the measure for each program year, in terms of its value in June of the given year.)

GOAL: Value as of: *Increase in Time Savings*

June 2016	<i>0%</i>
June 2017	<i>0%</i>
June 2018	<i>5%</i>
June 2019	<i>15%</i>



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June 2020	20%
------------------	------------

Status by Year: (When the State provides FINAL VALUES for this performance measure as part of their annual progress report, they may choose to add the following information. Annual values for the baseline and goal levels of the measure for each program year, in terms of its value in June of the given year.)

FINAL (this year - prior year)

Value as of	%	Change	%
June 2016	0%	Change from 2015	0%
June 2017	0%	Change from 2016	0%
June 2018	40%	Change from 2017	40%
June 2019	54%	Change from 2018	14%
June 2020	100%	Change from 2019	36%



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Agency: <i>Judiciary</i>	Plan Year: <i>2020</i>	Revision Date: <i>06/018/19</i>
Submitted By: <i>Stacey Manware</i>		Email: Stacey.Manware@jud.ct.gov

Article III. Projects:

The following project description format is SUGGESTED, but not required for use by the State. This sample includes information on all projects that impact directly upon system deficiencies and, therefore, system level performance measures, or which will involve USDOT funding (FHWA, FMCSA or NHTSA), in whole or in part. Exceptions and comments are noted in italics.

Project ID: (For ease of reference, provide each Project with an identifier of up to 10 characters – no spaces) C/A-T-1 - CT_C/A_001/C/A_002

C/A-I-1 - CT_C/A_006

C/A-A-1 - CT_C/A_003

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

Lead Agency: Superior Court

Project Director / Primary Contact: (Person who is responsible for reporting Project Status.)

While not required, project director / contact information will assist the State Safety Data Coordinator in knowing who to contact for project progress information and will provide project-specific contact information for the NHTSA Safety Data Improvement Program Project Clearinghouse web site. Lacking a project-specific contact, the Clearinghouse will list the State Safety Data Coordinator as the Contact.

Name: Stacey Manware

Title: Deputy Director



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Agency: Superior Court
 Address: 225 Spring Street
 City, ZIP: Wethersfield, CT 06109
 Phone: 860-263-2752
 Email: Stacey.Manware@jud.ct.gov

Partner agencies may not be relevant to most projects, but if included, this helps document that more than one agency is responsible for the implementation and ultimate success of the project.

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

Core System & Performance Area:

What Core System(s) and Performance Area(s) will be affected by this project?

Check All that Apply

Performance Area Core System	Accuracy	Completeness	Integration	Timeliness	Uniformity	Accessibility
Crash	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Driver License / History	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Injury Surveillance / EMS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Roadway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Citation / Adjudication	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Vehicle Registration	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Project Description: *(This section provides a brief overview of what the project will entail.)*



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The focus is to help local police departments acquire public safety equipment. Some departments don't have computers or mobile data terminals (MDTs) in their vehicles, hindering their abilities for selective enforcement. Better tools/resources, including technology as well as software support where warranted, would enable local police departments to participate in the E-Citation initiative.

Equipment as well as software support will be provided to support local law enforcement agencies in implementing E-Citation. Equipment/software support will be specifically awarded to those agencies requesting assistance for the purchase and installation of computers, printers or other mobile technology, as well as software applications.

The need for planning and coordination among law enforcement agencies is critical to the success of this effort. This E-Citation support initiative will 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 appropriate State agency. This project could fund up to 10 municipalities. 55 municipal police agencies and the Connecticut State Police currently use e-citation.

Basis for Project: *(Provide the deficiencies that will be addressed by this project if you like, you can list the Deficiency ID's that are being addressed.)*

A Traffic Records Assessment dated April 18, 2017 and NTHSA Go Team evaluation. Expected Impact: *(Indicate what impact you expect from this Project. This may be done by listing the Performance Measure ID's that are likely to be impacted by the Project.)*

Timely adjudication and disposition of traffic violations and update of Driver History File.

Project Priority: *(This section provides describes the classification of Project Priority. States may use any prioritization that they choose such as short, medium and long range; low, medium high priority, or a specific rank order.)*

High



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Projected Budget by Funding Source:

Ideally, States should provide funding source and projected budgets by year for any projects that directly impact system performance goals or draw upon USDOT funding sources. This will help establish future year funding estimates for the Section 405 (c) and other USDOT funded programs. (Show estimated thousands of dollars by Section 405 (c) grant year.)

Funding Source	2018	2019	2020
Section 405 (c)			\$800,000.00

Project Milestones: *(This section lists the Milestones that will be used to show that the effort is on schedule.)*

Milestones are not required, but by providing them a State can establish a means of demonstrating that the project is on schedule.

Milestones	Projected Completion Date	Actual Completion Date
Equipment	On Going	
Software acquisition and deployment	On Going	



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(NOTE: When providing information for your annual progress report the State may add another column that is the "Actual Completion Date" and fill in those values for milestones that have been completed.)

Project Status: *(This section provides a basic category for the status of the project as of the submission date.)*

- Unknown (Status not currently assigned)
- Proposed (Project is proposed but has not been funded and / or approved)
- Planned (Project is approved, but has not yet started)
- Start-Up (Project is in organizational or administrative start-up – e.g. waiting for staffing)
- Active (Project is under way)
- Completed (Project has been completed)
- Cancelled (Project was cancelled)
- On Hold (Project is temporarily on hold)
- Postponed (Project has been postponed, or tabled at this time)



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TRAFFIC RECORDS RECOMMENDATION NOT ADDRESSED IN FY 2020

Vehicle Recommendations _ under the department review

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

Plan of Action

The vehicle system data dictionary is under review and once completed the DMV will ensure that it provides definitions for each data element and, where applicable, provides matching edit checks and data collection guidelines. Procedures for collection, reporting, and posting of registration, title, and title brand information will be formally documented. The data dictionary will be accessible to all users and updated regularly to reflect changes to the system.

The Vehicle system will adhere to the American Association of Motor Vehicle Administrators (AAMVA) standard and guidelines and reflects best practices identified in the Traffic Records Program Assessment Advisory.

- Improve the Interfaces with the Vehicle data system to reflects best practices identified in the Traffic Records Program Assessment Advisory

Plan of Action

The vehicle system is under review with plan improvements to include interface with other Traffic Records System.

- Improve the procedures/process flows for the Vehicle data system to reflects best practices identified in the Traffic Records Program Assessment Advisory

Plan of Action



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Upon completion of the system review DMV will ensure the system procedures/process flow reflects best practices identified in the Traffic Records Program Assessment Advisory



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Driver Recommendations _ under the department review

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

Plan of Action

The Driver Licensing system will be well documented. Each data field will have an established definition and validated values—including appropriate null codes. All applicable edit checks and data collection guidelines will match the data definitions. The data dictionary will be maintained and updated to keep pace with system, legislative, and other changes.

Driver data system will reflect best practices as identified in the Traffic Records Program Assessment Advisory

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

Plan of Action

The system will have a formal data quality management program's review protocols that covers the entire process—the collection, submission, processing, posting, and maintenance of driver data.

An automated edit checks and validation rules will be implemented to ensure entered data falls within the range of acceptable values and is logically consistent between other fields. Edit checks will be applied when data is added to the record. The system will have a Performance measures program that will be tailored to the needs of data managers and address the concerns of all stakeholders.

The Driver system will reflect best practices identified in the Traffic Records Program Assessment Advisory



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Roadway Recommendations _ In Process

- Improve the applicable guidelines for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.

Plan of Action

MIRE is the major guideline pertaining to the roadway system. There is a total of 202 elements that comprise MIRE Version 1.0 and 38 of those elements have been identified as FDEs. The MIRE elements are divided among three broad categories: roadway segments, roadway alignment, and roadway junctions. Each MIRE element has a definition, a list of attributes (coding) a priority rating, a reference to safety analysis tools, and—when necessary—an illustration that provides supplemental information on the element. It is important to have MIRE-level data for at least the roadway segments that have high crash rates so that causality can be investigated. The collaborative plan between ConnDOT and CTSRC to populate critical MIRE data elements into the new geospatial LRS, and to maintain the datasets for safety analysis use, directly addresses the Traffic Records Assessment Recommendation. It is an ongoing effort, with plans to comply with federal requirements well before the 2026 deadline.

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

Plan of Action

Custodians of the roadway system should maintain a comprehensive, systematic quality control management process that ensures the efficient functioning of the system. The quality control process should include data quality measures as well. The timeliness, accuracy, completeness, uniformity, integration, and accessibility of the roadway data should be monitored based on a set of metrics established by the State. The overall quality of the roadway data should be assured based on a formal program of error and edit checking as the data are entered into the statewide system and procedures should be in place for addressing detected errors. In addition, the custodial agency and the TRCC should work together to establish and review the sufficiency of the quality control program and to review the results of the quality control measures.



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Roadway data managers should produce and analyze periodic data quality reports. When these reports identify shortcomings, appropriate measures should be taken and corrections applied. If common errors are identified, training and changes to the applicable instruction manuals, edit checks, and the data dictionaries should be made. Audits and validation checks should be conducted as part of the quality control program to assure the accuracy of specific critical data elements. The measures shown below in Table 3 are examples of high-level management indicators of quality taken from NHTSA’s performance measures report. The managers of individual roadway files should have access to a greater number of measures. The custodial agency should be prepared to present a standard set of summary measures to the TRCC monthly or quarterly.

Table 3 – Example Quality Control Measurements for Roadway Data Systems

ROADWAY DATABASE MODEL PERFORMANCE MEASURES

ROADWAY DATABASE					
TIMELINESS	ACCURACY	COMPLETENESS	UNIFORMITY	INTEGRATION	ACCESSIBILITY
<p>R-T-1: The <i>median or mean</i> number of days from (a) the date a periodic collection of a critical roadway data element is complete (e.g., Annual Average Daily Traffic) to (b) the date the updated critical roadway data element is entered into the database.</p> <p>R-T-2: The <i>median or mean</i> number of days from (a) the date a roadway project is completed to (b) the date the updated critical data elements are entered into the database.</p>	<p>R-A-1: The <i>percentage</i> of all road segment records with no errors in <i>critical data</i> elements.</p> <p>Example: Surface/Pavement</p>	<p>R-C-1: The <i>percentage</i> of road segment records with no missing <i>critical data</i> elements.</p> <p>R-C-2: The <i>percentage</i> of public road miles or jurisdictions identified on the State’s basemap or roadway inventory file.</p> <p>R-C-3: The <i>percentage</i> of unknowns or blanks in <i>critical data</i> elements for which unknown is not an acceptable value.</p> <p>R-C-4: The <i>percentage</i> of total roadway segments that include location coordinates, using measurement frames such as a GIS basemap.</p>	<p>R-U-1: The <i>number</i> of Model Inventory of Roadway Elements (MIRE)-compliant data elements entered into a database or obtained via linkage to other databases.</p>	<p>R-I-1: The <i>percentage</i> of appropriate records in a specific file in the roadway database that are linked to another system or file.</p> <p>Example: Bridge inventory <i>linked to</i> roadway basemap</p>	<p>R-X-1: To measure accessibility of a specific file within the roadway database:</p> <ul style="list-style-type: none"> • Identify the principal users of the roadway file • Query the principal users to assess (a) their ability to obtain the data or other services requested and (b) their satisfaction with the timeliness of the response to their request • Document the method of data collection and the principal users’ responses

ConnDOT and CTSRC have completed the process of identifying critical data elements and are in the process of collecting and integrating that data into the roadway inventory file, along with creating linkages to additional databases within the Department. Data quality reports related to roadway and safety data will become a capability of the new geospatial LRS once the initial appropriate data has been loaded. Date/time stamping of changes, integration with a composite project database, and creating publicly available access to datasets and data viewers are going to be capabilities once the new system is completely implemented and the old non-geospatial LRS is decommissioned.



STATE CONNECTICUT

DEPARTMENT OF TRANSPORTATION

SECTION 405 (C) GRANT APPLICATION

TRAFFIC RECORDS STRATEGIC PLAN

CTDOT has established a sub-committee of its Transportation Enterprise Database (TED) Development group specifically dedicated to data visualization, analytics, and reporting; with members from Information Technology, Engineering, Planning, and UCONN CTSRC collaboratively assessing tools for visualizing and reporting data, as well as assessing data quality.

The Transportation Intelligence Gateway (TIG), a data extract and querying tool that functions as part of Bentley's EXOR product suite, allows administrators of the road network to generate various data quality reports as outlined below. TIG and the Bentley LRS spatial manager are products that are constantly evolving and ConnDOT plans to assess establishing more robust performance measures once the capabilities of the new system are fully implemented. As such, the performance measures offered below are subject to change.

EMS/Injury Surveillance Recommendations _ In process

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

Plan of Action

DPH recently acquired a new system and one of the goals is to interface with the Injury Surveillance system. DPH is working on the deployment and will work toward interface to reflect best practices identified in the Traffic Records Program Assessment Advisory.

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

Plan of Action

The new DPH system has a formal data quality management program as well as protocols that covers the entire process – the collection, submission, processing, posting, and maintenance of EMS data. DPH will ensure the system reflects best practices identified in the Traffic Records Program Assessment Advisory

2020 - 2021 Traffic Records Strategic Plan

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Introduction

Motor Vehicle Traffic Crashes continue to be a Major Cause of Death and Injury in the United States.

The Connecticut Department of Transportation has¹electronically received nearly 430,600 PR-1 reports since the inception of the MMUCC (Model Minimum Crash Criteria) compliant report form on January 1, 2015, resulting in 1,167 deaths, and more than 146,000 injuries, nearly 6,700 of them serious. With 100 injuries occurring per day in the State, some of them serious, in addition to the possibility of being killed, a person could expect any of the following if they are involved in a crash:

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

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



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

- Speeding
- Following too close
- Other aggressive driving
- Failing to yield right-of-way
- Impaired driving (alcohol, drugs, medication)
- Distracted driving – cell phone use, texting, etc.
- Unrestrained occupants
- Disregarding traffic signs and signals
- Running red lights
- Other careless driving

Connecticut Traffic Records Coordinating Committee - Vision

The vision of the Connecticut Traffic Records Coordinating Committee (TRCC) is a comprehensive Traffic Records System that provides reliable Data critical to the development of policies, and programs that enhance the operation and safety of the Connecticut Highway Transportation (National, State, and Local Roads) System.

Saving Lives and Preventing Injuries

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

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

Strengthening Partnerships to Integrate Safety Data Systems

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

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

- All reportable traffic crashes
- Driver citations
- Criminal history and judicial outcome data
- Driver licenses and registered vehicles
- Commercial motor vehicles
- Emergency Medical Systems and vital statistics
- Trauma and inpatient hospital records
- Roadway geometrics and features
- Traffic volumes, traffic mix and freight
- Location information via Geographic Information Systems

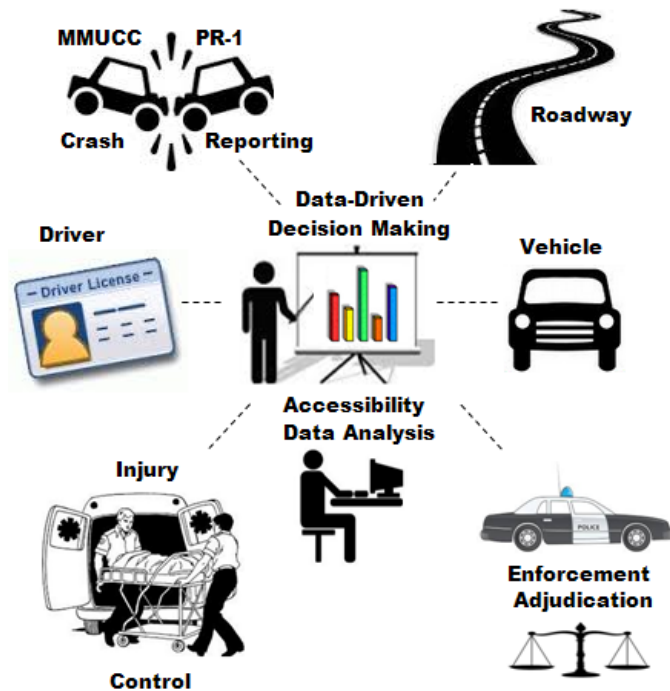
Making Data Driven Policy and Programmatic Changes

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

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

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

Integration of Connecticut’s Traffic Records System Components



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

Benefits of Integrated Datasets

Benefits of an integrated traffic records system include:

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

Traffic Records Coordinating Committee – A Proponent for Integrated Datasets

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

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

Data Users and Decision-Makers

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

Crash Data Repository

The screenshot shows the homepage of the Connecticut Crash Data Repository (CTCDR). At the top, the UCONN logo and the title 'Connecticut Crash Data Repository' are displayed. Below this, there is a navigation bar with links for 'Login', 'Register', and 'User Guide'. A user status indicator shows '[Main Menu] User: Members of the Traffic-Safety Community - Logged In'. The main content area is split into two columns. The left column contains a descriptive paragraph about the CTCDR and its purpose. The right column features a 'Connecticut Traffic Deaths' section with a table showing data for 2019 (19), 2018 (24), 2017 (26), and 2016 (22), along with a 'Preliminary Year-End' for 2018 showing 283 deaths. Below the table are buttons for 'Basic Users' (Crash DashBoard, Basic Report Tool) and 'Advanced Users' (Data Query Tool). At the bottom, a footer states 'This web site is exempt from discovery or admission under 23 U.S.C. 409.' and includes a 'Connecticut Crash Data Repository' label with 'User Guide' and 'Contact Us' buttons.

Crash Data Repository (CDR) website is located at - <http://www.ctcrash.uconn.edu/>



Connecticut Transportation Safety Research Center website is located at - <http://www.ctsrc.uconn.edu/>

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

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

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

Researchers Need Linked Datasets

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

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

TRCC Stakeholders

Stakeholders of Connecticut's system continue to make great strides in their push to implement uniform mobile traffic law enforcement technologies, including citation, crash data collection, and warning tickets. For several years, the emphasis on EMS patient care reporting resulted in nearly all EMS providers in the state achieving electronic reporting, using the National Standard (2NEMSIS). More recently, the focus has been on electronic reporting for a motor vehicle crash as well as traffic citation. Crash reporting has advanced with the adoption of the National 3MMUCC Guideline, which began in 2015. The State has received best practice awards for citation as well as crash reporting at two of the most recent National Forums on Traffic Records Systems.

Management Approach to Highway Traffic Safety

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

Aspects of the Highway Traffic Safety Challenge

- | | |
|----------------------|--------------------------|
| Occupant Protection | Child Passenger Safety |
| Impaired Driving | Distracted Driving |
| Motorcycle Safety | Community Traffic Safety |
| Senior Drivers | Teenage Drivers |
| Pedestrian Safety | Safe Routes to School |
| School Bus Safety | Speeding |
| Bicycle Safety | Work zone Safety |
| Commercial Vehicles | Hazardous Material Cargo |
| Rural Roadways | Intersections |
| Rear-End Crashes | Single Vehicle Crashes |
| Right of Way Crashes | Head-On Crashes |
| Defective Vehicles | Driver Behavior |

Quality data is essential in the ever-evolving need to diagnose the contributing factors to motor vehicle crashes and assessment of implemented countermeasures. The data assists in the identification of innovative and targeted strategies in areas that will have the greatest impact on achieving our goals.

Performance Measures

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

Year of Safety Data Grant Application	Performance Measures Receiving NHTSA's Approval as part of each year's Safety Data Grant Application
2009	190,993 Electronic NEMSIS Compliant EMS-PCRs Added to Database - Previous Year: 0
2010	31,530 Local Road PDO Crashes Added to Database - Previous Year: 0
2011	2 Years (total) of Hospital and ED Data Linked to Crash Data (CODES)
2012	From 20.7 to 19.1 Days from Citation Issuance to Database Entry
2013*	From 19.0 to 15.6 Days from Citation Issuance to Database Entry
2013	Linkage of Crash, Roadway and Traffic Volume Data for 9 Year Period - Previous: 0
2014	From 377 to 167 Days from Report of a Crash to Entry into Database (Backlog)
2015	From 24 to 75 MMUCC Compliant Crash Data Elements Entered into Database
2016	From 104 to 9 Days from Crash Report Arrival at ConnDOT to Entry into Database
2017	From 97.46% of Citation Records in the CIB Database with no errors in critical data elements during May '15-April '16 --- to 98.1% in the May '16-April '17-time period
2018	From 93.5% Accessibility of the Crash Data Repository (CDR) by Principal Users during July '16-June '17 --- to 96.0% in the July '17-June '18, one year later

* At the request of NHTSA, two submissions were made in 2013; one during the first quarter, and one in mid - 2013, as a 'catch-up' to earlier safety data applications submitted.

For the 2019 - 2020 Safety Data Grant application, the TRCC is focusing on Citation/Adjudication Timeliness for its primary performance measure. Specifically, the recommended performance measure as outlined in the NHTSA Performance Measure White Paper, DOT HS 811 441, is the mean number of days from the date a citation is issued to the date the citation/adjudication is entered into the Driver Record file.

National TRCC – Association of Transportation Safety Information Professionals

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

Connecticut’s Traffic Records Coordinating Committee – Noteworthy Practices

The State TRCC has helped to coordinate efforts with the support of the ConnDOT Highway Safety Office to ensure cooperation with the State’s political subdivisions establishing and implementing a complete and comprehensive traffic records program. The TRCC maintained an active schedule in 2018, and continues in 2019, meeting monthly as a technical advisory committee. The focus of the TRCC continues to be e-Crash, e-Citation, e-Warning, e-Traffic Stop, e-Adjudication, e-EMS and data integration of all of the traffic records ‘six-pack component datasets.

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

The following represent the requested safety data project funding for each of the past five years, submitted as part of the Highway Safety Planning process to the National Highway Traffic Safety Administration (NHTSA). The table at the bottom of page 9 represents the requested funding for safety data improvement projects for the coming fiscal year 2019-2020.

Safety Data Project Funding

2013 – 2014 Projects

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

• Electronic Crash Reporting Using National Standards (E-Crash)	150,000
• E-Crash / 100% Statewide Submission / Assessment and Support	300,000
• E-Citation Processing System / 100% Statewide Submission / Assessment and Support	150,000
• E-Citation Pilots - State Law Enforcement (DPS)	100,000
• E-Citation Pilots - Local Law Enforcement (CRCOG)	50,000
• E-Citation Pilots - Local Law Enforcement (DESPP Application)	50,000
Targeted Section 405 funding request for traffic records improvements	800,000

2014 – 2015 Projects

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

• Electronic Crash Reporting / National Standards	150,000
• Electronic Crash / Citation Reporting – Local Law Enforcement Agencies	400,000
• Electronic Citation / Summons Arrest / Warning Processing	200,000
• Electronic Charging / Citation / Warning / Summons Arrest	150,000
• Electronic EMS Tracking and Reporting System Data Linkage	100,000
Targeted Section 405c funding request for traffic records improvements	1,000,000

2015 – 2016 Projects

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

• Electronic Crash - Technology/Software Support for Local Law Enforcement	350,000
• Electronic Citation - Complete Installation Statewide for all Local Law Enforcement	150,000
• Electronic Charging - Citation/Warning/Traffic Stop	150,000
• Electronic Processing - Citation/Warning/Traffic Stop	150,000
• Linking Crash/Injury Datasets - Measure Injury Outcomes Assessed by Health Care Providers	50,000
• Electronic EMS / Trauma Registry - Functionality / Dictionary / Process - Documentation	100,000
• Crash Data Repository - Expand Functionality / Web Query Tools / Hot Spot Mapping	150,000
Targeted Section 405c funding request for traffic records improvements	1,100,000

2016 – 2017 Projects

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

• Electronic Crash - Technology / Software Support for Local Law Enforcement	300,000
• Electronic Charging - Warning / Citation / Traffic Stop	150,000
• Electronic Processing - Warning / Citation / Traffic Stop - Online Disposition System	400,000
• Linking Crash / Injury Datasets - Measure Crash Injury Outcomes - Law Enforcement / Health Care Providers	50,000
• EMS / Trauma Registry - Documentation - Data Dictionaries - Updates - Communication	100,000
Targeted Section 405c funding request for traffic records improvements	1,000,000

2017 – 2018 Projects

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

* Judicial	- Electronic Citation Processing - Online Dispositions	297,000
* Judicial	- Electronic Citation Processing V2 - All Police Departments	180,000
* HSO	- Electronic Crash/Citation Technology Support for Local Law Enforcement	300,000
* YNHH	- Linking Crash/Injury Datasets - Measure Crash Injury Outcomes	50,000
	Targeted Section 405c funding	827,000

2018 – 2019 Projects

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

* Judicial	- Electronic Citation Processing - Adjudication Online Dispositions	300,000
* Judicial	- Electronic Citation Processing V2 - All Police Departments	150,000
* Judicial	- Electronic Citation Processing - Full Participation by Law Enforcement	40,000
* HSO	- Electronic Citation Technology Support for Local Law Enforcement	300,000
-----	Targeted Section 405c funding -----	790,000

2019 – 2020 Projects

Project funding (Electronic Citation Processing / Citation / Warning / Traffic Stops, EMS / Trauma - Processing), Data Linkage Planning for the 14th fiscal year 2019-2020 Section 405c application

* Judicial	- Electronic Citation Processing - Adjudication Online Dispositions	
* Judicial	- Electronic Citation Processing V2 - All Police Departments	
* Judicial	- Electronic Citation Processing - Full Participation by Law Enforcement	
* HSO	- Electronic Citation Technology Support for Local Law Enforcement	
-----	Targeted Section 405c funding -----	

Program Level Information

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

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

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

ConnDOT - <http://www.ct.gov/dot> (Department of Transportation)

Highway Safety Programs - <http://www.ct.gov/dot/cwp/view.asp?a=2094&q=432886>

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

Highway Safety Office


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

Traffic Records Coordinating Committee - Website

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

The following represents the current content for the TRCC website.

Traffic Records Coordinating Committee Website



Current Materials

[TRCC Meeting / Current](#)

[TRCC Meeting / Past](#)

[TRCC Stakeholders](#)


[TRCC Charter](#)

[TRCC Traffic Records Strategic Plan](#)

[TRCC Data Linkage Subcommittee](#)

[TRCC Traffic Enforcement Data Update](#)

[TRCC CSP Wrong Way Driver Study](#)



Reference Materials

[Traffic Records Program Assessment Advisory 2017](#)

[Traffic Records Assessment 2017](#)

[MMUCC Guideline Fourth Edition 2012](#)

[D16.1 Manual on Classification of Motor Vehicle Crashes](#)

[One-Page MMUCC / D16.1 / D20.1 Standards Comparison](#)

[Traffic Records System Inventory](#)

DMV - <http://www.ct.gov/dmv> (Department of Motor Vehicles)

- Online – License Services
- Driver License Suspension Payments
- Check Driver License Status
- Commercial Driver Self Certification
- Vehicle Services

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

- Connecticut Health Database Compendium
- EMS Patient Care Report Database/Trauma Centers
http://www.ct.gov/dph/cwp/view.asp?a=3127&q=387370&dphNav_GID=1827&dphNav
- Injury Prevention
<http://www.ct.gov/dph/cwp/view.asp?a=3137&q=400094>

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

Division of State Police

http://www.ct.gov/despp/cwp/view.asp?a=4201&q=494678&desppNAV_GID=2077&desppNav=

CPCA - <http://www.cpcanet.org/> (Connecticut Police Chiefs Association)

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

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

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

- Connecticut Information Sharing System (CISS)

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

Letters of delegation (attached to the Section 405c application), from the following Administrators, designate individual(s) to attend, as their representatives and participate on the TRCC.

Crash Data and Roadway Data Systems:

Name: Joseph Giulietti
 Title: Commissioner
 Agency: Department of Transportation

Driver License / History and Vehicle Registration Data Systems:

Name: Michael Bzdyra
 Title: Commissioner
 Agency: Department of Motor Vehicles

Injury Surveillance / EMS Data System:

Name: Raul Pino
 Title: Commissioner
 Agency: Department of Public Health

Citation / Adjudication Data System:

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

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

The following vision and mission statements, reviewed during TRCC meetings in 2018 and 2019, 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.

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

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

The Connecticut TRCC shall:

- a. Include representatives from highway safety, the highway infrastructure, law enforcement, adjudication, public health, injury control and other State and federal agencies and organizations;
- b. Have authority to review the State’s highway safety data and traffic records system and review changes to such systems before the changes are implemented;
- c. Provide a forum for the discussion of highway safety data and traffic records system issues and report on such discussions to the agencies and organizations in the State that manage and use highway safety and traffic records system data;
- d. Consider and coordinate views of organizations in the State that are involved in the collection, management and use of traffic records system data;
- e. Represent the interests of traffic records system agencies and organizations to outside organizations; and
- f. Review and evaluate new technologies that have potential application for improving the Timeliness, Accuracy, Completeness, Uniformity and Accessibility of Traffic Records System data.

TRCC Stakeholders – 2019 Roster

Participants on the TRCC (2019 roster attached), which meets monthly, include 17 new stakeholders⁴ added this past year, while 14 members left due to changing job assignments or retirement. The TRCC is proud of its multidisciplinary membership, including collectors, managers, operators, and users of traffic records data. Representation includes public health and injury control, highway safety, highway infrastructure, law enforcement, adjudication, driver licensing, motor carrier, research, hospital, insurance, regional planning, university, mental health, and other interested organizations.

Crash Data Systems – MMUCC Audit: The State continued its documentation of the National Guideline⁵ MMUCC data elements that are collected and used within the crash data system. In January 2015, the State transitioned to a completely updated electronic crash reporting system using the 4th Edition of the⁶ MMUCC Guideline as the basis for its crash data collection. At the 2015 Traffic Records Forum, during the Best Practices presentation for the new crash reporting system, announcement was made that Connecticut’s new MMUCC PR-1 mapped to the National MMUCC Guideline at over 99%.

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

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

A combination of improved access and data query tools for the CDR, together with electronic crash reporting, has resulted in improved timeliness of access to crash data on the State CDR. Accessibility to the CDR is made available to all authorized stakeholders in the state.

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

Highway Safety Challenges

As identified in the Introduction, motor vehicle crash statistics help to focus on many of the 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 |

The TRCC agreed to the importance of MMUCC compliance following National Guideline recommendations; focusing on the number of MMUCC data elements that are included in the⁷ core of a State crash data repository (CDR). With the statewide implementation of the MMUCC 4th Edition, which began in 2015, several adopted data elements will be critical in providing future linkage between the

crash and other traffic records files. MMUCC contains many data elements that are required by the Federal Motor Carrier Safety Administration (FMCSA), for reporting commercial motor vehicle crashes.

The TRCC continues its focus on safety data improvement projects that allow measurement of change/impact in the short term. As noted in the 2007 - 408 application, emphasis was placed on activities like the ⁸CVARS project that provided for electronic capture and submittal of commercial vehicle crash data.

EMS Data Systems – NEMSIS Audit: The use of NEMSIS was mandated beginning January 2007 and all EMS services provided Toughbook laptop computers were required to have ⁹Gold Standard NEMSIS compliant software and be trained in the use of this software. It should be noted, that the number of NEMSIS data elements captured in a Patient Care Report (PCR) depends upon the seriousness of the calls for service.

NHTSA Go-Team Report

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

- Scheduling regular conversations via phone, webinar, or in-person with partner agencies and vendors,
- Using NHTSA's Performance Measure Guide, www-nrd.nhtsa.dot.gov/Pubs/811441.pdf, for the development of performance measures, establish measures for the six data quality attributes,
- Establish templates and set deadlines for system documentation for, *User manuals, *Data dictionaries, *Edit checks and validation rules,
- Track communication among partners using the following methods: *Set timelines for returning email and telephone correspondence, *Set timelines for dissemination of system changes, *Establish a formal feedback loop for questions or issues
- Document and disseminate data-sharing parameters (data confidentiality, DPH Institutional Review Board, etc.),
- Track progress of performance measures and update TRCC regularly at meetings,
- Establish a training schedule, either in-person or online, to provide an avenue for the developers to review modifications and updates and to allow an opportunity for users to have question and answer sessions,
- Re-establish annual reports of trauma registry data to help identify trends and to identify potential problems in the data collection and reporting processes,
- Coordinate activities with the State TRCC and any data governance processes that are established for the injury surveillance and traffic records data sources, and
- Develop a report writer to assist EMS agencies and the State with quality metric reporting and aggregate data analyses of the pre-hospital data. Adding analytical resources will enhance the quality of the EMS system as a component of the State Traffic Records Injury Surveillance System.

Discussed during meetings of the TRCC in the Fall of 2018, plans are underway for another GO-Team, supported by NHTSA, which will focus on technical assistance with redeployment of the pre-hospital EMS

database, including lack of a Project Manager to oversee the IT process, determine appropriate timelines, oversight, and responsibilities.

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

As noted in the 2019 Strategic Plan, a NHTSA approved Traffic Records Assessment was conducted in January - April 2017. A copy of the Assessment is included.

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

2017 Traffic Records Assessment

	Recommendations from 2017 Assessment	Status as of February 2019 -----
1	Connecticut is encouraged to create and establish an executive TRCC committee. The executive group provides the opportunity to better understand the importance of traffic records systems in the State's safety programs and gives them the required background when called upon to support funding and resources necessary to maintain the systems.	Designated for its noteworthy practices in a 2015 study by the FHWA, the TRCC takes a bottom-up approach to stress the importance of traffic records initiatives, representing the goals and objectives of the TRCC, and presenting proposed system upgrades to obtain buy-in by individual agency management. In a recent initiative by the NGA, a letter by the NGA to the Governor, touts the State's data integration efforts through the TRCC, and vows to share these efforts with other states.
2	Continue the development of a formal traffic records system inventory, including all traffic records data sources, system custodians, data elements and attributes, linkage variables, linkages useful to the State and data access policies.	As noted in the Traffic Records Assessment, the TRCC is in the process of updating its traffic records system inventory. Current focus includes Data Stewards for each of the six core traffic records datasets, reviewing findings made during the 2017 Traffic Records Assessment. TRCC agreed the inventory should reflect current status and updates according to Data Stewards for traffic records six-pack.
3	The TRCC is encouraged to implement formal performance measures for each of the six core systems. Once implemented, the performance measure can provide immediate feedback for the TRCC vision, project selection, and evaluation.	For the 2018-2019 safety data improvement 405c grant application, the TRCC is highlighting the performance measure – crash accessibility, specifically the customer satisfaction for principal users of the Crash Data Repository – their ability to obtain the data requested and their satisfaction with the timeliness of the response.
4	The TRCC is encouraged to consider the following suggestions to further strengthen its Traffic Records Strategic Plan: a. Project timelines b. System lifecycle costs, where applicable c. Process for coordinating system improvements with federal data systems	As noted in the Traffic Records Assessment, project timelines appear to be established by the agencies sponsoring the projects and through oversight provided by project steering committees. Regarding lifecycle costs, the CT-TRCC relies on the agency responsible for the system to determine lifecycle costs.

Traffic Safety Information System ----- Improvements ----- Section 405c Application

	Recommendations from 2017 Assessment	Status as of February 2019 -----
		CT-TRCC membership includes key federal agency representatives, who help strengthen communications regarding federal data systems.
5	Connecticut is encouraged to explore opportunities for improvement in its crash core data system through data linkages, interfaces and integration with other core datasets of the State's traffic records system.	Connecticut's CTSRC is leading a large-scale traffic records data integration project, linked to the NGA initiative in #1, aimed at ultimately linking all the six core datasets of the State's traffic records system. Connecticut was one of three states participating in an NGA Data Integration Webinar on Nov 29, 2018 - promoting the State's data integration efforts led by the CTSRC.
6	Recommendation to improve the vehicle file data dictionary representing a Connecticut specific version (rather than relying on AAMVA and NMVTIS information), limited to the State's data and definitions and containing data edits and validation rules.	The documentation provided, a data dictionary, NMVTIS manual, and an AAMVA D20 manual, did not contain information about the Connecticut system related to edit checks. No information related to the procedure for applying title brands, nor a copy of the actual brands that are applied in Connecticut, was available for review.
7	Recommendation to address the issue that personal information is not collected in the same format on the vehicle file as it is on the driver file by reviewing current conventions for collecting and recording names. Discrepancies are due to the fact that the files are of varying ages and one has greater capacity than the other.	Personal information is entered into the driver and vehicle systems using different conventions, due to the restrictions of smaller fields in the older driver files. This lack of consistency makes integration of the two files more difficult and makes it difficult for law enforcement officers to find potential vehicle information on suspects. To the extent possible, effective data governance would include methodologies to consistently capture customer names throughout State files to prevent fraud and duplicate records, as well.
8	Recommendation for a Connecticut-specific data dictionary for the driver file (rather than dependence on AAMVA's D20), to ensure that consistency and uniformity are practiced within the State and that any State-developed data edits and null values are included in the documentation.	The data dictionary, AAMVA D.20 manual, and a sample of additional data dictionary elements indicates field values and data descriptions but does not detail the edit checks within the Connecticut system. Connecticut relies on their vendor Morpho Trust to update system documentation.
9	Improve the data quality control program for the driver data system.	The State does not have a formal, comprehensive data quality management program for the driver system. Instead, it utilizes external tools/resources to improve data quality.
10	Improve the procedures/process flows for the vehicle data system.	Process flows have not been developed for error handling and correction in the Connecticut vehicle data system. The State reports that such diagrams are under development.
11	Improve the data quality control program for the vehicle data system.	The State does not have a formal data quality management program for the vehicle data system.
12	Linkage between the driver and crash core data systems would provide a great deal of	The Connecticut DMV driver system is not linked with the crash system. Back-end correlation of data

	Recommendations from 2017 Assessment	Status as of February 2019 -----
	information about what are the qualities of driver behavior that are most often represented in crash involvement.	takes place for analysis purposes, but no direct linkages exist between the systems. However; as noted above (#5), the CTSRC has initiated a large-scale traffic records data integration project.
13	Connecticut does not provide driver system data quality management reports to the TRCC for regular review. The driver data should be monitored, and performance recorded.	When this information is reported to the TRCC, it can generate projects that may be undertaken with grant funding and discussions with groups who depend on driver data for program management, such as impaired driving, occupant protection, etc.
14	Improve applicable guidelines for the roadway core data system; for example, to include all additional (non-Fundamental Data Element) MIRE data elements for all public roads and document in the State data dictionary?	The State documents additional MIRE elements in the Roadway Inventory System (RIS). Plans are in process to develop collection techniques and data dictionaries for further MIRE non-FDEs.
15	Recommendation to improve the data quality control program for the roadway core data system.	The State acknowledges the lack of performance measures; however, indications are that performance measures will be developed following the full implementation of the new geospatial LRS.
16	Recommendation to improve the data dictionary for the citation/adjudication core data system.	There are no data dictionaries available for the citation, case management, or prosecutors' information systems.
17	Recommendation for the State to be able to track DUI citations.	The Judicial Branch tracks all DUI arrests from initiation through disposition and reports same to the DMV. There is no flowchart that documents the process
18	Improve the interfaces with the citation/ adjudication core system data with the other core data systems of the six-pack.	This is performed electronically, providing on-demand connectivity in support of critical business processes for the DMV and law enforcement agencies. For data integration to support in-depth analysis for highway safety, plans are underway by the CTSRC to link all the TR six-pack component datasets.
19	Recommendation to improve the procedures and process flows for the citation/ adjudication core system to reflect best practices identified in the TR Advisory.	The State track citations from issuance to an agency through to final disposition. The documented flow diagram describes the electronic process.
20	Recommendation to improve the data quality control program for the citation/ adjudication core data system.	The number of days a citation takes to be populated in the central database from the time of issuance is measured by the State. The measure was quantified showing the reduction of the time it took to populate the database with electronic and paper citation data. The percentage error of critical elements within the citation entry is captured. The State has reports where the errors are identified. There is a performance measure to monitor the percentage of citations where the uniform violation codes are incorrect.

Traffic Safety Information System ----- Improvements ----- Section 405c Application

	Recommendations from 2017 Assessment	Status as of February 2019 -----
21	<p>Recommendation for injury surveillance system (ISS) component system to have formal documentation regarding the collection, management, and maintenance of data.</p> <p>Priority should be given to the restoration of the trauma registry.</p>	<p>The State has been unable to collect trauma registry data after 2011 and existing data was lost for several years. The State is working on gathering lost data and restoring trauma registry functionality so that hospitals can begin submitting data again. No formal process has been in place to provide feedback to the data collectors and managers.</p>
22	<p>Recommendation to improve the data quality control program for the injury surveillance system (ISS). ISS component systems to have edit checks and validation rules for data entering the system.</p>	<p>The State is preparing to adopt NEMSIS version 3.4.0., and in the process of developing a data dictionary, working towards that standard. Aside from a data dictionary, which includes variable names, definitions and code lists, the ED dataset has no formal documentation that summarizes the dataset or how it is managed.</p>
23	<p>Recommendation for injury surveillance system (ISS) component system to have formal performance measures that enable them to track and quantify performance within their system.</p>	<p>No performance measures have been established for EMS or other ISS component system data. The vital records system in Connecticut is currently paper-based. As such, there is no capability for inclusion of automated editing and error-checking. No information was available on how the data managers may identify or correct errors.</p>
24	<p>Recommendation for the State to create interfaces between EMS data and trauma registry data, as well as other ISS component systems.</p>	<p>The State plans to create an interface in the new EMS and trauma data systems. No interface currently exists between the vital statistics and hospital discharge databases.</p>
25	<p>Recommendation for each component system within the injury surveillance system (ISS) to have the opportunity to regularly share data with the TRCC to help identify potential collaborations.</p>	<p>All the ISS component systems have established procedures for making aggregate data available to outside parties, creating advocacy for development and improvement in the ISS datasets. The State's privacy laws appear to be in alignment with HIPAA. The statutes do not appear to pose a barrier to the sharing of data among State agencies for analysis and integration.</p>
26	<p>Recommendation to integrate all the traffic records core data systems.</p>	<p>As noted previously, the State's CTSRC has initiated a large-scale traffic records data integration project aimed at ultimately linking all the six core datasets of the State's traffic records system.</p> <p>The State has compiled a partial traffic records inventory of its available traffic records data system components. The inventory includes the sources and data stewards but does not provide the details of the individual data systems themselves. Follow-up from the traffic records assessment should provide a number of those documents.</p>

Deficiency Description

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

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

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

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

Deficiency by Core System Area

Injury Surveillance – EMS Run Reporting System

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 receipt of electronic EMS PCR data	2-28-19
Deficiency Description				
Lack of program documentation, including data dictionary; server location used to work with data at OEMS in question at DPH. Non-linkage of EMS and Trauma data. Continued long range focus of OEMS will be all ISS related data systems, including linking the various system components – Refer to NHTSA Go-Team Report, page 15, and 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.				

Crash System

Deficiency ID				
CT-D-00011				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Crash	Specific focus	Electronic reporting key	2-28-19
Deficiency Description				
Local road PDO reports were previously not entered into the ConnDOT crash file. Local road PDO crash data was entered into the ConnDOT Crash file for 2007-2010, excluded for 2011, and reinstated in 2012. Current MMUCC PR-1 system does include local road PDO crash data in the statewide database.				

Deficiency ID				
CT-D-00041				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Crash	Specific focus	Electronic reporting key	2-28-19
Deficiency Description				
Crash data lacking for Local roads, PDO crashes and all crashes. Current MMUCC PR-1 system includes a broader collection of crash data elements, based on the National MMUCC Guideline, for all reportable crashes in the statewide database. Relates to CT-D-00011.				

Deficiency ID				
CT-D-00012				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Crash	Specific focus	Electronic reporting key	2-28-19
Deficiency Description				
Two-thirds of the data elements from all reportable crashes not entered into the ConnDOT crash file. With the implementation of the MMUCC PR-1 crash system, which began in 2015, 75 of the 77 at crash scene/recommended MMUCC 4 th Edition data elements are now being entered into the State Crash Data Repository (CDR) at the Connecticut Transportation Safety Research Center (CTSRC).				

Deficiency ID				
CT-D-00015				
Performance Area	System	Basic Description	Status	Last Update
Timeliness	Crash	Specific focus	Electronic reporting key	2-28-19
Deficiency Description				
Delays in obtaining the crash data. This is addressed in several of the main projects submitted through ten years of Section 408/405c applications. With the implementation of the MMUCC PR-1 crash system, which began in 2015, and crash data now being entered into the State CDR at UConn; 14 th year safety data improvements funding is being dedicated to support local law enforcement as they adopt electronic reporting and move away from paper, and pdf reporting.				

Deficiency ID				
CT-D-00016				
Performance Area	System	Basic Description	Status	Last Update
Integration	Crash	Specific focus	Crash data repository key	2-28-19
Deficiency Description				
Legacy crash data system can't accommodate electronic transmission of crash reports. The State CDR at UConn is now accepting electronic crash reporting from State and local law enforcement. Electronic reporting of the MMUCC PR-1, which began in January 2015, continues to improve.				

Deficiency ID				
CT-D-00017				
Performance Area	System	Basic Description	Status	Last Update
Integration	Crash	Specific focus	Crash data repository key	2-28-19
Deficiency Description				
Legacy crash data system can't accommodate electronic transmission of crash reports. The State CDR at UConn is now accepting electronic crash reporting from State and local law enforcement. Electronic reporting of the MMUCC PR-1, which began in January 2015, continues to improve. Through the CDR, crash data has been linked with roadway and traffic volume data. The CDR is establishing a repository for toxicology lab results and traffic citation data.				

Deficiency ID				
CT-D-00018				
Performance Area	System	Basic Description	Status	Last Update
Accessibility	Crash	Specific focus	Crash data repository key	2-28-19
Deficiency Description				
Legacy crash data system had poor user access. Refer to description for CT-D-00017. The State CDR is meeting the needs of many users for direct online data query and analysis tools; provides web-based access/analysis tools to research crash statistics by town, county, compared to statewide.				

Deficiency ID				
CT-D-00019				
Performance Area	System	Basic Description	Status	Last Update
Integration	Crash	Specific focus	Crash data repository key	2-28-19
Deficiency Description				
Legacy crash data system has no capabilities to link to other systems. Refer to description for CT-D-00017. The State CDR is meeting the needs of many users for linked data involving crash, roadway and traffic volume data for State, Interstate and U.S. Routes. The CDR is establishing a repository for toxicology lab results and traffic citation data. Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.				

Deficiency ID				
CT-D-00020				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Crash/Vehicle	Specific focus	Electronic reporting key	2-28-19
Deficiency Description				
Reporting of commercial motor vehicle (CMV) crashes was incomplete and inconsistent. Through funding from the Federal Motor Carrier Safety Administration (FMCSA), the Commercial Vehicle Safety Division (CVSD) of the Department of Motor Vehicles has achieved 100 percent electronic citation and crash reporting, with direct upload to the Federal SafetyNet System.				

Deficiency ID				
CT-D-00035				
Performance Area	System	Basic Description	Status	Last Update
Timeliness	Crash/Vehicle	Specific	CVARS	2-28-19
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	2-28-19
Deficiency Description				
FARS-information regarding alcohol or drugs (crash related) can be delayed. TRCC is very supportive of the FARS Office in focusing on this important issue. CDR is dedicating a position to working with law enforcement and ConnDOT FARS to alleviate the recurring delay each year in providing important fatal crash data in a timely manner.				

Deficiency ID				
CT-D-00037				
Performance Area	System	Basic Description	Status	Last Update
Timeliness	Crash	Specific	FARS	2-28-19
Deficiency Description				
Submission of FARS data can be delayed if there are extenuating circumstances such as delays in obtaining BAC data. NHTSA continues to stress this initiative, and the TRCC is very supportive of the Connecticut FARS office in addressing this important issue. Refer to CT-D-00036 - CDR is dedicating a position to working with law enforcement and ConnDOT FARS to alleviate these delays.				

Deficiency ID				
CT-D-00001				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Crash	General	Electronic reporting key	2-28-19
Deficiency Description				
<p>Incomplete reports – this is a general description. It is not targeted specifically in any of the ongoing safety data projects; however, through electronic roadside data capture for the new MMUCC PR-1 crash reporting system (with built in edit and validity checks), this deficiency is being addressed.</p>				

Deficiency ID				
CT-D-00002				
Performance Area	System	Basic Description	Status	Last Update
Accessibility	Crash	General	Crash data repository key	2-28-19
Deficiency Description				
<p>Refer to CT-D-00018, the State CDR is meeting the needs of many users for direct online data query and analysis tools. Refer to CDR highlights - provides web-based access/analysis tools to research crash statistics by town, county, compared to statewide.</p> <p>The CDR is becoming more of a one-stop shop for local law enforcement, implementing the new MMUCC PR-1 crash reporting system. The CDR continues to upgrade data query tools as well as canned output reports for local law enforcement and other users.</p>				

Deficiency ID				
CT-D-00003				
Performance Area	System	Basic Description	Status	Last Update
Uniformity	Crash/Roadway	Specific focus	Electronic reporting with GPS key	2-28-19
Deficiency Description				
<p>The crash location is usually determined by reference to the narrative, and if included, GPS coordinates provided on the MMUCC PR-1 by the investigating officer. This deficiency also relates to the Roadway Core System. Future State efforts to establish/implement a GIS base map that can be integrated with electronic reporting is also an important initiative in addressing this deficiency. Parallel efforts by law enforcement to enhance location reporting using the lat/long of a crash event, and ConnDOT's effort to establish a State GIS Base Map should help to improve the consistency of location data.</p>				

Deficiency ID				
CT-D-00004				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Crash	General	Electronic reporting key	2-28-19

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

Deficiency ID				
CT-D-00005				
Performance Area	System	Basic Description	Status	Last Update
Uniformity	Crash	Specific focus	MMUCC PR-1 crash reporting	2-28-19
Deficiency Description				
Data not compatible/comparable with other states. Implementation of new MMUCC PR-1 crash reporting system, which began in January 2015, is helping to address this deficiency. As previously mentioned, 75 out of 77 MMUCC 4 th Edition at scene recommended crash data elements are now being entered into the State CDR at UConn.				

Deficiency ID				
CT-D-00006				
Performance Area	System	Basic Description	Status	Last Update
Timeliness	Crash/Roadway	Specific	Electronic reporting with GPS key	2-28-19
Deficiency Description				
Identifying crash location on a State reference map from field information is time consuming. Future State efforts to establish/implement GIS base map that can be integrated with electronic reporting is critical. Refer to CT-D-00003 on the previous page – State GIS base map.				

Deficiency ID				
CT-D-00007				
Performance Area	System	Basic Description	Status	Last Update
Uniformity	Crash/Roadway	Specific focus	Electronic reporting with GPS key	2-28-19
Deficiency Description				
Location data is inconsistent. This is a repeat of CT-D-00003. Parallel developments involving law enforcement with the new MMUCC PR-1 crash reporting system and the ConnDOT GIS base map development effort.				

Deficiency ID				
CT-D-00009				
Performance Area	System	Basic Description	Status	Last Update
Accuracy	Crash	General	Electronic reporting key	2-28-19
Deficiency Description				
Copy errors. Being addressed in the new electronic MMUCC PR-1 crash reporting system implemented in January 2015.				

Deficiency ID				
CT-D-00010				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Crash	General	Electronic reporting key	2-28-19
Deficiency Description				
Incomplete reports. This is a repeat of CT-D-00001. Being addresses in the new electronic MMUCC PR-1 crash reporting system implemented in January 2015.				

Deficiency ID				
CT-D-00013				
Performance Area	System	Basic Description	Status	Last Update
Accuracy	Crash	General	Crash data repository key	2-28-19
Deficiency Description				
Duplication of data entry at State and Local levels. State CDR accepts data from the new MMUCC PR-1 crash reporting system, alleviating the need for local law enforcement to maintain a duplicate data entry process.				

Deficiency ID				
CT-D-00014				
Performance Area	System	Basic Description	Status	Last Update
Accuracy	Crash	General	Electronic reporting key	2-28-19
Deficiency Description				
Transposition errors made in preparing the finished report. Addressed in the new electronic MMUCC PR-1 crash reporting system implemented, January 2015.				

Deficiency ID				
CT-D-00021				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Crash/Citation/Adjudication	General	Electronic reporting key	2-28-19
Deficiency Description				
Officers tend not to indicate contributing circumstances or other factors if driver is not cited. Relates to CT-D-00004. Being addressed in the new electronic MMUCC PR-1 crash reporting system, which began in 2015.				

Deficiency ID				
CT-D-00044				
Performance Area	System	Basic Description	Status	Last Update
All areas	Crash	General	Training/feedback key	2-28-19

Deficiency Description				
Feeling by law enforcement that crash reporting is only for insurance purposes and court use. Being addresses in the new electronic MMUCC PR-1 crash reporting system, implemented in 2015.				

Deficiency ID				
CT-D-00045				
Performance Area	System	Basic Description	Status	Last Update
Accuracy/Uniformity	Crash	General	Training/feedback key	2-28-19
Deficiency Description				
Confusion at times by law enforcement concerning classification of motor vehicle crashes. Being addressed in the new electronic MMUCC PR-1 crash reporting system, implemented in 2015.				

Deficiency ID				
CT-D-00046				
Performance Area	System	Basic Description	Status	Last Update
All areas	Crash	General	Training/feedback key	2-28-19
Deficiency Description				
Lack of feedback to law enforcement as to the value of and how data is used for highway traffic safety planning. Being addresses in the new electronic MMUCC PR-1 crash reporting system, through online videos and newsletters, and follow-up training initiatives, with the support of the CTSRC at UConn.				

Deficiency ID				
CT-D-00047				
Performance Area	System	Basic Description	Status	Last Update
All areas	Crash/Citation/Adjudication	General	Training/feedback key	2-28-19
Deficiency Description				
Feeling by law enforcement that they are forced to become data entry operators. Being addressed in the new electronic MMUCC PR-1 crash reporting system, which began in January 2015.				

Citation/Adjudication System

Deficiency ID				
CT-D-00026				
Performance Area	System	Basic Description	Status	Last Update
Timeliness	Citation/Adjudication	General	e-Citation/CIDRIS	2-28-19
Deficiency Description				
Too much radio time between dispatch and officer in the field conducting an enforcement stop. Impacts from an electronic citation processing system and Impaired Driver Records Information System (CIDRIS) will continue to have measurable impacts in 2019 - 2020. 14 th Year efforts will				

continue the development of an online infraction disposition system. Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.

Deficiency ID				
CT-D-00027				
Performance Area	System	Basic Description	Status	Last Update
Accuracy	Citation/Adjudication	General	e-Citation/CIDRIS	2-28-19
Deficiency Description				
Driver, vehicle, citation, other data lacking. Measurable impacts expected in 2019 – 2020.				

Deficiency ID				
CT-D-00032				
Performance Area	System	Basic Description	Status	Last Update
Accessibility	Citation/Adjudication	General	e-Citation/CIDRIS	2-28-19
Deficiency Description				
Lack of real time access to critical data “24-7”. Measurable impacts expected in 2019 - 2020. 14 th Year efforts will also focus on the continued development of an online disposition system.				

Deficiency ID				
CT-D-00033				
Performance Area	System	Basic Description	Status	Last Update
Uniformity	Citation/Adjudication	General	e-Citation/CIDRIS	2-28-19
Deficiency Description				
Lack of standards to permit better sharing of justice information. Measurable impacts expected in 2019 - 2020. 14 th Year efforts will also focus on the continued development of an online infraction disposition system.				

Deficiency ID				
CT-D-00034				
Performance Area	System	Basic Description	Status	Last Update
Uniformity	Citation/Adjudication	General	e-Citation/CIDRIS	2-28-19
Deficiency Description				
Delays in obtaining data. Measurable impacts expected in 2019 - 2020. 14 th Year efforts will also focus on the continued development of an online infraction disposition system.				

Deficiency ID				
CT-D-00054				
Performance Area	System	Basic Description	Status	Last Update
Accuracy	Citation/Adjudication	General	e-Citation/CIDRIS	2-28-19

Deficiency Description				
Issuance of paper-based citation for impaired drivers. Measurable impacts expected in 2019 - 2020.				

Deficiency ID				
CT-D-00055				
Performance Area	System	Basic Description	Status	Last Update
Integration	Citation/Adjudication	General	e-Citation/CIDRIS	2-28-19
Deficiency Description				
Duplication in data entry of reports for impaired drivers. Measurable impacts expected in 2019 - 2020.				

Deficiency ID				
CT-D-00056				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Citation/Adjudication	General	e-Citation/CIDRIS	2-28-19
Deficiency Description				
Handwritten reports sometimes difficult to read; copying errors; incomplete reports. Measurable impacts expected in 2019 - 2020. 14 th Year efforts will also focus on the continued development of an online infraction disposition system.				

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	2-28-19
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 (Connecticut Integrated Vehicle and Licensing System). Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.				

Deficiency ID				
CT-D-00023				
Performance Area	System	Basic Description	Status	Last Update
Integration	Driver License/History	General	CIVLS Enterprise Modernization Project key	2-28-19
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	2-28-19
Deficiency Description				
Data on DL, such as driver address can be outdated. TRCC sponsored E-Citation project and a real-time interface to DMV's information system for most current customer information on file will ultimately impact this issue. Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.				

Deficiency ID				
CT-D-00025				
Performance Area	System	Basic Description	Status	Last Update
Timeliness	Driver License/ History	General	CIVLS Enterprise Modernization Project key	2-28-19
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	2-28-19
Deficiency Description				
Lack of DL data on drivers with serious driving offenses from previous state of record. Currently, the Commercial Driver License Information System (CDLIS) provides DMV with the driving history record of a former out of state CDL operator that is seeking a CT credential. The violation information is recorded in DMV's driver history system and is available to law enforcement via DMV's driver history file through the COLLECT system. With regard to non-CDL operators, DMV performs a National Driver Registry (NDR) and Problem Driver Pointer System (PDPS) check prior to issuance. PDPS will record and store open/pending actions on a motorist due to traffic offenses recorded in the other state and where administrative action was taken by that jurisdiction's motor vehicle agency. In addition, DMV will not permit an operator found within that system to obtain a CT credential unless the problem is resolved with the prior state. There is no national electronic system available to DMV for non-CDL operators, such as CDLIS is for commercial drivers, to check for serious offenses in which the operator's credential was restored.				

Deficiency ID				
CT-D-00049				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Driver License/ History	General	No integration planned between DMV's non-CDL credential/vehicle information and the collection of crash data by law enforcement.	2-28-19
Deficiency Description				
Lack of driver crash data for driver control and improvement. ConnDOT is the entity responsible for the collection of crash related data. Since DMV is not authorized to collect crash data for non-CDL types of activities there is no integration planned. Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.				

Deficiency ID				
CT-D-00057				
Performance Area	System	Basic Description	Status	Last Update
Integration	Driver License/ History	General	CIVLS Enterprise Modernization Project key	2-28-19
Deficiency Description				
Lack of features incorporated into a real-time system, such as - NMVTIS, an electronic lien system, and integration with the driver system. DMV's driving history is a record of offenses and violations by an operator and as such, does not record vehicle-related information such as NMVTIS and ELT. However, CIVLS will have a unique customer (i.e., customer centric system) that is planned on linking a customer's vehicle, title, credential, and sanction-related information. Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.				

Roadway System

Deficiency ID				
CT-D-00028				
Performance Area	System	Basic Description	Status	Last Update
Completeness	Roadway	General	Base map key	2-28-19
Deficiency Description				
State lacks a standardized location reference system. State efforts initiated to establish and implement GIS base map that can be integrated with electronic field reporting, providing latitude and longitude coordinates. Another State initiative is developing a linear referencing system that will link to other roadway systems. Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.				

Deficiency ID				
CT-D-00029				
Performance Area	System	Basic Description	Status	Last Update
Uniformity	Roadway	General	Roadway inventory system	2-28-19
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	2-28-19
Deficiency Description				
Roadway inventory for local roadways is deficient compared to the inventory of the State's system. Possible future application for new FHWA MIRE Guideline – Model Inventory of Roadway Elements. Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.				

Deficiency ID				
CT-D-00031				
Performance Area	System	Basic Description	Status	Last Update
Accuracy	Roadway/Crash	General	Crash data repository key	2-28-19
Deficiency Description				
The State safety improvement programs are linked to upgrading the extant, outdated legacy reporting system. A State Crash Data Repository was implemented at the University of Connecticut, with support from the Department of Transportation. Refer to 2017 Traffic Records Assessment/Actions Taken by TRCC, page 16.				

Injury Surveillance/EMS System

Deficiency ID				
CT-D-00038				
Performance Area	System	Basic Description	Status	Last Update
All areas	Injury Surveillance/ EMS	General	Priority improvements	2-28-19
Deficiency Description				
There continues to be limited resources for injury surveillance and data analysis including a lack of human resources and funding. Refer to CT-D-00050, lack of program documentation, including data dictionaries; non-linkage of EMS and Trauma data. Continued long range focus will be all ISS related data systems, including linking the various system components.				

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

Deficiency ID				
CT-D-00039				
Performance Area	System	Basic Description	Status	Last Update
All areas	Injury Surveillance/ EMS	General	Improvements in other areas key	2-28-19
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	Focus of Department of Public Health	2-28-19
Deficiency Description				
DPH seeking technical assistance with the redeployment of the Trauma Registry and report writer as one of the prerequisites for successful integration of pre-hospital EMS data with hospital data entered into the Trauma Registry. Refer to NHTSA Go-Team Report for State Trauma Registry and EMS Systems, page 15.				

Deficiency ID				
CT-D-00052				
Performance Area	System	Basic Description	Status	Last Update
Uniformity	Injury Surveillance/ EMS	General	NEMSIS data element standard providing momentum	2-28-19
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 of deterministic linkage between databases. CODES System linkage/data analysis is an excellent tool for promoting patient tracking systems development, but no funding is available for this purpose.				

Deficiency ID				
CT-D-00053				
Performance Area	System	Basic Description	Status	Last Update
Accessibility	Injury Surveillance/ EMS	General	Previously, a CODES Advisory Board - in place	2-28-19

Deficiency Description
Lack of access to comprehensive medical and healthcare data files by authorized data partners. Refer to 2017 Assessment/Actions Taken by TRCC, page 16.

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 408/405c Programs	2-28-19
Deficiency Description				
Connecticut's TRCC was recognized during the 2015 National Traffic Records Forum as one of six states in a Noteworthy Practices Guide for TRCCs. Ad hoc subcommittees are formed to address specific projects and initiatives; Over 100 individuals are engaged in the TRCC and their efforts have resulted in updated eCrash and eCitation programs, as well as ongoing data integration projects; Connecticut uses a bottom-up approach - it is the responsibility of the TRCC member to report back to their agency to build buy-in and advocate for TRCC projects; The TRCC builds personal relationships with TRCC members and provides support when stakeholders advocate within and between agencies. Highway Safety Office is fully committed to support of the TRCC. Refer to 2017 Assessment/Actions Taken by TRCC, page 16.				

Safety Data Projects

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

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

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

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

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

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

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

In 2019, projects were prioritized, by reviewing, discussing, and building on the 2018 application, in which most of the emphasis had been placed on both E-Crash and E-Citation projects. The TRCC determined through consensus to continue this trend into the fourteenth year Section 405c applications, to a large degree because a major focus is to strategize how to enhance efforts to go statewide with both of these important and related safety data improvement initiatives.

Note: The same project reference numbering initiated by NHTSA during the first year of the Section 408 funding is still being used for the 2019 applications.

Four Box Analysis - Section 405c Application

Project ID #	¹ COST	DURA	COORDINATION	AFFECT PROGRAM GOALS	LIKELIHOOD OF SYSTEM IMPACT	COSTS/RISKS ASSOCIATED W/FAILURE	FOUR-BOX CELL
Electronic Citation Processing - Online Dispositions	Medium	Short (1-2Yr) or longer	Challenges, uncertainties? Coordination with State and Local LEAs; DMV; Judicial; Courts	Affect to the core system improvement, development, development?	High	High	d
Electronic Citation Processing V2 - All Police Departments	Medium	Long	Coordination with State and Local LEAs; DMV, Judicial; Courts	Medium	Medium	Medium	d
Electronic Crash/Citation Technology Support for Local Law Enforcement	High	Medium	Multiple stakeholder – LEAs in varying states of preparedness (technology/software)	Medium to high depending on the funding received and participation by LEAs	High	Medium	a ~ d
Linking Crash/Injury Datasets – Measure Crash Injury Outcomes	Low	Short	Big change for law enforcement, recording injury status – from old PR-1 to new MMUCCv4.	Higher emphasis by FHWA & NHTSA – using serious injuries as a metric for Highway Safety.	High	Low	a
Digitization of Impaired Driving Data from A44 Alcohol Influence Form	Low	Short	Coordination with DMV, HSO, and CTSRC	Medium	Medium	Low	a
Emergency Medical Services/Trauma Registry Functionality	Low	Medium	Linking Crash, EMS, Trauma, and ¹⁰ CHIME data	Medium to high, pending percentage, etc.	Medium	Low	a
Data Integration Linkage of Six Core Traffic Records Data Systems	Low	Medium	Coordination with multiple stakeholder agencies; address confidentiality issues	High	High	Medium	d

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 July 2019 405c submission, input from TRCC stakeholders was obtained during TRCC meetings from January 2019 to June 2019, e-mails and follow-up phone calls focusing on the TRCC website, 2017 Traffic Records Assessment, the emerging Strategic Plan, and the importance of reaching consensus for the fourteenth year of the Section 405c funding. Other factors included building on the priority of the 2019 Section 405c project selections, a continued focus on the new MMUCC PR-1 e-Crash system as well as expanding e-Citation statewide, coupled with an online disposition system, reestablishing functionality as well as building a base for linking crash with EMS, trauma, and hospital information.

The following represent the proposed projects for the July 2019 Section 405c application. From the involvement and influence of representatives from the law enforcement, judicial, public health, engineering, highway safety, and research communities, at the state and local levels, electronic roadside data capture of citation information together with motor vehicle crash, an online infraction disposition system, emergency response and hospital information, strengthening of data repositories and a large scale integration project – including six core traffic records data systems (NHTSA recommended six-pack) are seen as top priority objectives the TRCC seeks to achieve. Other projects included, not necessarily supported through 405c funding include a Roadway Inventory dataset for ConnDOT, the Connecticut Information Sharing System (CISS), data driven approach to crime and traffic safety for law enforcement, and TRCC working groups to focus on key recommendations from the Traffic Records Assessment.

**Traffic Records Projects
for Fiscal Year 2019 - 2020**

Proposed 405c Funded Projects

- Judicial - Electronic Citation Processing - Electronic Adjudication/Online Dispositions
- Judicial - Electronic Citation Processing V2 - All Police Departments
- Judicial - Electronic Citation Processing - Full Participation by Law Enforcement
- HSO - Electronic Citation Technology/Software Support for Local Law Enforcement

Other Projects of Interest for TRCC to Follow

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

New Projects of Interest

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

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

Performance Measures and Goals

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

**Performance Measures by
Performance Area vs. Safety Data Core System**

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

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.

Citation/Adjudication Timeliness - Determination of Measurable Progress

The TRCC’s focus is on Citation/Adjudication Timeliness for its primary performance measure for the 2019 -2020 Safety Data Grant application. Specifically, the recommended performance measure as outlined in the NHTSA Performance Measure White Paper, DOT HS 811 441, is the mean number of days from the date a citation is issued to the date the citation/adjudication is entered into the Driver Record file.

Measure of accessibility achieved – Improvement of the timeliness from XX days during July 2017-June 2018, to XX days during July 2018-June 2019. The following report details the actual 12-month baseline and performance period comparison of the citation/adjudication timeliness measure used for this year’s grant application.

The timeliness of the Citation/Adjudication database improved, as evidenced by the decrease, from XX days during July-June 2018, to XX days during July-June 2019, in the average number of days from citation issuance to entry of the citation/adjudication record into the Driver Record file. Because this improvement occurred within the 12 months immediately preceding the due date for applications for State Traffic Safety Information System Improvements Grants in FY 2020, it was determined to be a demonstration of current progress.

NHTSA Approved Performance Measures for Previous Years

Crash – Accessibility – Interim Progress Report

In 2018, Connecticut's application for **Determination of Measurable Progress** was based on:

The accessibility of Crash Records in the Crash Data Repository (CDR), as evidenced by the improvement of the accessibility of the CDR by Principal Users from 93.5% during July 2016-June 2017, to 96.0% during July 2017-June 2018, one year later.

Citation – Accuracy – Interim Progress Report

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

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

Motor Vehicle Crash – Timeliness – Performance Measure

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

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

Motor Vehicle Crash – Uniformity – Performance Measure

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

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

Motor Vehicle Crash – Timeliness/Reduction in Backlog – Interim Progress Report

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

The timeliness of the Motor Vehicle Crash database improved, as evidenced by the decrease, from 377 days (backlog of crash report processing) during April-March 2013, to 167 days during April-March 2014,

in the number of days from the report of a motor vehicle crash to entry into the ConnDOT database. Because this improvement occurred within the 12 months immediately preceding the FY 2014 due date for applications for State Traffic Safety Information System Improvements Grants in FY 2014, it was determined to be a demonstration of current progress.

Citation/Adjudication – Timeliness – Interim Progress Report

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

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

**Performance Measures by
Performance Area vs. Safety Data Core System**

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 is be collected with Gold standard software. In actuality, the number of NEMSIS data elements captured in each case will depend on the seriousness of the 911 call for service.							
Measure Description							
Number and percent of PCRs where NEMSIS data elements are collected recognizing collection of NEMSIS data is dependent upon the seriousness of the 911 call for service.							
			2015	2016	2017	2018	2019
Goal			400,000/100%	500,000/100%	500,000/100%	500,000/100%	500,000/100%

The TRCC’s second proposed set of safety data project(s) for performance measurement is in the Crash core system area and the performance areas to be addressed include uniformity, and timeliness.

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

Crash – Uniformity						
Measure ID: CT-M-00021						
Status	Performance Area	System			Direction	
On January 1, 2015, the roll out of the new MMUCC PR-1 crash reporting system began. The new MMUCC PR-1 data is being entered into the State CDR at UConn.	Uniformity	Crash			Increase	
Measurement						
Measure the improvement in the uniformity of the Motor Vehicle Crash database. Prior to January 2015, only 24 MMUCC-compliant data elements were added to the ConnDOT crash data base. Beginning in January 2015, the number of MMUCC-compliant data elements increased to 75 in the new State CDR. The focus for this comparison was the (77) data elements recommended in MMUCC for law enforcement to collect at the scene of a crash.						
Measurement Method						
Using the basis of the (77) data elements recommended in MMUCC for law enforcement to collect at the scene of a crash, measure totals from the previous PR-1 crash report to the new MMUCC PR-1, implemented beginning in January 2015.						
Measure Description						
Number and MMUCC-compliant data elements added to the State crash data base.						
	2014	2015	2016	2017	2018	2019
Goal CY	24 MMUCC compliant data elements added to ConnDOT database	75 MMUCC compliant data elements added to ConnDOT database	75 MMUCC compliant data elements added to ConnDOT database	75 MMUCC compliant data elements added to State CDR database	75 MMUCC compliant data elements added to State CDR database	75 MMUCC compliant data elements added to State CDR database

Crash/ConnDOT – Timeliness			
Measure ID: CT-M-00001			
Status	Performance Area	System	Direction
In January 2015, the roll out of the new MMUCC PR-1 crash reporting system began. The new MMUCC PR-1 data is being entered into the State CDR at UConn.	Completeness	Crash	Increase
Measurement			

Improve the timeliness of the crash system in terms of a decrease in the mean number of days from date of crash report (by both State and Local law enforcement) arrival at ConnDOT to date of crash report entry into the State Crash Records database.							
Measurement Method							
Mean number of days from date of crash report (by both State and Local law enforcement) arrival at ConnDOT to date of crash report entry into the State Crash Records database for April 15, 2019, ending a twelve-month period, compared to April 15, 2018, ending the same time period a year ago.							
Measure Description							
Mean number of days from the date of crash report arrival at ConnDOT to date of crash report entry into the State Crash Records database.							
		2014	2015	2016	2017	2018	2019
Measure		167	104	9	9	?	?

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). 14 th Year efforts will continue to focus on the development of an online infraction disposition system.							
Measure Description							
Percent of electronic citations received by the CIB/courts within 14 days.							
	2013	2014	2015	2016	2017	2018	2019
Goal CY	99%	99%	99%	99%	99%	99%	99%

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 traffic citation data linked to DMV license information.							
Measure Description							
Percent of traffic citation data linked to DMV license information.							

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 traffic citation data linked to CIB. 14 th Year efforts will continue to focus on the development of an online infraction disposition system.			
Measure Description			
Percent of traffic citation data linked to the CIB.			

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.			

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). 14 th Year efforts will continue to focus on the development of an online infraction disposition system.			
Measure Description			
Percent of vehicular misdemeanors and arrests linked to the CRMVS.			

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. 14 th Year efforts will continue to focus on the development of an online infraction disposition system.			
Measure Description			
Percent of data and system availability.			

Project Summaries / 10th Year (2015 – 2016)

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

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

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

Electronic Crash - Technology / Software Support for Local Law Enforcement

Project ID: CT-P-00016

Core System:

- Crash
- Citation/Adjudication

Performance Area:

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

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

Lead Agency: Capitol Region Council of Governments

Partner Agencies/Association:

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

Project Director/Primary Contact:

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Project Description/Basis:

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

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

technology, as well as software applications. Evaluating applications and making award decisions will be based on established criteria.

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

Background:

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

Expected Impact:

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

Project Status:

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

Electronic Citation - Complete Installation Statewide for Local Law Enforcement

Project ID: CT-P-00009

Core System:

- Citation/Adjudication
- Crash

Performance Area:

- Completeness
- Accuracy
- Uniformity
- Timeliness

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

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

Partner Agencies:

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

Project Director/Primary Contact:

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Project Description:

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

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

- Background - CIB; Unified Court System; 250 LE Agencies; 425,000 Tickets per Year; Lock Box Payment;
- Project Focus - Timeliness; Accuracy; Technical Agility to Respond to Public Policy Changes; Better Performance Measures;

- Manual Limitations - Ticket Inventory; Road Conditions; Legislative Change; Legibility; Arithmetic Errors;
- Timeframe - Analysis for Ticket Returns;
- Ticket Errors - Wrong Amount Due; Wrong Infraction Number; Wrong Amount for Infraction;
- Successes - Collaboration; Proof of Concept Widely Accepted; First Utilization of e-Signature Impetus for e-Pay/Plead; and
- Challenges - Broaden User Base; Demand for Multi-Uses for Mobile Printer; Crash Info Exchange, Summons, Parking Tickets, Warnings.

Project Tasks:

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

Application:

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

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

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

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

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

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

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

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

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

Status:

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

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

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

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

Performance Measures

- Total tickets issued: 425,000
- Total tickets issued electronically: 45,000
- Total tickets entered electronically: 2,100

- Pre-Program: Average number of days from issuance to receipt – 28 days
- Pre-Program: Error rate – 11%

- Phase I: Average number of days from issuance to receipt – 4 days
- Phase I: Error rate – 5%

- Phase II: Average number of days from issuance to receipt – 4 days
- Phase II: Error rate – 1.5%

- Phase III: Average number of days from receipt to data entry – 7 per 1,000 tickets (anticipated)
- Phase III: Average number of minutes from receipt to data entry – 120 per 1,000 tickets “

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

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

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

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

Electronic Charging / Citation / Warning / Summons Arrest

Project ID: CT-P-00025

Core System:

- Citation/Adjudication

Performance Area:

- Completeness
- Accuracy
- Timeliness

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

Lead Agency: Capitol Region Council of Governments

Partner Agencies:

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

Project Director/Primary Contact:

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Project Description/Basis:

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

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

Our approach extends beyond the paper-centric notion of a single charging document and instead provides a single charging approach that correctly routes enforcement data to the correct storage and

processing facility. In doing so, we propose to move further away from the legacy paper based systems of the prior century and closer to the connected mode of the 21st century.

Benefits of a connected strategy for data collection and retrieval:

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

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

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

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

Background:

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

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

Expected Outputs:

- Electronic warning ticket data collection and in-vehicle printing of notice to operators,

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

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

Technical Objectives:

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

1. The electronic citation application provides the ability to:
 - Reference the motor vehicle statute files maintained by the Connecticut Judicial Department,
 - Swipe or scan operator license information from crash participants or violators,
 - Integrate DMV operator and registration information to the citation, and
 - Print a citation for the violator; forward an electronic citation to the Judicial Department's Central Infractions Bureau; and as an interim step, print a hard copy of the citation.
2. Using existing hardware and communications facilities, this system will provide a GPS reference on all electronic crash records, citations, summons arrests, and warnings.
3. Development of a Traffic Law Enforcement Policy and Data Model

Critical path tasks for this project include:

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

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

Electronic Processing - Citation / Warning / Summons Arrest

Project ID: CT-P-00009

Core System:

- Citation/Adjudication
- Crash

Performance Area:

- Completeness
- Uniformity
- Timeliness

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

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

Partner Agencies:

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

Project Director/Primary Contact:

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Project Description:

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

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

This project is dedicated to the continued development of an application that enables the receipt / availability of citation, juvenile summons notices, and warning data for the courts. The project serves as a complement to all law enforcement e-Charging pilot efforts statewide through ultimately building a back-end process for receiving and processing electronic traffic citations, juvenile summons notices, and warning tickets.

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

Goal:

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

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

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

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

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

Purpose:

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

Tasks/Milestones:

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

Application:

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

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

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

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

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

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

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

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

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

Status:

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

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

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

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

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

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

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

Progress:

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

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

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

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

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

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

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

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

Project ID: CT-P-00020

Core System:

- Crash
- EMS/Injury

Performance Area:

- Uniformity
- Accuracy
- Linkage

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

Lead Agency: Yale-New Haven Hospital

Partner Agencies:

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

Project Director/Primary Contact:

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Project Description/Basis:

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

Officers using the PR-1 crash report, prior to 2015, recorded typical injury assessment based on the KABCO scale, a measure of the functional injury level of the victim at the crash scene.

Codes were selected based on the on-site judgment of the investigating police officer completing the crash report PR-1. Small explanations were provided in the Investigator's Guide for A, B and C – injuries.

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

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

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

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

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

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

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

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

Activities/Tasks:

- Submit / finalize HS-1 grant application with ConnDOT, Highway Safety Office;
- Meet with Highway Safety Office to finalize details of crash/injury integration/research efforts;
- Meet with/seek input from Data Integration Subcommittee of the TRCC;
- Determine which datasets to pursue, including previous legacy PR-1 crash data; new 2015 MMUCC PR-1 crash data; appropriate injury surveillance system (ISS) data;
- Sign appropriate research agreements to be able to protect/acquire appropriate data;
- Acquire disparate datasets;
- Make determinations of approach to linking different datasets;

- Perform data linkage between datasets;
- Manage the resulting dataset(s);
- Conduct in-depth analyses on the linked data;
- Present preliminary findings to TRCC/Highway Safety Office;
- Present findings/seek feedback to representatives of DPH/ISS system;
- Present findings/seek feedback to representatives from law enforcement
- Present final assessment/findings to Highway Safety Office

Crash Data Repository (CDR) / Expand Functionality – Query Tools / Canned Output Reports

Project ID: CT-P-00003

Core System: Crash

Performance Area:

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

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

Lead Agency: University of Connecticut

Partner Agencies:

All stakeholder agencies listed on the Traffic Records Coordinating Committee

Project Director/Primary Contact:

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Project Description:

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

Basis for Project:

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

Other institutional databases such as patient care reporting and treatment received on the scene and at the hospital are important to understanding the full impact of a crash. Due to the sensitive nature of these types of data, discussions need to take place early and often to identify the potential risks and benefits to such an integrated database. These types of discussions will be a key part of phase 3 of the CTCDR; so

that a future version of the repository may include such linkages to allow for a complete crash analysis from time of impact to release from hospital for injury crashes.

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

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

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

Vision for the Future:

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

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

Expected Impact:

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

Electronic EMS Tracking and Reporting System

Project ID: CT-P-00018

Core System:

- Injury Control

Performance Area:

- Integration

Project Title: Electronic EMS Tracking and Reporting System

Lead Agency: Department of Public Health (DPH)

Partner Agencies:

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

Project Director/Primary Contact:

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Project Description:

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

Basis for Project:

Previously, the Crash Outcome Data Evaluation System (CODES) Project had been working on similar goals. This basis for this project will be to:

- Identify priority needs for improving pre-hospital care and patient outcomes,
- Support public health and traffic safety decision makers, and
- Support public health and traffic safety legislation; and to educate the public.

Project Impact:

Impact of linking Crash, EMS, Trauma and CHIME databases includes:

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

Goals/Objectives:

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

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

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

Tasks/Milestones:

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

Project Status:

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

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

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

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

Date and Baseline Value for the Measure:

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

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 made progress in integrating hospitalization and emergency department visit data to the crash data.

Project Summaries / 11th Year (2016 – 2017)

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

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

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

Electronic Crash / Citation - Technology / Software Support for Local Law Enforcement**Project ID:** CT-P-00016**Core System:**

- Crash
- Citation/Adjudication

Performance Area:

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

Project Title: Electronic Crash / Citation - Technology / Software Support / Local Law Enforcement**Lead Agency:** Capitol Region Council of Governments**Partner Agencies/Association:**

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

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Project Description/Basis:

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

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

support where warranted, would enable local police departments to better implement new mobile traffic law enforcement technology initiatives.

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

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

Expected Impact:

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

Project Status:

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

Electronic Charging / Warning / Citation / Traffic Stop

Project ID: CT-P-00025

Core System:

- Citation/Adjudication

Performance Area:

- Completeness
- Accuracy
- Timeliness

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

Lead Agency: Capitol Region Council of Governments

Partner Agencies:

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

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Project Description/Basis:

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

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

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

Benefits of a connected strategy for data collection and retrieval:

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

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

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

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

Background:

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

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

Expected Outputs:

- Electronic warning ticket data collection and in-vehicle printing of notice to operators;
- Electronic insurance interchange among drivers involved in crashes;

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

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

Technical Objectives:

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

1. The electronic citation application provides the ability to:
 - Reference the motor vehicle statute files maintained by the Connecticut Judicial Department;
 - Swipe or scan operator license information from crash participants or violators;
 - Integrate DMV operator and registration information to the citation;
 - Print a citation for the violator; forward an electronic citation to the Judicial Department’s Central Infractions Bureau; and as an interim step, print a hard copy of the citation; and
 - Build on the timeliness in the citation/adjudication process, in concert with the development of an online disposition system.
2. Using existing hardware and communications facilities, this system will provide a GPS reference on all electronic crash records, citations, and warnings.
3. Development of a Traffic Law Enforcement Policy and Data Model

Critical path tasks for this project include:

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

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

Electronic Processing - Warning / Citation / Traffic Stop - Online Disposition System

Project ID: CT-P-00009

Core System:

- Citation/Adjudication
- Crash

Performance Area:

- Completeness
- Uniformity
- Timeliness

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

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

Partner Agencies:

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

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Project Description:

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

The paper driven manual process for adjudicating traffic violations is labor intensive. Recipients of traffic infractions respond either with payment or a not guilty plea. Some do not respond at all. A not guilty plea received at the CIB can either result in a nolle (decision by the state’s attorney to not prosecute the infraction), or a transfer to the court of jurisdiction. Once at the court, the case may be reviewed and nolle or scheduled for an infraction hearing. Once scheduled, outcomes are varied and can include payment, substitution of charges, charitable contributions, nolle, and dismissals, etc.

In addition to creating opportunities for inaccurate and conflicting data to be entered into the system, reliance upon a system based on paper and multiple points of data entry often results in processing delays and time consuming exceptions processing.

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

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

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

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

Goal:

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

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

- Query agency-specific data related to the issuance of citations, warning tickets, and traffic stops;

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

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

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

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

Purpose:

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

Tasks/Milestones:

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

Application:

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

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

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

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

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

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

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

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

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

Status:

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

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

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

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

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

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

- Continued enhancement and expansion of the web interface version to electronically receive traffic citation information from law enforcement agencies;
- Automatic storing of information in the CIB citation database, allowing the electronic production of citations;

- Extracts to law enforcement agencies of citation data to enable in house record keeping and reporting;
- Refined web product to interface with the DMV;
- Enhancements as requested by pilot police departments;
- Informational seminars for police departments on the options for participating in E-Citation, Warning, and Traffic Stop processing initiative;
- Printers for pilot police departments; and
- Scanning equipment and hardware as needed for the receipt of increased numbers of E-Citations at CIB.

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

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

Linking Crash / Injury Datasets - Measure Crash Injury Outcomes - Law Enforcement / Health Care Providers

Project ID: CT-P-00020

Core System:

- Crash
- EMS/Injury

Performance Area:

- Uniformity
- Accuracy
- Linkage

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

Lead Agency: Yale-New Haven Hospital

Partner Agencies:

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

Project Director/Primary Contact:

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Project Description/Basis:

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

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

According to the KABCN Scale used for the legacy PR-1, the guidance an officer received for an “A” injury, was -

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

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

Serious Injury according to the MMUCC Guideline -

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

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

The **D16.1 Classification Manual of Motor Vehicle Traffic Accidents** - was available in Connecticut prior to the MMUCC Guideline, and also provided guidance using the KABCO scale, but it is unknown whether any law enforcement agencies in Connecticut ever used the ¹¹D16.1 Manual. The following is an example of the detail provided by the D16.1 Manual for an (A) Injury, also referred to as an Incapacitating Injury.

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

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

Health Care Professionals assessing injury severity of crash victims –

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

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

Project Objective:

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

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

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

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

Activities/Tasks:

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

EMS / Trauma Registry - Documentation - Data Dictionaries - Updates - Communication

Project ID: CT-P-00018

Core System:

- Injury Control

Performance Area:

- Integration

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

Lead Agency: Department of Public Health (DPH)

Partner Agencies:

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

Project Director/Primary Contact:

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Project Description:

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

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

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

Project Focus:

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

Technical Challenges/Objectives:

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

In addressing the above objectives, additional steps will include:

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

Status of Previous (Related) Project:

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

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

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

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

Date and Baseline Value for the Measure:

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

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:

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

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

Note: The DPH CODES Project made progress in integrating hospitalization and emergency department visit data to the crash data.

Traffic Records System Data Linkage Roadmap - Long Range Plan

Project ID: CT-P-00003

Core System:

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

Performance Area:

- Integration

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

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

Partner Agencies:

- All Stakeholder Agencies on the TRCC

Project Director/Primary Contact:

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Project Background:

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

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

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

In meetings of its Data Linkage working group, the TRCC has touted the need to prioritize data linkage among all of the components of a traffic records system. The TRCC has discussed the need for a long-

range plan for data linkage coupled with the Committee's ongoing development of a traffic records inventory as referenced in the Traffic Records Program Assessment Advisory.

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

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

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

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

Project Challenges/Benefits:

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

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

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

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

10. Expand the efforts from the pilot into a full-scale linkage initiative.

Tasks/Milestones:

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

Project Summaries / 12th Year (2017 – 2018)

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

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

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

Project ID: CT-P-00009

Core System:

- Citation/Adjudication
- Crash

Performance Area:

- Completeness
- Uniformity
- Timeliness

Project Title: Electronic Citation Processing System - Online Dispositions

Lead Agency: State of Connecticut - Judicial Branch

Partner Agencies:

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

Project Director/Primary Contact:

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Project Description:

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

The paper driven manual process for adjudicating traffic violations is labor intensive. Recipients of traffic infractions respond either with payment or a not guilty plea. Some do not respond at all. A not guilty plea received at the CIB can either result in a nolle (decision by the state's attorney to not prosecute the infraction), or a transfer to the court of jurisdiction. Once at the court, the case may be reviewed and nolle or scheduled for an infraction hearing. Once scheduled, outcomes are varied and can include payment, substitution of charges, charitable contributions, nolle, and dismissals, etc.

In addition to creating opportunities for inaccurate and conflicting data to be entered into the system, reliance upon a system based on paper and multiple points of data entry often results in processing delays and time-consuming exceptions processing.

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

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

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

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

Goal:

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

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

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

- Provide for the management of data, such as approval process for citations, etc., prior to submission to CIB;
- Allow for cross-agency searching on citations, warnings, and traffic stop data;
- Allow agencies to export data in a variety of formats for use in spreadsheets and/or other applications; and
- Provide a web-service interface for querying of data by other applications.

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

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

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

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

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

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

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

Purpose:

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

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

Additional Benefits – Online Disposition System

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

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

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

Tasks/Milestones:

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

Application:

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

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

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

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

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

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

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

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

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

Online Disposition System

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

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

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

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

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

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

Progress:

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

Electronic Citation Processing V2 - All Police Departments**Project ID:** CT-P-00009**Core System:**

- Citation/Adjudication
- Crash

Performance Area:

- Completeness
- Uniformity
- Timeliness

Project Title: Electronic Citation Processing – All Police Departments**Lead Agency:** State of Connecticut - Judicial Branch**Partner Agencies:**

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

Project Director/Primary Contact:

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Project Description:

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

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

Electronic Citation Technology/Software Support for Local Law Enforcement

Project ID: CT-P-00016

Core System:

- Crash
- Citation/Adjudication

Performance Area:

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

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

Lead Agency: Highway Safety Office

Partner Agencies/Associations:

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

Project Description/Basis:

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

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

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

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

Expected Impact:

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

Project Status:

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

Linking Crash / Injury Datasets - Measure Crash Injury Outcomes

Project ID: CT-P-00020

Core System:

- Crash
- EMS/Injury

Performance Area:

- Uniformity
- Accuracy
- Linkage

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

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

Partner Agencies:

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

Project Director/Primary Contact:

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Project Description/Basis:

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

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

According to the KABCN Scale used for the legacy PR-1, the guidance an officer received for an “A” injury, was -

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

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

Serious Injury according to the MMUCC Guideline -

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

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

The D16.1 Classification Manual of Motor Vehicle Traffic Accidents - was available in Connecticut prior to the MMUCC Guideline, and also provided guidance using the KABCO scale, but it is unknown whether any law enforcement agencies in Connecticut ever used the ¹²D16.1 Manual. The following is an example of the detail provided by the D16.1 Manual for an (A) Injury, also referred to as an Incapacitating Injury.

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

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

Health Care Professionals assessing injury severity of crash victims –

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

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

Project Objective:

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

include acquiring disparate datasets, performing linking functions, managing the resulting dataset, and conducting in-depth analyses on the linked data.

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

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

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

Activities/Tasks:

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

Project Summaries / 13th Year (2018 – 2019)

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

	<p>Projects Targeted for 405c Funding in 2018-2019</p> <p>Judicial Electronic Citation Processing - Electronic Adjudication/Online Dispositions</p> <p>Judicial Electronic Citation Processing - Version 2 for All Police Departments</p> <p>Judicial Electronic Citation Processing - Full Participation by Law Enforcement</p> <p>HSO Electronic Citation - Technology/Software Support for Local Law Enforcement</p> <p>Other Projects of Interest for TRCC to Follow</p> <p>YNHH Linking Crash/Injury Datasets – Measure Crash Injury Outcomes</p> <p>DPH Emergency Medical Services/Trauma Registry Functionality</p> <p>CTSRC Data Integration Linkage of Six Core Traffic Records Data Systems</p> <p>ConnDOT Model Inventory of Roadway Elements (MIRE) FDE Data Collection Plan</p> <p>TRCC Continued Focus on a Traffic Records Inventory / Data Integration</p> <p>CTSRC Digitization of Impaired Driving Data from the A44 Alcohol Influence Form</p> <p>CJIS Records Management Systems for Law Enforcement in a Shared Environment</p> <p>LEAs Data Driven Approach to Crime and Traffic Safety (DDACTS)</p> <p>ConnDOT Transportation Enterprise Database (TED)</p>
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National Initiatives of Interest for TRCC to Follow

<p>NGA/CDC (Connecticut involved through NGA Learning Lab - Improving Data Linkage Systems)</p>	<p>Action Plan - Strengthen partnerships to integrate safety data systems and make data-driven policy and programmatic changes to save lives and prevent injuries</p>
<p>GHSA/TRB (BTSCR)^{**}</p> <p>(Connecticut involved through participation on the Expert Panel for this research initiative)</p>	<p>Expert Panel - Guide research on the impact of enforcement and adjudication on highway safety. Panel to oversee research and development of recommendations for harmonized data collection protocols among U.S. State and Local Courts and Motor Vehicle Administrators to enable valid comparisons of State enforcement and adjudication practices - leading to research measuring the impact of enforcement and adjudication on highway safety</p>
<p>GHSA/TRB (BTSCR)^{**}</p>	<p>Research - Implications of Legislation and Enforcement on Electronic Device Use While Driving</p>

* Traffic Records Six Pack -1) Crash, 2) Driver, 3) Vehicle, 4) Roadway, 5) Citation/Adjudication, and 6) Injury Surveillance

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

Electronic Citation Processing - Electronic Adjudication/Online Dispositions

Project ID: CT-P-00009

Core System:

- Citation/Adjudication
- Crash

Performance Area:

- Completeness
- Uniformity
- Timeliness

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

Lead Agency: State of Connecticut - Judicial Branch

Partner Agencies:

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

Project Director/Primary Contact:

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Project Description:

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

The paper driven manual process for adjudicating traffic violations is labor intensive. Recipients of traffic infractions respond either with payment or a not guilty plea. Some do not respond at all. A not guilty plea received at the CIB can either result in a nolle (decision by the state's attorney to not prosecute the infraction), or a transfer to the court of jurisdiction. Once at the court, the case may be reviewed and nolle or scheduled for an infraction hearing. Once scheduled, outcomes are varied and can include payment, substitution of charges, charitable contributions, nolle, and dismissals, etc.

In addition to creating opportunities for inaccurate and conflicting data to be entered into the system, reliance upon a system based on paper and multiple points of data entry often results in processing delays and time-consuming exceptions processing.

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

The Centralized Infractions Bureau (CIB) receives all infractions (approximately 400,000 annually) from every law enforcement agency in the State of Connecticut. In 2015, CIB received and processed over 148,000 "not guilty" pleas, each of which required the individual who received the infraction to appear in-person to participate in a court hearing. In 2018, the Connecticut Judicial Branch deployed an online adjudication system which enabled individuals who pled "not guilty" to an infraction to participate in the court process electronically, rather than be required to physically appear in court (not including trials). Currently available in nine of the fifteen locations in the State, and scheduled to be in twelve by the end of 2018, these online dockets have reduced costs, improved the quality and timeliness of hearings, and improved the convenience and efficiency of the process for both the court and the individual who receives the infraction. Approximately 70 percent of all individuals who are eligible to participate in the program have opted for this online system rather than an in-person court appearance.

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

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

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

During this grant year the system will be improved in three areas:

1. Expanding the pool of recipients of infractions who are notified and will be eligible for Online Disposition through the inclusion of the three existing regional court locations and the modification to the mailers sent to persons pleading not guilty,
2. Expanding the adjudication alternatives in conjunction with the Highway Safety Office and the Division of Criminal Justice, including but not limited to public service announcements and charitable contributions, and
3. Expanding the information provided to the prosecutor for use in the adjudication process including but not limited to pending case information, nolle within 13 months, and out of state suspensions.

In addition to these improvements, focus groups with law enforcement, prosecutors, judicial and the Highway Safety Office will be conducted in order to determine priorities for future improvements.

Goal:

Continue the development and implementation of an application that enables the Judicial Branch to electronically receive traffic citation, warning and traffic stop data from law enforcement agencies; automatically store, process and supply required information to the courts. Expand the Online Disposition system that will allow for the electronic adjudication of all infractions in all jurisdictions statewide.

Objective: Expand, develop and test the computer infrastructure necessary to support the operation of the Online Disposition system. Create screening dockets for all Superior Court Jurisdictions in order to facilitate the process.

Objective: Use a train-the-trainer approach to expand and train criminal justice system staff in the use of the Online Disposition system with the State's Attorneys currently working on the pilot.

Objective: Undertake an outreach effort to increase public awareness of the Online Disposition system.

Objective: Expand the information available to prosecutors in recommending adjudications.

Objective: Expand the types of disposition methods to include Charitable Contributions to the Victim's compensation fund as authorized by statute.

Objective: Consult with the Highway Safety Office concerning the possibility of identifying targeted enforcement campaigns and or targeted messaging per charge.

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

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

Purpose:

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

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

Additional Benefits – Online Disposition System

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

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

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

Tasks/Milestones:

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

Application:

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

Online Disposition System

The State of Connecticut Judicial Branch, Centralized Infractions Bureau, has developed and implemented an Online Disposition system for the electronic adjudication of “not guilty” pleas related to infractions. This system will be available in all non-regional courts by the end of 2018. The technical component of the project will consist of the continued development and expansion of the Online Disposition database beyond the current locations to include regional courts which will be used to receive, store and view all documents required for case processing including, but not limited to:

- Original Ticket information including the image of the court original with officer notes;
- Police Reports;
- Pictures;
- Driver History;
- Defendant’s narrative statements, if any, and
- Defendant submitted documents, (e.g., Proof of Insurance, pictures).

Further development will focus on the addition of alternative adjudication options as well as the availability of more information about the driver integrated into the system.

Development will be ongoing throughout the twelve (12) months of the project as new options and information are added. Work activities will be continued by two contracted system developers who will work under the joint supervision of Judicial Branch project personnel from both the Centralized Infractions Bureau and the Information Technology Division.

The policy and procedure component of the project will also be expanded throughout the twelve (12) months of the project. This will primarily be undertaken by Judicial Branch and other criminal justice system personnel and be used to add new locations, and new functionality, namely the addition of charitable contributions. These efforts will be closely coordinated with the ongoing development of the Online Disposition database, and various other technical requirements of the new system. It is anticipated that the Judicial Branch will engage defendants who choose to participate in the Online Disposition system in three phases:

Phase 1 – Completed. Pilot sites of Stamford, Norwalk and Meriden have been selected, screening dockets created and all public facing screens and systems either modified or created. State’s Attorneys from the pilot locations have been engaged and trained and their interactive web-based screens have likewise been modified. Defendants who plead “not guilty” online in these locations are asked to opt into the online disposition process. Defendants who elect to participate will be directed to the Branch’s E-Services registration page to engage in the online disposition process. Defendants who decline to participate will proceed according to the current process.

Phase 2 – Completed. The ability to participate in online adjudication as well as the creation of screening dockets for all non-regional courts.

Phase 3 – In this current development phase the efforts of the pilot achieved in phases one and two will be expanded.

Additionally, defendants who are sent “Compliance Letters” for current regional courts (which account for 250 to 300 pleas per day) will be provided with directions to participate in the online process. This crucial expansion will allow defendants who have not entered pleas via the internet to be engaged and aware of the program, thus increasing the pool of defendants who are provided meaningful adjudications and potentially exposure to targeted messaging. All defendants who plead “not guilty” manually will (upon receipt of the “not guilty” plea) be sent a letter informing them of the option of using the Online Disposition system.

Projected Budget by Funding Source:

Funding Source	2014	2015	2016	2017	2018	2019
NHTSA 408						
NHTSA 405c	150,000	200,000	150,000	400,000	297,000	300,000
Match	37,500	50,000	37,500	100,000	74,250	75,000
Total Funds	187,500	250,000	187,500	500,000	371,250	375,000

Progress:

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

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

Through collaborative efforts, participants have been able to transform labor intensive manual systems, improve accuracy and timeliness of statutory obligations, ultimately improving the quality of the data that is made available to the highway safety community at large.

Electronic Citation Processing - Version 2 for All Police Departments

Project ID: CT-P-00009

Core System:

- Citation/Adjudication
- Crash

Performance Area:

- Completeness
- Uniformity
- Timeliness

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

Lead Agency: State of Connecticut - Judicial Branch

Partner Agencies:

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

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Project Description:

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

A systematic statewide effort was undertaken to address these problems, with the Judicial Branch Electronic Citation Processing System project developed in coordination with the Capitol Region Council of Government’s (CRCOG) Citation Project, and the Department of Public Safety Citation Pilot Projects,

resulting in the development of a statewide electronic roadside data capture system for the issuing and reporting of traffic citations.

Ten years into the ecitation effort in Connecticut, the program has been widely accepted by law enforcement and efforts continue to expand the number of departments participating. Although use is widespread, the system could accommodate more case types and integrate with the online disposition system if modifications were made. This grant year will focus on making the modifications for the purpose of increasing the utility of ecitations, increase the number of documents being fed directly to the adjudication system, and to analyze and improve the processing of commercial vehicle violations.

Ecitation version 2 allows the law enforcement agencies to not only issue citations, but written warnings as well. This version also allows the provision of the statutorily mandated Racial Profiling notice as well as the collection and transmission of that data to the appropriate agency. Statutorily mandated written warning information is transmitted to the Department of Motor Vehicles. Ecitation version 2 makes paperless many current manual processes that are labor intensive and time consuming. Version 2 also provides a more attractive product for the law enforcement agencies participating as they are not limited to infractions but are able to initiate other enforcement efforts.

One significant impediment in the system is the inability to include attachments with the citation. There are some statutes that require law enforcement to submit supporting documentation with the infraction and there are some situations within the officer's discretion that it makes sense to do so. A modification allowing these attachments would significantly improve the system from a records keeping standpoint, but also allow these documents to be visible in the online adjudication system. Commercial Vehicles are one type of infraction that fall under this category. Historically, the ecitation system has struggled to accommodate these types of violations.

Prerequisite to these changes is the work to be done in combining the multiple databases that exist to enable the seamless transmission from law enforcement, through judicial to the Division of Criminal Justice. Once the work, combining the databases is done, future changes and enhancements become possible and easier to accomplish.

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

The goal is to round out the suite of enforcement data collection for the field police officer and relieve those officers of the burden of redundant data entry and the need for manual and multiple sets of forms. The approach extends beyond the paper-centric notion of a single charging document and instead provides a single charging approach that correctly routes enforcement data to the correct storage and processing facility.

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

Goal: Integration of the ecitation processing system with Online Dispositions through the combination of existing databases, acceptance of attachment and full analysis of Commercial Vehicle violation processing.

Objective: Identify process for combining existing databases.

Objective: Identify obstacles and create a plan for including attachments for infractions.

Objective: Evaluate the current Commercial Motor Vehicle Infraction/Violation process. Allow attachments for overweight trucks.

Objective: Integrate citation documents with Online disposition.

In a continuing effort to leverage technology to improve the accuracy, timeliness, and completeness of citation records, the Judicial Branch will continue to expand and support the citation/warning system, as developed and enhanced during the prior phases of this ongoing cooperative effort with the Connecticut Department of Transportation.

Projected Budget by Funding Source:

Funding Source	2015	2016	2017	2018	2019
NHTSA 408					
NHTSA 405c				180,000	150,000
Match				45,000	37,500
Total Funds				225,000	187,500

Electronic Citation Processing - Full Participation by Law Enforcement**Project ID:** CT-P-0000X**Core System:**

- Citation/Adjudication
- Crash

Performance Area:

- Completeness
- Uniformity
- Timeliness

Project Title: Electronic Citation Processing - Full Participation by Law Enforcement**Lead Agency:** State of Connecticut - Judicial Branch**Partner Agencies:**

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

Primary Contact:

Name:

Title:

Phone:

Email:

Project Description:

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

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

Finally, we can suggest ways that the local police department can integrate the citation information and associated dispositions in their records management systems if they so desire.

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

Ten years into the ecitation effort in Connecticut, the program has been widely accepted by law enforcement and efforts continue to expand the number of departments participating. This grant will focus on contacting police departments that do not currently use the ecitations system; providing outreach and support to those departments to identify their reasons for not using the ecitations system; and developing a plan with the department to adopt the use of the ecitations system.

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

Goal: Full adoption of the ecitation processing system among police departments within the State of Connecticut.

Objective: Identify police departments not currently using the ecitation processing system.

Objective: Identify obstacles for adoption of ecitation processing system for non-participating police departments.

Objective: Create adoption plan with assistance of non-participating police departments.

Objective: Evaluate feasibility of bringing each non-participating police department on board to ecitations system based upon plan.

Objective: Deploy ecitations system to non-participating police departments.

Projected Budget by Funding Source:

Funding Source	2015	2016	2017	2018	2019
NHTSA 408					
NHTSA 405c					40,000
Match					10,000
Total Funds					50,000

Electronic Citation - Technology/Software Support for Local Law Enforcement

Project ID: CT-P-00016

Core System:

- Crash
- Citation/Adjudication

Performance Area:

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

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

Lead Agency: Highway Safety Office

Partner Agencies/Associations:

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

Project Description/Basis:

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

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

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

The need for planning and coordination among law enforcement agencies is critical to the success of this effort. This mobile technology support initiative will be interfaced with the ConnDOT/UConn Crash Data Repository (CDR). Electronic crash and citation reporting will reduce data input errors and improve the completeness of the collected data.

Electronic reporting should also improve police officer efficiency by reducing the amount of time that officers spend collecting crash and citation data and decrease the time it takes this data to be received by the appropriate State agency.

Expected Impact:

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

Projected Budget by Funding Source:

Funding Source	2015	2016	2017	2018	2019
NHTSA 405c			300,000	300,000	300,000
Local Funds			75,000	75,000	75,000
Total Funds			375,000	375,000	375,000

Project Status:

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

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

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

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

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

Linking Crash / Injury Datasets - Measure Crash Injury Outcomes

Project ID: CT-P-00020

Core System:

- Crash
- EMS/Injury

Performance Area:

- Uniformity
- Accuracy
- Linkage

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

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

Partner Agencies:

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

Project Director/Primary Contact:

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Project Description/Basis:

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

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

According to the KABCN Scale used for the legacy PR-1, the guidance an officer received for an “A” injury, was -

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

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

Serious Injury according to the MMUCC Guideline -

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

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

The D16.1 Classification Manual of Motor Vehicle Traffic Accidents - was available in Connecticut prior to the MMUCC Guideline, and also provided guidance using the KABCO scale, but it is unknown whether any law enforcement agencies in Connecticut ever used the ¹³D16.1 Manual. The following is an example of the detail provided by the D16.1 Manual for an (A) Injury, also referred to as an Incapacitating Injury.

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

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

Health Care Professionals assessing injury severity of crash victims –

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

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

Project Objective:

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

Steps included acquiring disparate datasets, performing linking functions, managing the resulting dataset, and conducting in-depth analyses on the linked data.

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

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

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

Activities/Tasks:

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

Digitization of Impaired Driving Data from the A44 Alcohol Influence Form**Project ID:** CT-P-0000XX**Core Systems:**

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

Performance Area:

- Timeliness
- Accuracy
- Completeness
- Integration

Project Director/Primary Contact:

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Project Background:

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

Project Challenges and Benefits:

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

The A44 will provide the CT DOT with a workaround solution where BAC data is obtained and all the associated data will be accurate and complete.

Focus:

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

Roadmap to A44 Data Digitization:

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

Emergency Medical Services / Trauma Registry Functionality**Project ID:** CT-P-00018**Core System:**

- Injury Control

Performance Area:

- Integration

Project Title: Emergency Medical Services / Trauma Registry Functionality**Lead Agency:** Department of Public Health (DPH)**Partner Agencies:**

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

Project Director/Primary Contact:

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Project Description:

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

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

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

Project Focus:

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

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

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

Technical Challenges:

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

Objectives:

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

Data Integration Linkage of Six Core Traffic Records Data Systems

Project ID: CT-P-00003

Core Systems:

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

Performance Area:

- Integration

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

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

Partner Agencies:

- All Stakeholder Agencies on the TRCC

Project Director/Primary Contact:

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Project Background:

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

Interface and Integration Linkages

The ¹⁴Traffic Records Program Assessment Advisory, provides the following distinction (guidance) between interface and integration linkages. Both rely on connections among traffic records data systems, but their desired outcomes and connection protocols differ.

System interface reflects a standing or real-time relationship between datasets and a high degree of system interoperability. In practice, system interface linkage is useful when circumstances demand real-time relationships between databases that need to be connected and accessible at all times. Interface linkages exist primarily to support key business processes, for example allowing law enforcement officers to validate and verify drivers' license information in the crash report or citation.

Integration Linkage

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

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

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

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

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

Connecticut Transportation Safety Research Center (CTSRC)

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

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

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

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

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

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

Project Challenges/Benefits:

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

Benefits of integrated or linked data:

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

Model Inventory of Roadway Elements (MIRE) Fundament Data Elements (FDE) Data Collection and Maintenance Plan**Project ID:** CT-P-0000X**Core System:**

Roadway

Performance Area:

Completeness

Uniformity

Accessibility

Project Title: MIRE FDE Data Collection and Maintenance Plan**Lead Agency:**

Connecticut Department of Transportation (ConnDOT)

Partner Agencies:

Federal Highway Administration (FHWA)

Connecticut Transportation Safety Research Center (CTSRC), University of Connecticut (UCONN)

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

ConnDOT has historically maintained its roadway related data in a non-geospatial LRS, built on an Oracle database platform, known as the Roadway Information System (RIS). Roadway attributes and characteristics were stored utilizing database tables that organized information based upon a route and milepoint structure, with no geospatial representation; although certain fields were utilized to store single point geographic location information for certain operational and roadway identification needs. The structure of that data was such that it was substantially similar to the MIRE FDE requirements regarding many of the elements. Additionally, ConnDOT has performed local road data collection

activities for all 169 towns and 5 boroughs in the state, on approximately 17,000 miles of locally owned roads, for elements such as: roadway location, identification, asset location, mileage, and classification status, as well as traffic volume on a select set of local roads.

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

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

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

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

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

Concurrently, ConnDOT has been developing a Transportation Enterprise Database (TED) that takes advantage of the geospatially accurate LRS and is in the process of establishing linkages for a wide variety of roadway related data (MIRE and otherwise) that will ideally provide authoritative sources for safety and non-safety related data resources. These linkages will help address the accessibility, timeliness, completeness, accuracy, and uniformity of the data that is utilized throughout the Department, particularly for safety analysis. Better data, from the authoritative source, will lead to better analysis.

ConnDOT has recently undergone both a Roadway Data Improvement (RDIP) Assessment (MIRE FDE Appendix A) and RDIP Workshop (MIRE FDE Appendix C) with regional and federal partners in order to identify data gaps and create a business plan for improving and integrating roadway data throughout the Department. The recommendations and summaries of those activities are included at the end of this plan as appendices. The workshop findings and business plan development recommendations (MIRE FDE Appendix B) are still a work in progress and are subject to change as discussions between ConnDOT and VHB continue on how to best tackle the relatively unique structure of Connecticut’s data integration effort to date.

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

Table 1– Roadway Segment MIRE FDE

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

The following table outlines the MIRE FDE for road junctions and interchanges, their applicability to certain road types within Connecticut, the compliance status utilizing current system capabilities, and who will be responsible for maintaining the data element.

Table 2 – Roadway Junction/Interchange MIRE FDE

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

Project Goal:

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

Project Purpose:

To meet the requirement set forth in MAP-21 that States have access to a subset of the Model Inventory of Roadway Elements (MIRE), known as Fundamental Data Elements (FDE), by September 30, 2026.

To facilitate access for all potential users to a complete, uniform, timely, accurate and integrated set of roadway data that complies with the suggested data standards outlined in the MIRE.

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

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

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

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

Project Challenges:

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

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

As the MIRE applicable elements that existed in the non-geospatial LRS are in the process of being migrated to the new LRS, there is a need to maintain both systems concurrently, something that can lead to data integration errors and also puts additional strain on the available resources.

The development of a field data collection tool to fit the needs of data collectors for roadway and asset attribution (MIRE and non-MIRE related) will be a challenge, as many "off the shelf" solutions do not meet system or established procedure requirements for updating the ConnDOT road network.

MIRE FDE data availability for Federal Agency and Tribal roads is currently under assessment at this time. ConnDOT is not aware of any collection effort on these roads and, while the road mileage is included in the yearly mileage declaration, has not geospatially located a vast majority of these open public roads on the new LRS. Collaboration and cooperation regarding data collection efforts on approximately 105 miles of Federal Agency and Tribal roads is necessary to have complete road network coverage and compliance with Federal requirements.

Project Benefits:

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

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

Provide additional data to help Connecticut in development of its Strategic Highway Safety Plan. Encourage and enable collaboration across agencies, municipalities, and regional councils of government.

Lead to development and implementation of innovative and widely deployed data collection techniques. Reduce overlap and duplication of effort through coordination between various data managers and agencies.

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

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

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

Project Tasks/Milestones:

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

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

the critical element sources successfully identified and data integration efforts initiated as a percentage of the 93 total identified elements.

Target Completion – December 31, 2017.

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

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

Target Completion – March 1, 2018.

2018 UPDATE: Development is complete and collection tool is in production; currently being utilized by Office of the State Traffic Administration (OSTA) personnel to develop an inventory of passing zone locations/lane markings on Connecticut State Highways.

- *Migration of MIRE FDE applicable RIS data to EXOR system* – bulk loading and quality checks of the old (but still maintained) roadway inventory database, for both MIRE data and additional Department utilized datasets, into the new geospatial LRS. This specifically includes available data outlined in Table 1 & Table 2 of the *Project Background* section.

Target Completion – May 1, 2018

2018 UPDATE: Currently 25 of the 37 MIRE FDE (68%) have been modeled in the geospatial LRS and roadway data management software and have had data migrated from the legacy RIS roadway data management system. The remaining 12 MIRE FDE have been modeled and established within the system, but are reliant on outside data collection/loading efforts not related to the RIS migration for attribute population.

- *Continued development of all public roads location data for attribution* – integration of roughly 307 miles of open state park, forest, and institution roads is an on-going effort running concurrently with the effort to transition LRS systems. Progress for this task is measurable as a percentage of known public roads that have not be geospatially located and attributed on the LRS out of all public roads on Connecticut's road network.

Target Completion – December 31, 2019.

2018 UPDATE: CTDOT has continued development of all public roads, initially focusing on the State Institution Roads. Additionally, for complete network connectivity and routability, the decision was made to focus on developing additional roadway access/connection points (e.g. median crossovers, connectors) and that development is nearing completion. This added development effort has added to the timeframe for all public road development and is reflected in the new target completion date.

- *Development of a field data collection tool* – maintenance of the roadway data, and updates to the roadway network, in a timely fashion is dependent upon the ability to adjust data as soon as notification of a change occurs. A field data collection tool that allows data collectors to adjust

network location and attribution information without waiting for videolog or aerial information to become available is critical. This tool will also potentially have additional critical uses throughout the Department regarding data management. The availability of this tool is also critical for the transition from RIS to EXOR.

Target Completion – December 1, 2018

2018 UPDATE: CTDOT and UCONN CTSRC entered into a research project with Transcend Spatial Solutions to develop and customize a geospatial field data capture tool titled **Mobile Asset Verification and Roadway Inventory Collection (MAVRIC)**. Project is now in its 8th Month, with an expected completion date of 7/12/18. Additionally, CT has been selected as a Pilot State for the FHWA study on MIRE FDE Collection on Non-State Roads, a large component of which is the development and implementation of a field data capture tool and collection methodology.

- *Roadway intersection & approach inventory and attribution* – CTSRC and ConnDOT have identified 38 critical data elements regarding intersections and intersection approaches for use in safety analysis. CTSRC is developing an aerial photography based collection tool that will be utilized in this effort. The initial stages of this project will address attributes of the approximately 13,660 intersections that include at least one state road and an estimated 9,960 intersections that are local road only, but include at least one upper functional classification road. Progress for this task is measureable as a percentage of intersections located and properly attributed out of all identified intersection locations on the Connecticut public road network.

Target completion – December 31, 2018

2018 UPDATE: UCONN CTSRC has completed the collection of approximately 500 State-To-State Intersections (with approaches) and post processed those geospatially and provided them to CTDOT. Additionally, collection on approximately 10,000 State-To-Local Intersections (with approaches) is complete and UCONN CTSRC is post processing them in batches, with Batch 1 delivered May 9th. Collection of Upper Functional Classified Locals-To-Locals will commence as UCONN CTSRC completes their summer staffing process.

- *Road segment data verification* – CTSRC and ConnDOT have identified 17 roadway segment attributes that are critical to safety analysis and this requires a collaborative effort to verify attribution and location data on all public roads. Progress for this task is measureable as a percentage of roadway miles that have had all applicable data elements verified out of all established public road mileage in the State.

Target Completion March 1, 2019.

2018 UPDATE: This task will be reprioritized once the legacy roadway data management system is decommissioned.

- *Identification, integration, and attribution of railroad at-grade crossing intersections* – according to FRA database, there are approximately 3300 possible locations of railroad crossings that need to be assessed for attribution and location information as they relate to an intersection asset creation. All FRA supplied data elements will need to be incorporated in addition to MIRE attribution. Progress for this task is measureable as a percentage of identified at-grade crossings properly located and attributed out of all known at-grade crossings on the Connecticut public road network.

Target Completion - March 1, 2019.

2018 UPDATE: At the March 2018 Highway Safety Roadmap meeting (with CTDOT, FHWA, FRA, and LTAP representation) there was discussion about responsibility for location information related to CTDOT's highway railroad grade crossing inventory. It was clarified that GPS locations from the DOT are uploaded to the FRA dataset as mandated by the FRA, and data uploaded by the DOT is independent of data uploaded by the railroads. Continued discussion between Roadway Inventory personnel and CTDOT Office of Rail personnel is required to integrate datasets.

- *Assessment of local and regional agency integration and data maintenance* – FHWA and VHB responded to an application from ConnDOT for technical assistance in developing a business plan for data integration; including data potentially available on a local, regional, tribal, or federal level. As a part of that business plan development, VHB will be performing outreach, and possibly conducting workshops and/or peer exchange(s), to identify and assess capabilities of additional stakeholders, most likely by utilizing the connections forged through the LTAP at Connecticut's Technology Transfer (T2) Center. Dependent upon the results of that effort, ConnDOT plans to continue to perform public outreach and assess the feasibility of conducting data network and attribution updates on a local level. Direct reports of changes to the network or attribution, up to and including full delegation of data collection responsibility, will be assessed based upon individual needs and local agency capabilities. Progress for this task is measureable as a percentage of municipalities (169)/boroughs (5)/COGs (9) that participate in, or have access to, data integration efforts or a targeted streamlined local data reporting procedure out of all local or regional organizations in the state.

Target Completion – July 1, 2019

2018 UPDATE: Assessment is ongoing with CTDOT holding a Local Data Peer Exchange in September 2017. Attendance included CTDOT Engineering, Planning, Safety, and IT personnel, UCONN CTSRC, LTAP, and T2 Center personnel, the FHWA, as well as representatives from 5 Councils of Government, and 7 municipalities. The Volpe Center provided documentation of the Peer Exchange, with noted ideas for moving forward with outreach to municipalities. Future utilization of the connections fostered between the COGs and municipalities was a highlighted action item moving forward with data integration. CTDOT has also continued to pursue assessment of utilizing developing data collection tools as an online portal to access, integrate, and update local road data and attribution. Assessment will continue upon completed development of these products.

- *Roadway interchange grouping and attribution* - ConnDOT and CTSRC have identified 7 critical interchange related data elements and an effort to group and attribute approximately 550 interchanges, involving 1700 ramp terminals, with all desired data elements will commence at the conclusion of the intersection inventory and road segment verification. Progress for this task is measureable as a percentage of identified interchanges properly grouped and attributed out of all possible interchange locations on the Connecticut public road network.

Target Completion – September 1, 2019.

2018 UPDATE: Schedule for task is on target and achievable, as this task will be addressed once the Upper Functional Classified Locals-To-Locals intersection inventory is complete. The collection tool will be modified to handle the interchange specific attribution.

- *Identification, integration, and attribution of private roadway intersections* – location and attribution of private roadway and controlled commercial/ industrial driveway intersections into the road network as an asset layer. Utilization of traffic signal plans, videolog review, and additional databases to identify and attribute these locations on public roads. Progress for this task is measurable as a percentage of identified locations (through signal plan review, and database querying) where MIRE FDE intersection attribution has been assigned out of all identified possible locations.

Target Completion – March 1, 2020.

2018 UPDATE: This task is dependent upon completed review and population of the intersection/approach inventory, which will then be cross-queried with existing data to identify locations for additional attribution collection. All dependent tasks are currently on schedule.

- *Identification, integration, and attribution of mid-block pedestrian crossings* – locate and attribute pedestrian crossings as a part of the intersection inventory. Utilize current database query capabilities, the developing videolog collection tool, and aerial photography to identify locations; then utilize intersection data collection tool for attribution efforts. There are an unknown number of locations. Progress for this task is measurable as a percentage of mid-block locations that are populated with data, after identification methodology and inventory activities have been conducted, out of all known mid-block locations on the Connecticut public road network.

Target Completion – March 1, 2023.

2018 UPDATE: Discussions between CTDOT Roadway Inventory and Traffic Engineering personnel highlighted an opportunity to integrate data collected for a pedestrian safety improvement project on state roads with the population of mid-block pedestrian crossings. Approximately 200 locations were identified and intersection attribution has been loaded. Review to gather approach data will occur within the LRS management system. A similar project for local roads has been initiated and additional data harvesting will take place during that process, although additional non-participating municipalities/locations will need to be reviewed.

- *Federal and Tribal road network integration and attribution* – collaborative efforts with Federal agencies and Tribal Nations to geospatially locate the approximately 105 miles of public roads in Connecticut and attribute them with all identified critical MIRE elements regarding segments and intersections. Progress for this task is measurable as a percentage of road miles that have been populated with MIRE FDE critical data fields out of the 105 known miles.

Target Completion – July 1, 2024

2018 UPDATE: CTDOT was advised by FHWA that there are continued efforts to gather location based data on these roadways and CTDOT anticipates an update at the annual Highway Information Seminar.

- *Streamline of update notification system* – currently a manual process of project completion and update notifications take place on state roads and an annual paper submittal process exists for local road modification. ConnDOT will assess the feasibility of developing an automated system for state roads and a more streamlined timely system for local road updates to trigger data

collection or modification efforts, up to and including the potential implementation of CAD to GIS technology.

Target Completion – July 1, 2025

2018 UPDATE: An on-going task that proceeds through development incrementally as additional capabilities are introduced to the project tracking and LRS management system. At this point, no substantial progress is ready to be reported.

Traffic Records Assessment Recommendation 1:

Improve the applicable guidelines for the Roadway data system to reflect best practices identified in the Traffic Records Program Assessment Advisory.

APPLICABLE GUIDELINES FOR THE ROADWAY DATA SYSTEM

MIRE is the major guideline pertaining to the roadway system. There are a total of 202 elements that comprise MIRE Version 1.0 and 38 of those elements have been identified as FDEs. The MIRE elements are divided among three broad categories: roadway segments, roadway alignment, and roadway junctions. Each MIRE element has a definition, a list of attributes (coding) a priority rating, a reference to safety analysis tools, and—when necessary—an illustration that provides supplemental information on the element. It is important to have MIRE-level data for at least the roadway segments that have high crash rates so that causality can be investigated.

ConnDOT plan to address Recommendation 1:

The collaborative plan between ConnDOT and CTSRC to populate critical MIRE data elements into the new geospatial LRS, and to maintain the datasets for safety analysis use, directly addresses the Traffic Records Assessment Recommendation. It is an ongoing effort, with plans to comply with federal requirements well before the 2026 deadline.

Traffic Records Assessment Recommendation 2:

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

DATA QUALITY CONTROL PROGRAMS FOR THE ROADWAY DATA SYSTEM

Custodians of the roadway system should maintain a comprehensive, systematic quality control management process that ensures the efficient functioning of the system. The quality control process should include data quality measures as well. The timeliness, accuracy, completeness, uniformity, integration, and accessibility of the roadway data should be monitored based on a set of metrics established by the State. The overall quality of the roadway data should be assured based on a formal program of error and edit checking as the data are entered into the statewide system and procedures should be in place for addressing detected errors. In addition, the custodial agency and the TRCC should work together to establish and review the sufficiency of the quality control program and to review the results of the quality control measures.

Roadway data managers should produce and analyze periodic data quality reports. When these reports identify shortcomings, appropriate measures should be taken and corrections applied. If common errors are identified, training and changes to the applicable instruction manuals, edit checks, and the data dictionaries should be made. Audits and validation checks should be conducted as part of the quality control program to assure the accuracy of specific critical data elements. The measures shown below in

Table 3 are examples of high-level management indicators of quality taken from NHTSA’s performance measures report. The managers of individual roadway files should have access to a greater number of measures. The custodial agency should be prepared to present a standard set of summary measures to the TRCC monthly or quarterly.

Table 3 – Example Quality Control Measurements for Roadway Data Systems

ROADWAY DATABASE MODEL PERFORMANCE MEASURES

ROADWAY DATABASE					
TIMELINESS	ACCURACY	COMPLETENESS	UNIFORMITY	INTEGRATION	ACCESSIBILITY
<p>R-T-1: The median or mean number of days from (a) the date a periodic collection of a critical roadway data element is complete (e.g., Annual Average Daily Traffic) to (b) the date the updated critical roadway data element is entered into the database.</p> <p>R-T-2: The median or mean number of days from (a) the date a roadway project is completed to (b) the date the updated critical data elements are entered into the database.</p>	<p>R-A-1: The percentage of all road segment records with no errors in critical data elements.</p> <p>Example: Surface/Pavement</p>	<p>R-C-1: The percentage of road segment records with no missing critical data elements.</p> <p>R-C-2: The percentage of public road miles or jurisdictions identified on the State’s basemap or roadway inventory file.</p> <p>R-C-3: The percentage of unknowns or blanks in critical data elements for which unknown is not an acceptable value.</p> <p>R-C-4: The percentage of total roadway segments that include location coordinates, using measurement frames such as a GIS basemap.</p>	<p>R-U-1: The number of Model Inventory of Roadway Elements (MIRE)-compliant data elements entered into a database or obtained via linkage to other databases.</p>	<p>R-I-1: The percentage of appropriate records in a specific file in the roadway database that are linked to another system or file.</p> <p>Example: Bridge inventory linked to roadway basemap</p>	<p>R-X-1: To measure accessibility of a specific file within the roadway database:</p> <ul style="list-style-type: none"> Identify the principal users of the roadway file Query the principal users to assess (a) their ability to obtain the data or other services requested and (b) their satisfaction with the timeliness of the response to their request Document the method of data collection and the principal users’ responses

ConnDOT plan to address Recommendation 2:

ConnDOT and CTSRC have completed the process of identifying critical data elements and are in the process of collecting and integrating that data into the roadway inventory file, along with creating linkages to additional databases within the Department. Data quality reports related to roadway and safety data will become a capability of the new geospatial LRS once the initial appropriate data has been loaded. Date/time stamping of changes, integration with a composite project database, and creating publicly available access to datasets and data viewers are going to be capabilities once the new system is completely implemented and the old non-geospatial LRS is decommissioned.

CTDOT has established a sub-committee of its Transportation Enterprise Database (TED) Development group specifically dedicated to data visualization, analytics, and reporting; with members from Information Technology, Engineering, Planning, and UCONN CTSRC collaboratively assessing tools for visualizing and reporting data, as well as assessing data quality.

The Transportation Intelligence Gateway (TIG), a data extract and querying tool that functions as part of Bentley’s EXOR product suite, allows administrators of the road network to generate various data quality reports as outlined below. TIG and the Bentley LRS spatial manager are products that are constantly evolving and ConnDOT plans to assess establishing more robust performance measures once the capabilities of the new system are fully implemented. As such, the performance measures offered below are subject to change.

Timeliness – linkage to the CPD will enable ability to generate reports that track the completion of a project and link that information to the date the system was updated. Once data migration is completed, and appropriate database linkages have been established, ConnDOT will further assess the ability to establish data Timeliness related performance measures.

Accuracy – TIG has the ability to query and identify errors in critical data elements and attribution. Once data migration is completed, ConnDOT will further assess the ability to establish data Accuracy related performance measures.

Completeness – TIG has the ability to query and identify missing data elements and attribution. Once data migration is completed, ConnDOT will further assess the ability to establish data Completeness related performance measures.

Uniformity – ConnDOT is currently tracking the MIRE compliant and non-compliant FDE as they are migrated from RIS into the geospatial LRS (see Table 1 & Table 2 of the *Project Background* section). Once data migration is complete, and additional data collection and integration activities have been successfully completed, ConnDOT will further assess the ability to establish data Uniformity related performance measures.

Integration – Ongoing efforts to link critical and appropriate databases is still ongoing, as is a roadway database inventory. At the completion of roadway database inventory identification efforts, a metric that tracks the number of linked and integrated databases as a percentage of all available databases can be established. ConnDOT is involved in an effort to integrate all Bentley licensed products as well, and the progress of that integration is being tracked; these databases includes both safety and non-safety related data.

Accessibility – once the geospatial LRS and many of the associated critical data layers are in full production and can be used for safety analysis, surveys regarding the accessibility and satisfaction of the data can be developed.

Project Cost:

A May 2016 FHWA Report titled *MIRE Fundamental Data Elements Cost Benefit Estimation* estimated the undiscounted costs for collection and maintenance of the MIRE FDE for Connecticut to be \$10,041,894 for the 20-year period from 2016-2036. These recurring costs will be incurred and shared by the Bureau of Policy & Planning, under the roadway network creation, data integration, and data maintenance program; and the Traffic Safety Engineering Office under State Project No. 170-3360, which is Connecticut's strategic plan for safety analysis. Additionally, financial resources through the Department's Bureau of Engineering AEC Applications Office are being utilized in the development of a field data collection tool that with further help implementation of a digital design environment (DDE) at ConnDOT.

Traffic Records Inventory / Data Integration

Project ID: CT-P-0000X

Core System:

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

Performance Area:

- All Six Performance Areas

Project Title: Work Group(s) Focusing on a Traffic Records Inventory, and Data Integration of the Traffic Records Six-Pack

Lead Agency: ConnDOT Highway Safety Office

Partner Agencies:

- Connecticut Transportation Safety Research Center (CTSRC)
- All Other Stakeholder Agencies on the TRCC

Project Director/Primary Contact:

Name: Joseph T. Cristalli, Jr.
Title: Director, Highway Safety Office
Connecticut Department of Transportation

Project Background:

CTSRC has begun to draft memorandums of understanding (MOU) for each agency, managing one of the Traffic Records Six-Pack. Efforts have also been initiated to meet with the UConn Office of the General Counsel to ensure that the University can deny FOIA requests and fully protect the PPI data that will be submitted to UConn as part of this process. Once the project is given the green light and support of the Office of the General Counsel, MOUs will be sent out for each agency to review.

Continuing to expand the State Traffic Records Inventory, contained on the TRCC website, and establishing a data governance process are other recommendations coming from the 2017 Traffic Records Assessment. The TRCC will focus on these as well as other recommendations from the Assessment and establish appropriate working groups as necessary to pursue recommendations deemed most critical.

Data governance is the formal management of a State's data assets. Governance includes a set of documented processes, policies, and procedures that are critically important to integrate traffic records data. These policies and procedures address and document data definitions, content, and management of key traffic records data sources within the State. Such data standards applied across platforms and systems provide the foundation for data integration and comprehensive data quality management.

TRCC Website – Reflecting Outline of Traffic Records Inventory

The screenshot shows the Connecticut Department of Transportation website. At the top left is the state seal. The main header reads "DEPARTMENT OF TRANSPORTATION". Below this is a navigation bar with links for "Home", "About Us", "Press Releases", and "Contact Us". A secondary navigation bar includes "TRAVEL RESOURCES", "DOING BUSINESS WITH CTDOT", "PROGRAMS AND SERVICES", "AFFIRMATIVE ACTION & ACCESSIBILITY/ADA", and "PUBLICATIONS".

The main content area is titled "Traffic Records Coordinating Committee" and "Reference Materials". It lists several documents:

- [Traffic Records Program Assessment Advisory 2017](#)
- [Traffic Records Assessment 2017](#)
- [MMUCC Guideline Fourth Edition 2012](#)
- [D16.1 Manual on Classification of Motor Vehicle Crashes](#)
- [One-Page MMUCC / D16.1 / D20.1 Standards Comparison](#)
- ✓ [Traffic Records System Inventory](#) -----

Below the "Traffic Records System Inventory" link is a table of components:

Crash Data System	page	3-9
Citation Data System	"	10-18
Roadway Data System	"	19-26
Injury Surveillance System	"	27-42
Driver Data System	"	43-51
Vehicle Data System	"	52-59

To the right of this table is a section titled "Posted in an Outline Format" with a list of topics:

- Intro to CT's Traffic Records System
- Custodians: 6 TRS Component Systems
- A Little about Each Component
- Qs as Addressed in Recent Assessment
- Qs about each TR Six Pack Component
- Qs re. Guidelines & Standards
- Qs re. Data Dictionaries
- Qs re. Procedures/Process Flows
- Qs re. Interface with Other Components
- Qs re. Data Quality Control

At the bottom of the page, a yellow bar contains the text: "Content for these TRS components in draft form/posted to the TRCC website".

Page numbers (content) for each of the traffic records six-pack components, and questions (Q) regarding guidelines, data dictionaries, process flows and other inventory details.

Current focus of the TRS Inventory development effort includes Data Dictionaries for each of the six core systems. Assessor findings from the Assessment have pointed to strengths and weaknesses in Data Dictionaries for each of the systems. Examples of individual content for each of the Data Dictionaries are being reviewed.

Records Management Systems for Law Enforcement in a Shared Environment

Project ID: CT-P-0000X

Core System:

- Crash
- Driver
- Vehicle
- Citation/Adjudication

Performance Area:

- Timely
- Integration
- Accessibility

Project Title: Rolling out Records Management Systems for Law Enforcement in a Shared Environment – the Connecticut Information Sharing System (CISS)

Lead Agency: Criminal Justice Information System (CJIS)

Partner Agencies:

- All Stakeholder Agencies on the TRCC

Project Director/Primary Contact:

Name, Title, City, Phone, Email

Project Background:

The rollout of records management systems (RMS) to Connecticut police departments, will introduce cost savings for software and hardware to the municipalities. In a pilot, the Wethersfield PD, managed to create the centralized system, install the software, adjust hardware, and train staff, leveraging the Public Safety Data Network (PSDN). In addition, CJIS has begun some automated data sharing in the form of Early Arrest Notifications. Two RMS vendors, KT International and Accucom, are now in the process of having the RMS at the PDs submitting early arrest notifications.

Update Data Sharing:

CT:Chief, the centralized RMS for Wethersfield Police Department (PD), is in full production. Update regarding data sharing and the expansion of CT:Chief in the CJIS environment – CT:Chief centrally hosted and Data sharing progress of CISS related to Arrest notifications: Police departments that are completed or in progress –

Completed	Scheduled (2017)	
Wethersfield PD	Bridgeport PD	Orange PD
Enfield PD	East Hartford PD	South Windsor PD
Plainville PD	Hartford PD	
New Britain PD	Manchester PD	

Data Driven Approach to Crime and Traffic Safety

Project ID: CT-P-0000X

Core System:

- Crash
- Driver
- Vehicle
- Citation/Adjudication

Performance Area:

- Timely
- Integrated
- Accessible

Project Title: Data Driven Approach to Crime and Traffic Safety (DDACTS)

Lead Agency: State and/or Local Law Enforcement Agencies

Partner Agencies:

- All Stakeholder Agencies on the TRCC

Project Director/Primary Contact:

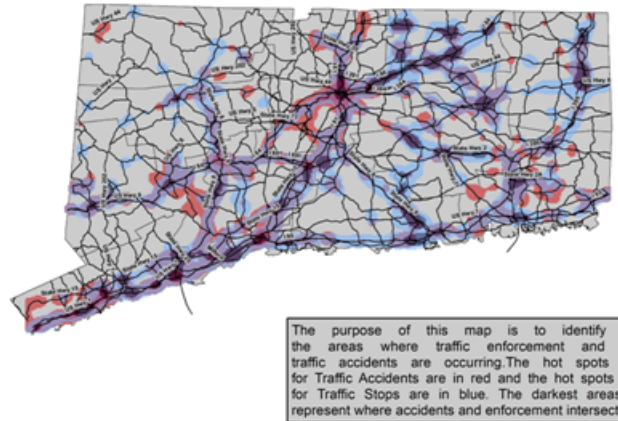
Name, Title, City, Phone, Email

Project Background:

DDACTS is a high intensity criminal enforcement program coupled with aggressive motor vehicle enforcement for the purposes of reducing crime and improving the quality of life within a specified area. Key elements include:

- Focus for State and Local law enforcement agencies,
- Impact – large scale multi-agency operation with a focus on motor vehicle contacts,
- Priority – public support,
- Priority – support from municipal and county elected officials,
- Measure improvements in the data being collected and the timeliness of reporting accurate information, and
- Measure results – assaults, burglaries, vandalism, thefts from motor vehicles, larcenies, drug and narcotic violations, DUI arrests, motor vehicle crashes.

Hot Spot Map – Traffic Stops vs Motor Vehicle Crashes



- High intensity criminal enforcement program coupled with aggressive motor vehicle enforcement for the purposes of reducing crime and improving the quality of life within a specified area,
- Focus for State and Local law enforcement agencies,
- Utilize license plate reader technology,
- Impact – large scale multi agency operation with a focus on motor vehicle contacts,
- Priority – public support,
- Priority – support from municipal and county elected officials,
- Measure improvements in the data being collected and the timeliness of reporting accurate information, and
- Measure results – assaults, burglaries, vandalism, thefts from motor vehicles, larcenies, drug and narcotic violations, DUI arrests, motor vehicle crashes.

Transportation Enterprise Database (TED)

Project ID: CT-P-0000X

Core System:

- Crash
- Roadway

Performance Area:

- Timely
- Integrated

Project Title: Building a Transportation Enterprise Data Platform for the 21st Century

Lead Agency: Connecticut Department of Transportation

Partner Agencies:

- All Stakeholder Agencies on the TRCC

Project Director/Primary Contact:

Name, Title, City, Phone, Email

Project Background:

What began as a modest effort back in 2012 to build a geospatial LRS to support capital project management at the CTDOT has since evolved into a comprehensive initiative to develop, integrate, and share core business data sets across the Department from a common platform. Like many State DOT's, CTDOT's data bases were built on a foundation of silos set up to meet a specific business need. Data in the silos was rarely connected and shared.

Beginning in 2016, CTDOT commissioned an RDIP Assessment resulting in specific recommendations to improve the collection of MIRE related data. Following in 2017, the CTDOT also commissioned a series of interactive FHWA planning workshops on data integration, data governance, and local partner involvement to add structure and process to its evolving initiative.

An informal Transportation Enterprise Development (TED) group which had been meeting to look for new opportunities for data integration was formally tasked in late 2016 with building a Departmental-wide integrated data platform with full capabilities to support roadway, safety, asset, pavement, and capital project management. The TED Development group meets weekly and is facilitated by a dedicated RDIP "Data Champion" and Business Systems Integration Specialist.

Using FHWA's data integration planning model and customizing it to meet the CTDOT's needs, the TED Development group using an "agile systems development" approach, oversees a series of active work groups tasked with following: 1) development of a set of MIRE field data collection and intersection management tools, 2) development/maintenance of authoritative point, linear, and geospatial asset data sets that can be uploaded to TED, 3) continuing enhancements to the TED data platform, 4) further refinement of the Department's current geospatial business and viewing tool, ATLAS, and 5) working in partnership with UCONN for the development of a customized safety analysis tool.

The project includes a heavy emphasis on both data linkage and data integration. Many of the data sets in TED are linked by location to the LRS. Those data sets in turn are linked to capital project information, including administrative data.

More recently, the TED project has embarked on an effort to link field maintenance and asset data in an attempt to keep asset inventories as current as possible.

A Data Visualization and Analytics Task Group has also been formed to assess and deploy a wide range of query, visualization, and analytical tools. The TED Development effort now includes a Data Governance Council designed to set up Departmental rules on managing data as an asset.

Project Summaries / 14th Year (2019 – 2020)

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

Project Title

Agency:

Plan Year: 2020

Submission Date:

Submitted By:

Deficiency

Deficiency ID:

Deficiency Description:

Core System: (referred to by this deficiency?)

- Crash
- Driver License / History
- Injury Surveillance / EMS
- Roadway
- Citation / Adjudication
- Vehicle Registration

Performance Area: (referred to by this deficiency?)

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

Source of Deficiency: (How was the deficiency identified?) i.e.: TR Assessment

Performance Measure

Measure ID:

Core System: (affected by this measure?)

- Crash
- Driver License / History
- Injury Surveillance / EMS
- Roadway
- Citation / Adjudication
- Vehicle Registration

Performance Area (affected by this measure?)

- Accuracy
- Completeness
- Integration

- Timeliness
- Uniformity
- Accessibility

Direction: (What direction will the measure move to demonstrate a success?)

- Increase
- Decrease

What Will Be Measured: (Brief statement of what will be measured.)

How Will It Be Measured: (Brief statement of how the measurement will be determined?)

Goals

Goals by Year: (Provide annual values for the baseline and goal levels of the measure for each program year, in terms of its value in June of the given year.)

Goal – Value as of: Increase in Time Savings

- June 2019
- June 2020
- June 2021
- June 2022
- June 2023

Status by Year: (When the State provides FINAL VALUES for this performance measure as part of their annual progress report, they may choose to add the following information. Annual values for the baseline and goal levels of the measure for each program year, in terms of its value in June of the given year.)

FINAL (this year – prior year)

Value as of:	%	Change	%
June 2019	70%	Change from 2018	0
June 2020		Change from 2019	
June 2021		Change from 2020	
June 2022		Change from 2021	
June 2023		Change from 2022	

Project Detail

- Project ID:
- Project Title:
- Lead Agency:
- Project Director / Primary Contact:
- Name:
- Title:
- Agency:
- Address:
- Partner Agencies:
- Project Description:
- Basis for Project:
- Expected Impact:
- Project Priority:
- Projected Budget by Funding Source:
- Project Milestones:
- Project Status:

Other Project Summaries

Add Citation Dataset to the Crash Data Repository

Add Citation dataset to the Crash Data Repository (CDR); create query and summary report capabilities for authorized users; effort and agreements would be needed to ensure that data is transferred. As mentioned earlier, the CTSRC has undertaken this initiative.

Allow for the Inclusion of All Fields of the MMUCC PR-1 to be sent to the CDR

Establish security levels at the CDR to allow for the inclusion of all fields on the MMUCC PR-1 to be sent to the CDR to provide the potential to link with other traffic records files; establish criteria for authorized access to sensitive data; dependent on cooperation of others.

Feasibility of Enforcement Technologies in Mobile Applications

Pilot project testing the feasibility of tablets and other technologies to improve the efficiency of traffic law enforcement capabilities for mobile data communications focusing on citations, warnings, crash data collection, and other potential in field events with the specific purpose of reducing processing times.

Integrated Enterprise Base Map and Linear Referencing System

The Connecticut Department of Transportation (ConnDOT) has embarked on replacement of its Roadway Inventory System (RIS) with a more versatile integrated road network database that provides a common enterprise-wide spatial base map for mapping and GIS, and a common linear referencing system to track assets and performance along the network.

In Phase I, GIS, RIS, and Photolog network data were integrated and loaded into the Exor database, along with local road data from the federal government's TIGER data set.

The integrated enterprise base map and linear referencing system (IEBM-LRS) is needed to efficiently support core business applications. This integrated system (when completed) will have immediate business benefits for the roadway inventory, safety management, and design and construction branches, with significant future benefits for maintenance.

Phase II will provide an integrated statewide base map and linear referencing system that provides network location information for the State's motor vehicle crash data, generates mileage reports for state and local roads, provides a prototype RIS replacement system, and provides a recommendations report for Phase III. Phase II objectives include:

- Review and update data model for state maintained and local road network centerlines;
- Automate the match of local road information in RIS with TIGER and GIS spatial data;
- Load local road data currently stored in the RIS database into Exor database and match it to spatial data from TIGER or other spatial data sources;
- Create connectivity to state route where practical and without manual editing;
- Configure data model for key RIS road attribute and asset information; and
- Load road attribute and asset data from RIS into Exor database.

Phase III will replace the current RIS functionality, including Highway Performance Monitoring System (HPMS) reporting and integration with the ConnDOT ProjectWise environment. One of the considerations in the RIS upgrade is the Model Inventory of Roadway Elements (MIRE) guideline, promoted by the Federal Highway Administration (FHWA). At the completion of Phase III, RIS will be fully replaced by the new Exor system which will become the system of record for all information previously stored in RIS.

After Phase III, subsequent phases will include interfaces to bridge, crash, sign, maintenance, and other business areas. The integrated enterprise base map and linear referencing system (IEBM-LRS) project will give the State a highly detailed, accurate location coding method that could be used to integrate all roadway features and spatially codable events (e.g., crashes, citations, etc.) that happen on the roadways. This project will be beyond a simple shared base map, but serves that need as well – a way to locate spatially any event and then be able to link the data about that event with any other source of data that has been located on the same network.

There are several points of coordination between the IEBM-LRS project and other projects related to new or upgraded field data collection systems for law enforcement and analytic systems making use of linked roadway and law enforcement data. These include the Crash Data Repository (CDR), Data Driven Approach to Crime and Traffic Safety (DDACTS), and other projects undertaken by both State and Local law enforcement involving E-Crash and E-Citation data collection.

Impaired Driver Records Information System

Lead Agency: Criminal Justice Information System

Partner Agencies:

- State and Local Law Enforcement
- Department of Transportation (DOT)
- Department of Motor Vehicles (DMV)
- Department of Public Safety (DPS, now DESPP)
- Department of Information Technology (DAS-BEST)
- Division of Criminal Justice (DCJ)
- Judicial Branch
- National Highway Traffic Safety Administration (NHTSA)

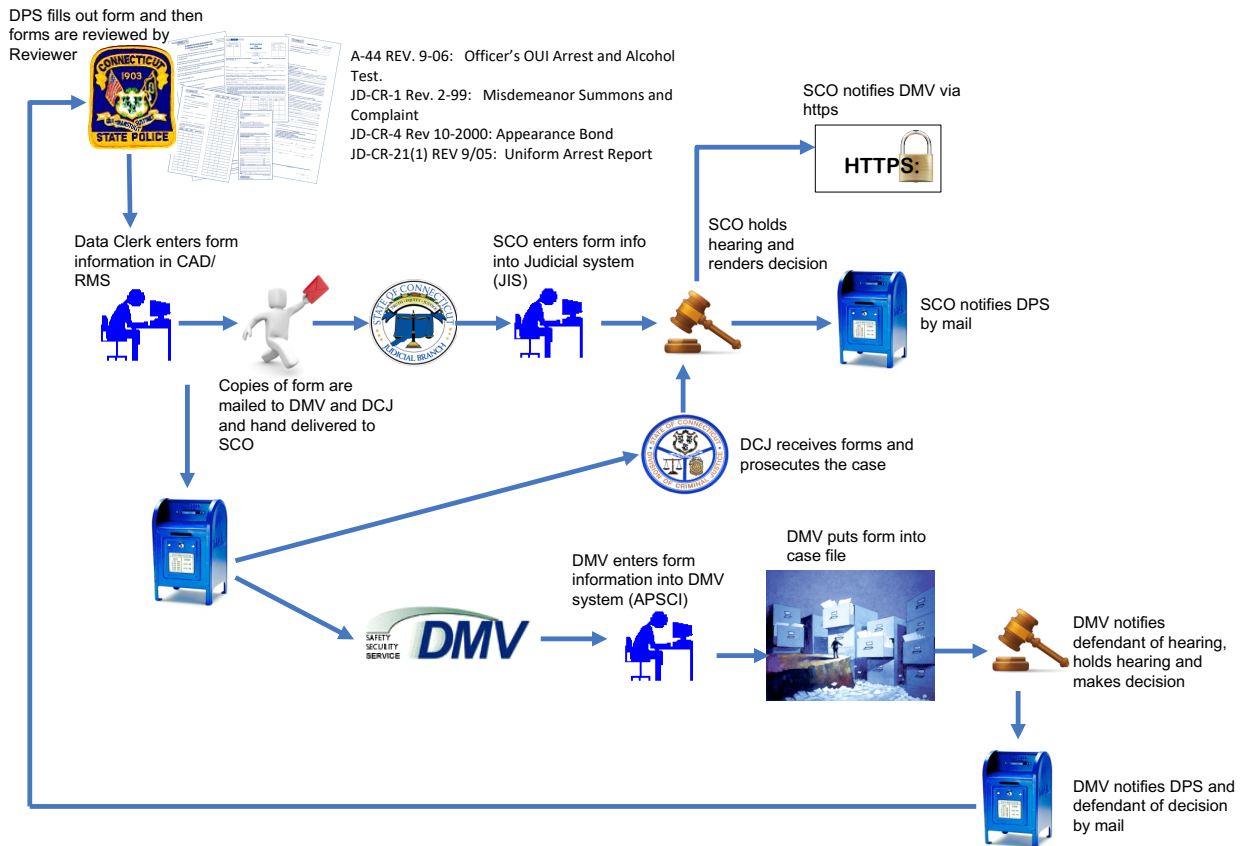
Project Description/Basis:

Current planning for the Connecticut Impaired Driver Records Information System (CIDRIS) will be its inclusion of this project into CJIS's Connecticut Information Sharing System (CISS). Given the successful demonstration of DUI information from DESPP's Connecticut State Police to CT DMV in 2008, the project will become part of the CISS's workflow management processing in a future CISS release. CIDRIS's incorporation into CISS will maintain the focus on the electronic roadside data capture of traffic citations, integration/interface of Judicial and DMV information, integration/interface with offender-based data, and a data mart decision support system. Once incorporated into CISS, the project will continue to provide more timely and accurate driver, vehicle and enforcement adjudication data, and a records management/tracking system that enables law enforcement, licensing and criminal justice agencies and others to better enforce, adjudicate and impose sanctions against impaired driving offenders.

Objectives:

1. Utilizing CISS, the redesign and redeployment of a comprehensive, statewide DUI information technology system;
2. Facilitate timely, seamless, and comprehensive sharing of information between state agencies, departments, boards and commissions;
3. Appropriately identify, charge, and sanction intoxicated drivers, based on their driving history;
4. Manage impaired driving cases from arrest through the completion of court and administrative sanctions; and
5. Identify/target impaired driver populations and trends, address driving control system flaws, and evaluate countermeasures.

Current OUI Process



Project Status:

The implementation phase of CIDRIS, which began with the State Police, was successfully deployed to CSP in 2008 and demonstrated that the project was feasible and functional. In CISS, the efforts will be revising the software application of CIDRIS and converting it to new software development for all parties, including CSP and municipal law enforcement through their respective CAD/RMS vendors, the courts, Division of Criminal Justice, and other impacted entities.

The goal is to be able to manage impaired driving records so that stakeholders can access DUI information in real-time to reduce recidivism in impaired driving offenses.

Required Functionality

- Identify, charge, and sanction all impaired driving offenders;
- Manage impaired driving cases from arrest through the completion of court and administrative sanctions;
- Recognize geographic areas and trends, evaluate countermeasures, and identify problematic components of the overall impaired driving control system;

- Provide law enforcement and court personnel offender information to properly respond to offenses;
- Reduce administrative costs and increase efficiencies for dealing with impaired driving and at the same time address drivers with other types of impairments;
- Manage the workflow of all roadside citations issued from encounter through disposition;
- Maintain a full “chain of custody”, including an audit trail, for all citation data captured. Need to be able to view changes to citations, by whom, when, and why citation was changed;
- Centralized decision support environment to track citation statistics and metrics for users such as Court Operations, CPCA, ConnDOT, DPS, and DMV; and
- Real-time based and 24x7 so that entries made at the roadside or desk are immediately available to all CISS users.

Connecticut Integrated Vehicle and Licensing System (CIVLS)

Critical needs supporting DMV Mission being addressed by CIVLS:

- **Improve timeliness and responsiveness** to Connecticut's citizens and DMV Stakeholders and Business Partners
- **Help streamline** the agency's business processes
- **Standardize and integrate** business and systems processes
- **Improve DMV operational efficiency** in performing key business processes and transactions
- **Modernize agency systems** and supporting technologies
- **Standardize** the agency's data

CIVLS Phase 1 (Managed License Related Businesses) and Phase 2 (Registration and Title) were completed and deployed in 2015 and 2016, respectively. Given this, CIVLS has been operational for two years. DMV has taken over, from the vendor, the programming code, as well as the maintenance and support of the CIVLS system. The license and sanction-related activities are still pending.

CIVLS provides DMV customers and staff with:

- Real time processing
- Internet and web portal for self service
 - Provide the customer the ability to "self-help" and check compliance issues at home
- An integrated solution for the transaction and payment functionality
- Focused on customer centric database that will seek to reduce the customer-related data errors

Connecticut DMV's Out of State Compact Notice Scanning and Data Entry System

Problem

The Department of Motor Vehicles (DMV) receives around 3,000 Compact notices to Connecticut licensed drivers issued out-of-state each week. These Compact notices are sent via regular mail, on paper and in the format that is particular to the jurisdiction. This could be a single format used by an entire state or multiple formats for a single state going down to the county or court district level. In order to include these Compact notices on Connecticut driver records, each slip provided by states or jurisdictions needed to be reviewed and the data manually entered by DMV staff. This required a great deal of manual labor and often backlogs were experienced in this area.

Solution

DMV developed an application whereby document imaging, Optical Character Recognition (OCR) and a manual review of data reduced the labor required greatly, eliminated the backlog *and* improved data entry accuracy. The application was developed by internal staff and uses an inexpensive imaging program along with inexpensive Kodak scanners. The programming of interfaces and the full process of receiving/scanning/reviewing/applying each Compact notice provided the greatest challenges to the project. Once that was complete, "zoning" each different infraction form became an ongoing process. By zoning, DMV can determine which data on the particular form should be recognized, extracted and populated in data fields. Each form has its own properties and requires individual attention. Once complete, however, this form is automatically recognized at any time in the future. Currently, the OCR system is programmed to receive the following states' Compact-related agreement notices: Delaware, Florida, Illinois, Hawaii, Iowa, Kentucky, Maryland, Michigan, New Jersey, New York, Ohio, Pennsylvania, Texas, Virginia, and Wisconsin.

CAD/RMS / E-Citation / E-Crash / DMV Commercial Vehicle Safety Division

The Commercial Vehicle Safety Division (CVSD) of the Department of Motor Vehicles (DMV) now utilizes electronic (e) citation and (e) crash reporting for all incidents involving commercial vehicles. Funded through the Federal Motor Carrier Safety Administration (FMCSA), the new system incorporates a computer aided dispatch and records management system (CAD/RMS). Previously, the CVSD relied on manual data entry (such as commercial vehicle-related citation information). This manual, non-automated process negatively impacted the quality and timeliness of commercial data being transmitted within the State's systems, e.g. Judicial, and ConnDOT. Although the CVSD has attained, and strives to maintain, a high quality data ranking by FMCSA, all divisions within the DMV continue to improve and enhance this quality to ensure timeliness and accuracy of all its data.

Focusing on e-citations, the CVSD estimates that the implementation, which included an e-citation printer for all sworn personnel in August 2013, saves the division \$50,000-60,000 per year in administrative costs. The added time savings for sworn personnel allows them additional time to perform enforcement activities. Accuracy of the e-citations is much better as the person and vehicle information comes from the computer files; statutory charges and fine amounts are accurate as they are pulled from a table provided by Judicial and addition errors are eliminated; e-citations arrive at Judicial in a timely manner and the legibility over the manual citations is much improved. In the first few months of implementation.

Driver License Bar Code Pilot

The Connecticut Driver License contains bar coded information. Provision to law enforcement of bar code scanning equipment and software would greatly facilitate collection of driver license data as well as improve the accuracy of the collected data. Use of this hardware and software would also improve the efficiency of the law enforcement officer collecting the data.

Regional Technology Conference

A day and a half Conference would provide the opportunity for TRCC stakeholders, including Executive Management to become better informed about the traffic records efforts in other states. Participants would have opportunities to attend sessions about existing and emerging technologies, including "best practices" from other states concerning traffic safety data collection, management and access. States have generally become more restrictive regarding out-of-state travel; and for traffic safety data collectors, managers and users, the Conference likely would be their only opportunity to become more up-to-date regarding methods and technologies that can improve the traffic records safety data system in Connecticut.

Other Project Suggestions

Crash/Citation/Incident law enforcement location analysis software accessible by each community

Public policy endorsement of adding e-mail addresses on DMV records for registrations and licenses

Data analysis software/all stakeholders

Acronyms used in Strategic Plan

AAMVA	American Association of Motor Vehicle Administrators
AASHTO	American Association of State Highway Transportation Officials
AADT	Annual Average Daily Traffic
ADT	Average Daily Traffic
ALS	Advanced Life Support
ANSI	American National Standards Institute
ASCII	American Standard Code for Information Exchange
ATSIP	Association of Transportation Safety Information Professionals (National TRCC)
BAC	Blood Alcohol Concentration
BLS	Basic Life Support
CAD	Computer Aided Dispatch
Captain	Capitol Region Total Access Information Network
CARE	Critical Analysis Reporting Environment
CAST	Connecticut Accident Summary Tables
CDC	Centers for Disease Control and Prevention
CDIP	Crash Data Improvement Program
CDLIS	Commercial Driver License Information System
CDR	Crash Data Repository
CEMSTARS	Connecticut EMS Tracking and Reporting System
CHA	Connecticut Hospital Association
CHIME	Connecticut Hospital Information and Management Exchange
CIB	Central Infractions Bureau
CIDRIS	Connecticut Impaired Driver Records Information System
CISS	Connecticut Information Sharing System
CIVLS	Connecticut Integrated Vehicle Licensing System
CJIS	Criminal Justice Information System
CMV	Commercial Motor Vehicle
CODES	Crash Outcome Data Evaluation System
COGCNV	Council of Governments of the Central Naugatuck Valley
COLLECT	Connecticut Online Law Enforcement Communications Teleprocessing
ConnDOT	Connecticut Department of Transportation
CPCA	Connecticut Police Chief's Association
CRCOG	Capitol Region Council of Governments
CRMVS	Criminal Record and Motor Vehicle System
CSAO	Chief State's Attorney's Office
CSP	Connecticut State Police
CT: Chief	Records Management System
CTI	Connecticut Transportation Institute
CTSRC	Connecticut Transportation Safety Research Center
CVARS	Commercial Vehicle Analysis Reporting System
CVISN	Commercial Vehicle Information Systems Network
CVSD	Commercial Vehicle Safety Division
CVSP	Commercial Vehicle Safety Plan
DAS BEST	Department of Administrative Services Bureau of Enterprise Systems and Technology
DCJ	Division of Criminal Justice
DDACTS	Data Driven Approach to Crime and Traffic Safety
DESPP	Department of Emergency Services & Public Protection
DLN	Driver's License Number
DMV	Department of Motor Vehicles
DoIT	Department of Information Technology
DOT	Department of Transportation

DPS	Department of Public Safety
DPH	Department of Public Health
DRN	Digital Roadway Network
DUI	Driving Under the Influence
ED	Emergency Department
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
FARS	Fatality Analysis Reporting System
FDE	Fundamental Data Elements
FHWA	Federal Highway Administration
FIPS	Federal Information Processing Standard
FMCSA	Federal Motor Carrier Safety Administration
FTP	File Transfer Protocol
GHSA	Governor's Highway Safety Association
GIS	Geographic Information System
GPS	Global Positioning System
GSA	General Services Administration
GVWR/GCWR	Gross Vehicle Weight Rating/Gross Combination Weight Rating
HIPAA	Health Insurance Portability and Accountability Act
HPMS	Highway Performance Monitoring System
HSO	Highway Safety Office
HSP	Highway Safety Plan
HTML	Hypertext Markup Language
IDRIS	Impaired Driver Records Information System
ILT	Incident Location Tool
IPR	Interim Progress Report
ISS	Injury Surveillance System
IT	Information Technology
JAD	Joint Application Development
JIS	Judicial Information System
JUD	Judicial Branch
LEA	Law Enforcement Agency
LEL	Law Enforcement Liaison
LINCS	Linked Information for Nonfatal Crash Surveillance (Guide)
LRS	Linear Reference System
MAP-21	Moving Ahead for Progress in the 21 st Century Act
MCMIS	Motor Carrier Management Information System
MCSAP	Motor Carrier Safety Action Program
MDT	Mobile Data Terminal
MIRE	Model Inventory of Roadway Elements
MMUCC	Model Minimum Uniform Crash Criteria (Guideline)
MOTS	Modified Off the Shelf
MOU	Memorandum of Understanding
NCIC	National Crime Information Center
NCSA	National Center for Statistics and Analysis
NDR	National Driver Register
NGA	National Governor's Association
NHTSA	National Highway Traffic Safety Administration
NIEM	National Information Exchange Model
NEMSIS	National Emergency Medical Services System
NLETS	National Law Enforcement Telecommunications System
NMVTIS	National Motor Vehicle Title Information System
NOLLE	Decision by the State's Attorney to not Prosecute the Infraction
OBTS	Offender Based Tracking System
OCR	Optical Character Recognition

OEMS	Office of Emergency Medical Services
OIP	Office of Injury Prevention (DPH)
OPM	Office of Policy and Management
OUI	Operating Under the Influence
PCR	Patient Care Reporting
PDF	Portable Document Format
PDO	Property Damage Only
PDPS	Problem Driver Pointer System
PI&E	Public Information & Education
PR-1	Police Crash Report
PR-2	Supplemental Report for Fatal Crashes
PRISM	Performance and Registration Information Systems Management
PSDN	Public Safety Data Network
RMS	Records Management System
RPO	Regional Planning Organization
SAFETEA	Safe, Accountable, Flexible and Efficient Transportation Equity Act
SHSP	Strategic Highway Safety Plan
SLOSSS	Suggested List of Surveillance Study Sites
SPR	State Planning and Research
SQL	Structured Query Language
SSN	Social Security Number
SWRPA	South Western Regional Planning Agency
TAC	Technical Advisory Committee
TASR	Traffic Accident Surveillance Report
TAVS	Traffic Accident Viewing System
TED	Transportation Enterprise Database
TRA	Traffic Records Assessment
TRB	Transportation Research Board
TRAA	Traffic Records Assessment Advisory
TraCS	Traffic and Criminal Software System
TRI	Traffic Records Inventory
TRIPRS	Traffic Records Improvement Program Reporting System
TRS	Traffic Records System
TRSP	Traffic Records Strategic Plan
TRCC	Traffic Records Coordinating Committee
TSIS	Traffic Safety Information System
TZD	Toward Zero Deaths
UAR	Uniform Arrest Record
UConn	University of Connecticut
VIN	Vehicle Identification Number
VMT	Vehicle Miles Traveled
WWW	World Wide Web
XML	eXtensible Markup Language

Endnotes – Users of traffic crash information; participants in National Traffic Records Forum; TRCC stakeholders; National Crash Reporting (MMUCC) Guideline; PR-1 data element review; uploading electronic PR-1s to the ConnDOT crash server; uploading of electronic commercial vehicle crash data to Safety Net; EMS services utilizing NEMSIS data; CARE data analysis software; Crash data repository and the National Information Exchange Model.

¹ Connecticut Crash Facts December 2018 Newsletter – CTSRC

² National Emergency Medical Services Information System (NEMSIS)

³ Model Minimum Uniform Crash Criteria (MMUCC)

⁴ 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.

⁵ Use of the MMUCC Guideline is voluntary. The 3rd Edition of the Model Minimum Uniform Crash Criteria (MMUCC) Guideline was updated in 2008.

⁶ The State TRCC adopted the 4th Edition (2012) of the MMUCC Guideline as the basis for transitioning to a completely updated electronic crash reporting system beginning in January 2015.

⁷ Much of the crash data collected by State and local law enforcement agencies is stored on local servers. Whether the data are collected in hard copy or electronically, hard copies of the report are mailed or faxed to ConnDOT. One of the most important objectives of the TRCC is the development and implementation of a procedure that allows PR-1 crash reports to be electronically uploaded from local and CSP servers to the ConnDOT crash file server.

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 Safety Net.

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 CHIME – Connecticut Hospital Information and Management Exchange data

¹¹ Beginning in 2015, the Connecticut State Police began the use of the D16.1 Classification Manual in their motor vehicle crash report training.

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¹⁴ Traffic Records Program Assessment Advisory, utilized as the primary guiding document in the State's 2017 Traffic Records Assessment, is distributed by the National Highway Traffic Safety Administration (NHTSA)