

## **Part 5 – Appendices**

# **State of Connecticut**

## **Strategic Plan for Traffic Records**

# **Appendices**

March 2006

**Prepared by InfoGroup, Inc.**

**389 Grinstead Rd., Suite 200  
Severna Park, Maryland 21146  
(410) 544-3227**

## Appendices

### -- Traffic Records Assessment/Strategic Plan --

Appendix A: Traffic Records Assessment (2004) Major Findings .....	73
Appendix B: Strategic Vision (1996) Highlights .....	76
Appendix C: CT Traffic Records System Web Inventory (NHTSA).....	80
Appendix D: Traffic Records – Highway Safety Program Advisory.....	83

### -- Traffic Records Coordinating Committee --

Appendix E: Roster of TRCC Stakeholders .....	86
Appendix F: TRCC Vision, Mission, Memorandum of Understanding.....	90

### -- Funding Support --

Appendix G: NHTSA/FMCSA/FHWA Traffic Safety Data – State Assistance.....	92
--	----

### -- Standards and Guidelines --

Appendix H: Standards and Guidelines (D16, D20, MMUCC, NEMESIS) .....	101
Appendix I: Differences in Definitions for Reportable Commercial Vehicle Crashes .....	103
Appendix J: Electronic Data Capture Standard XML – Sample Crash File.....	105
Appendix K: Electronic Data Capture Standard – Guidance for Vendors .....	109

### -- Technology/Best Practices --

Appendix L: Technology/Costs for Upgrades to Law Enforcement Vehicles .....	113
Appendix M: Related Technology Links from IACP Web Site.....	115
Appendix N: New York State Best Practices Award .....	118

### -- Data Analysis --

Appendix O: Data Analysis Reporting Environment (CARE).....	119
---	-----

### -- Training --

Appendix P: Sources of Training Impacting Traffic Records/Crash Reporting.....	122
Appendix Q: Crash Data Collection for Commercial Motor Vehicles.....	124
Appendix R: Model Minimum Crash Reporting (MMUCC) Guideline Training.....	126
Appendix S: ANSI D16.1 Accident Classification Training Course.....	128

### -- Other CIDRIS States --

Appendix T: Impaired Driver Records Information Systems – (AL, IA, NE, WI).....	129
---	-----

Appendix U: Acronyms .....	131
----------------------------	-----

## ***Appendix A: Traffic Records Assessment (2004) Major Findings***

Available for download at <http://www.accident-report.org/community/assessment.pdf>, this document, State of Connecticut Assessment of Traffic Records (Information Systems), March 2004, contains 250 recommendations for improving traffic records systems. Note: Some Agency firewalls may prevent downloading the 2004 Assessment. The following represent the major findings from the 2004 Assessment:

- 1) Promote recommendations from the recent Traffic Citation Adjudication System (TCAS) Study, including technology support
- 2) Promote the electronic field data capture of crash and citation incident reporting, which would include a review of different options, e.g., CAPTAIN, TraCS, TSIMS, Beta Systems, Polaris, etc.
- 3) Seek improvements in the quality of crash data through the adoption of electronic data capture:
  - Complete data element capture from the PR-1 (at present 1/3<sup>rd</sup> data capture)
  - PDO crashes on local roads (at present, lose approximately 29,000 a year)
  - Driver/Vehicle file electronic population of the crash as well as citation form
  - Enhanced training and follow up with reporting agencies to accompany new system
- 4) Reestablish the Connecticut CODES project
- 5) Establish a Data Warehouse/Decision Support system for the State crash and related files at a central location
- 6) Establish a Data Warehouse/Decision Support system for the traffic citation adjudication tracking system at a central location
- 7) Seek a “user-friendly” data analysis software tool, such as CARE, which will provide users the capability to literally answer questions within minutes, and provide more in-depth capabilities to aid in the process of problem identification
- 8) Conduct an extensive comparison of the PR-1 crash report with the 2003 MMUCC Crash Reporting Guideline
- 9) Revise/update the PR-1 crash report acknowledging the move towards electronic reporting, but realizing the need to maintain a paper form as well
- 10) Update the PR-1 Instruction Manual and provide Train-the-Trainer workshops at State and local law enforcement training facilities

- 11) Promote the efforts of the GIS Ad Hoc Council to develop a State base map and a statewide GIS
- 12) Create a Unique Customer Account Number that will be assigned to all who receive credentials (issuing/maintenance of licenses, permits, registration, etc.) from the DMV
- 13) Create a relational database in the DMV that will provide the ability to link information to other systems using the Unique Customer Account Number
- 14) Create linkages between DMV files so that all pertinent information on a Customer can be obtained by authorized users with one click
- 15) Promote the leadership role of the State TRCC to assure that comprehensive, timely, and accurate traffic records data are available for decision support in various program decisions
- 16) Promote the establishment/filling of a Traffic Records Coordinator position to help lead the TRCC and to promote ongoing communication and collaboration among various stakeholders
- 17) Expand the TRCC to forge partnerships and assure that all constituents who have a stake in injury/crash reporting are represented; and to encourage understanding of issues, availability of files, access, integration, and linking of all appropriate files
- 18) Survey TRCC stakeholders to determine financial assistance avenues, who is doing what in the wide range of safety data systems development, monies that are committed, and how stakeholders can maximize their efforts
- 19) Promote agreements with TRCC stakeholder agencies so that related data can be shared more easily
- 20) Explore whether a new memorandum of understanding (MOU) is something the TRCC needs and/or wants to pursue; the focus of the MOU would be to institutionalize stakeholder collaboration, as well as refocus TRCC initiatives to advance efforts of improving data systems to help save lives
- 21) Continue developing the business requirements for an effort to Reengineer the Operator Control System (OCS)
- 22) Complete the statewide EMS data collection system
- 23) Move towards implementation of a statewide Injury Prevention Program with the capacity to conduct injury surveillance

- 24) Encourage the TRCC through local representatives (i.e., CPCA, RPA's) to work with local agencies to determine data needs that could be served via routine published reports or by Web-based access
- 25) Ensure that State databases are easily accessible by authorized users within local jurisdictions. Ensure that this availability of information is known
- 26) Identify emphasis areas, researching information in various road safety publications to determine best practices, new approaches, etc.
- 27) Coordinate safety management needs with ITS initiatives. Avoid innovative technology until it has been implemented and proven in the field
- 28) Propose conservative implementation schedules with realistic deadlines. Run existing processes in parallel with new applications until proven stable
- 29) Update and implement a comprehensive long-range traffic records strategic plan for improvements in the State's traffic records system

## ***Appendix B: Strategic Vision (1996) Highlights***

As previously mentioned in the 2006 Strategic Plan, the 1996 Strategic Vision effort provides important background for current system improvement initiatives. This Appendix contains Implementation, TRCC, Work Plan, Data Warehouse, Automating the PR-1, Mobile Reporting, Benefits and other information from the 1996 planning effort.

The 1996 Strategic Vision for Connecticut's Traffic Records System had three principal objectives:

1. Identify the needs for safety information, and determine the strengths and weaknesses of Connecticut's traffic records system to meet those needs
2. Develop a plan for the phased implementation of improvements identified in the course of evaluating the statewide safety information system
3. Identify new technologies necessary to improve the safety information system

The plan provided a means for enabling widespread and disparate safety community members to operate in partnership through the sharing of information.

### **Implementation**

The proposed phased-implementation plan for the 1996 Strategic Vision was comprised of six independent phases, each to be undertaken by the agency or organization involved. Each phase was comprised of self-contained components that could be implemented either on a stand-alone basis or in concert with other agencies or organizations. Also, within each phase, work segments could be implemented concurrently or independently, depending on available resources.

This approach was to enable each agency or organization, within its available resources, to progress independently in implementing the Strategic Vision, thereby retaining full management control and responsibility for its portion of this statewide initiative. It also provided for the initial achievement of low-cost implementation objectives, which could provide immediate and significant benefits. Longer-term objectives could then be phased in as each agency or organization acquired sufficient funding resources for their implementation.

Implementation of the recommendations contained in the Strategic Vision could be supported actively by each of the three Enterprise Agencies, including the Department of Transportation, Department of Motor Vehicles, and Department of Public Safety.

The modular approach proposed for the Highway and Traffic Safety Management Information System (HTSMIS), was to start with the implementation of a basic Accident Records System within ConnDOT. The system could then be scaled up to support future levels of activity and volume, as necessary. Other agencies and branches of state government would be brought into the new HTSMIS, once ConnDOT's new system was fully implemented. By breaking the implementation phase into standalone modules, Connecticut would be able to upgrade its traffic records system with the most current IT infrastructure, while still retaining the best of the traditional proven data processing practices. The implementation plan was designed to allow

existing business processes to be re-engineered, with a view to streamlining workflows, reducing duplication of effort, and improving timeliness, accuracy, and analysis of traffic records data.

Coordination of the Strategic Vision. Full implementation was to involve several years of effort by the various state and local agencies involved. It was important, therefore, to establish an inter-agency coordinating forum to develop consensus, coordinate resources, and provide necessary input to ensure its successful implementation over the long term.

## **TRCC**

The long-term coordination of the Strategic Vision was to be assigned to the TRCC. Functioning as an inter-agency information exchange forum, the TRCC would:

1. Coordinate the statewide traffic records function as it relates to the HTSMIS data warehouse
2. Define safety problems from a statewide perspective and recommend coordinated agency activities to provide comprehensive solutions
3. Coordinate the use of standard operating procedures for the extraction, scrubbing, and transfer of data into the HTSMIS data warehouse
4. Coordinate the use of standard data elements, definitions, classifications and codes as it relates to the HTSMIS
5. Coordinate the use of common data elements to provide linkages between the files of the HTSMIS
6. Disseminate appropriate information to the organizations and subcommittees involved in the development of the state SMS

## **Work Plan(s)**

Development of a sound implementation work plan by each state agency was determined to be critical to a successful implementation process. Such work plans would define tasks to be performed, when the tasks were to be performed, and who would perform them. Such items of information were required in order to provide a means of measuring how well the implementation process was progressing.

## **Data Warehouse**

### **Data Warehouse/Highway Traffic and Safety Management Information System**

1. Implement the data warehouse to be the central repository for the HTSMIS
2. Provide electronic links to the data warehouse/HTSMIS from traffic-records related databases in other state and local agencies to update and refresh the traffic records information
3. Provide a ready means for end users to perform ad-hoc queries of the HTSMIS in performing analytical safety studies, such as identifying existing safety problems, developing countermeasures, and evaluating completed projects

## **Automating the PR-1**

Automating the Connecticut Uniform Police Accident Report and Other Law Enforcement Information – using mobile computers, bar code/smart card information, RF communications link, electronic data transfer. Include local-road crash data to eliminate discrepancies caused by missing property damage only (PDO) crash data.

## **ConnDOT IT Strategy**

ConnDOT's Information Technology strategy encompassed:

1. Provide IT services to end users, which serve to support ConnDOT's business mission, goals, and objectives
2. Address the requirements of a dynamic and changing business environment, in order to be a catalyst for the integration of new technology with ConnDOT and the State of Connecticut
3. Migrate to an open-systems computing environment, based on non-proprietary industry standards, in order to enhance accessibility and portability of data residing within ConnDOT as well as other state agencies
4. Cooperate with other state agencies in developing information systems architectures which are compatible with one another, and comply fully with generally accepted industry technology standards
5. Provide technology training to improve continuously the technical skills of information systems staff and ConnDOT's knowledge workers

## **ConnDOT Accident Records Goals**

Accident Records and Statistics – Include all locally-reported PDO accidents in a statewide accident history database; Support ongoing efforts to create electronic linkages with other files containing data on human, roadway, and vehicle factors relating to traffic records with a view to promoting efficiency of data management and accessibility of traffic records data to end users; Implement in the short-term GIS technology to locate accidents statewide; Implement in the longer-term GPS technology to locate accidents statewide.

## **Mobile Accident Reporting System Pilot**

Mobile Accident Reporting System – This was a joint effort between ConnDOT and DPS's Division of State Police. This pilot was intended to demonstrate opportunities for increasing efficiency in both agencies in the processing of accident data and thereby improve the timeliness, accuracy, and completeness of accident data for end users within the highway safety community. The troop selected was based on its capability of providing sufficient information to document the benefits of integrating the following functionalities into the Mobile Accident Reporting System:

1. Automation of the PR-1 by the creation of an electronic file at the field officer level
2. Editing and validation of field crash data at the time of the accident
3. Capability to scan in bar code data, such as driver's license and vehicle registration information

4. Geocoding using input from either a GIS or the GPS for accident location purposes
5. Automatic generation and print out of driver exchange information for insurance claims purposes
6. Capture of police officer's field notes
7. Accident case management by state and local law enforcement agencies

### **Role/Authority in Prescribing the PR-1**

Investigator's Guide for Completing the Uniform Police Accident Report Form states, "Connecticut General Statutes delegate to the Commissioner of the Department of Transportation, the Authority and the obligation to prescribe a Uniform Police Accident Report Form for use in the investigation of Accidents within the State of Connecticut." In recognition of the diversity of interest in the content of the Police Accident Report form, and to ensure the widest possible input with regard to the content and format of the form, the Commissioner of Transportation formed a multi-agency committee, to participate in the redesign of the existing forms.

### **Improvement Benefits**

The measure of how well a traffic records system functioned was the degree to which it was used by the highway safety community for which it was designed to serve. In pursuit of this goal, an improved traffic records system would bring about the following major benefits:

1. Decrease time spent by law enforcement agencies in collecting field crash data
2. Provide end users in the highway safety community with ready access to accident data on a more timely, accurate and complete basis
3. Prioritize highway safety improvement projects more accurately through a comprehensive approach to analyzing disparate traffic records data
4. Provide end users with enhanced access and communications links to traffic records data, thereby serving their information needs better
5. Introduce open systems information technology to improve efficiency of data processing operations
6. Expand the number of constituencies (e.g., non-profit groups, state legislature) as end users of traffic records data, by enabling end users to formulate their own ad hoc queries for information purposes
7. Introduce new technologies, which can meet the evolving needs of highway safety within Connecticut

## *Appendix C: CT Traffic Records System Web Inventory (NHTSA)*

### **National Highway Traffic Safety Administration (NHTSA) Traffic Records Systems Inventory**

The NHTSA State Traffic Records Inventory is located at the following Web site: <http://www.nhtsa-tsis.net/trsystems>. State information is available by clicking on the link, browse by state. An article in the *September 2005 Issue of the NHTSA Traffic Safety Information Systems News*, talked about using this important resource (Web Inventory) for gaining a better understanding of various components within a State Traffic Records System as well as learning from and communicating with counterparts in neighboring states.

An example of the content contained within the NHTSA Traffic Records Inventory for the State of Connecticut is provided for **Component Area #6 - Truck / Commercial Vehicle Data System**. In all, fifteen (15) component areas of Connecticut's Traffic Records System are contained within NHTSA's Inventory.

As the interest in highway safety information systems has grown, and the need to share information between systems to support numerous highway safety initiatives has grown the National Highway Traffic Safety Administration, with the support of the Federal Highway Administration, Federal Motor Carrier Safety Administration and Bureau of Transportation Statistics has undertaken an expansion of their Inventory of Traffic Records Systems. This expanded effort is intended to compile a resource guide containing information about the various components of each state's highway safety information system, and contacts for each system component. This project also involves the collection of data from the various highway safety data systems within as many states as possible to build a national resource for safety exposure data.

The information on these pages is used to establish a contact database, and basic information about the traffic records system within each state. This information is published at the NHTSA Traffic Records web site and updated on an annual basis.

### **Connecticut Traffic Records System Components Contained within the NHTSA Web Inventory**

1. Governor's Highway Safety Representative
2. Traffic Records Coordinator
3. Traffic Records Coordinating Committee
4. Traffic Crash Data System
5. Crash Statistics

---

**Example of content detail contained within each Traffic Records System component area:**

#### **6. Truck / Commercial Vehicle Data System**

Please provide the following information on an individual who may be contacted for information on the following data:

<b>Truck / Commercial Vehicle Data System Contact:</b>	
Name:	Donald C. Bridge, Jr.
Job Title:	Sergeant
Agency Name:	Connecticut Dept of Motor Vehicles
Office:	Commercial Vehicle Safety Division
Street Address:	60 State Street
City, State, ZIP:	Wethersfield, CT 06161-5510
Phone:	860-263-5446 Extension:
FAX:	860-263-5587
Email:	<a href="mailto:donald.bridge@dmvct.org">donald.bridge@dmvct.org</a>

**Note:** Commercial vehicles are defined as those vehicles, which would qualify for collection of the National Governor’s Association (NGA) data.

Are the NGA/MCMIS (Motor Carrier Management Information System) data elements captured on the standard statewide traffic crash report? **Yes**

If not, does your state use a CMV supplemental report to capture any of the “NGA/MCMIS” data elements?

(Please provide an original forms and coding procedures.)

If YES, do you have plans to integrate the form into the state’s main crash report form?  
**Connecticut State Police have a CVARS (Commercial Vehicle Analysis Reporting System) grant to electronically capture commercial vehicle accident reports, which is being implemented.**

Are the data which are entered into the MCMIS system recorded electronically on the state’s main crash reporting system (i.e., the statewide database of ALL reportable crashes)? **Not at present.**

If YES, are the data transferred electronically from the main state crash database to the MCMIS file?

What is the reporting threshold your state uses for CMV-involved crash reporting? **NGA Standards.**

Are **all** reportable CMV-involved crashes entered into the state’s main crash data file? **Yes**

Do you know the proportion of crashes missing, if any? **No**

How many CMV crashes were reported in your State in the past year? **Not available.**

Are all interstate carriers that are registered in your state entered into the MCMIS Census File? **Through the PRISM Project (Performance and Registration Information Systems Management), in coordination with Connecticut's files and the IRP (International Registration Plan) apportioned registrations, the State is requiring registrants to supply the DMV with the current USDOT#.**

Do you create DOT ID numbers in MCMIS (i.e., in the Census File) for intra-state motor carriers? **Connecticut issues intrastate DOT#'s through MCMIS.**

If YES, is this process complete and up-to-date? **The State requires updates to MCS-150 (USDOT# Application) on a periodic basis.**

Does your state produce an annual CMV Crash Facts analysis, or a CMV crashes section of an overall Crash Facts book? **Yes, DOT.**

Have you been invited to or do you plan to participate in FMCSA's CVARS project? **Yes (mentioned earlier – the Connecticut State Police has the lead).**

Please describe the Quality Control measures in place for ensuring the accuracy of reports of CMV-involved crashes. **Accident reports are reviewed as they are received for entry into the SAFETYNET system. In addition, carriers send in requests via the Federal Data Qs system and reports, which contain information that the carrier disputes, which is then rechecked for accuracy.** Data Qs (data questions) represent an electronic means for filing concerns about Federal and State data released to the public by the agency. Data Qs provide a single, Web-based location for data challenge entry and response. The system forwards data concerns to the appropriate State records office for resolution, tracks data concerns through to resolution, and assists FMCSA and States in generating responses to the challengers.

Comments: **Timeliness and accuracy of accident data is first and foremost.**

---

### **Other Connecticut Traffic Records System Components Contained within the NHTSA Web Inventory**

7. FARS Data System
8. Traffic Citation / Conviction Data System
9. Roadway Data System
10. EMS Run Data System
11. Injury Surveillance Data System
12. State GIS System
13. Driver Licensing Data System
14. Vehicle Registration System
15. CODES Linked Data System

## ***Appendix D: Traffic Records – Highway Safety Program Advisory***

The Traffic Records Chapter of the Highway Safety Program Advisory provides the basis for ongoing assessments of State Traffic Records Systems as well as State Strategic Planning efforts. The following represent excerpts from the Highway Safety Program Advisory.

Each State, in cooperation with its political subdivisions, should establish and implement a complete traffic records program. The statewide program should include, or provide for, information for the entire State. A complete traffic records program is necessary for planning (problem identification), operational management or control, and evaluation of a State's highway safety activities. This type of program is basic to the implementation of all highway safety countermeasures and is the key ingredient to their effective and efficient management.

As stated in the ***National Agenda for the Improvement of Highway Safety Information Systems***, a product of the National Safety Council's Traffic Records Committee, "Highway safety information systems provide the information which is critical to the development of policies and programs that maintain the safety and the operation of the nation's roadway transportation network." A Traffic Records System is generally defined as a virtual system of independent real systems, which collectively form the information base for the management of the highway and traffic safety activities of a State and its local subdivisions.

Information sources have been grouped to form the following major components of a traffic records system (see also Table 1):

- Crash Information
- Roadway Information
- Vehicle Information
- Driver Information
- Enforcement/Adjudication Information
- Injury Surveillance Information

Together, these components should provide information about places, property, and people involved in crashes and about the factors that may have contributed to the events described in the traffic records system. The system should also contain information that may be used in judging the relative magnitude of problems identified through analysis of data in the traffic records system. This should include demographic data (social statistics about the general population such as geographic area of residence, age, gender, ethnicity, etc.) to control for differences in exposure (normalization) and cost data for benefit/cost and cost effectiveness determinations.

Performance level data should be included to support countermeasure management.

Table 1. Components of a Traffic Records System

COMPONENTS		EXAMPLES
Crash		<ul style="list-style-type: none"> <li>• Weather conditions and pavement</li> <li>• Illumination</li> <li>• Time of Day, Day of Week</li> <li>• Avoidance maneuvers</li> <li>• Violation of traffic law (speed, turns, failure to obey, reckless driving)</li> <li>• Number and severity of injuries or level of property damage</li> <li>• Number of vehicles involved</li> <li>• Manner of collision and speed</li> <li>• Object struck</li> <li>• Person type (driver, occupant, pedestrian)</li> <li>• Substance abuse</li> <li>• Safety device use</li> </ul>
Injury Surveillance System		<ul style="list-style-type: none"> <li>• EMS response time for driver/pedestrian/pedalcyclist</li> <li>• Hospital assessment of injury severity</li> <li>• Hospital length of stay and cost</li> <li>• Rehabilitation time and cost</li> </ul>
Roadway		<ul style="list-style-type: none"> <li>• Location referencing system</li> <li>• Roadway character (jurisdiction, classification, surface, geometries)</li> <li>• Structures (bridges, tunnels)</li> <li>• Traffic control devices, signs, delineations, and markings</li> <li>• Roadside features (hardware, conditions, bike lanes, sidewalks, land use)</li> <li>• Rail grade crossings</li> <li>• Traffic volume and characteristics</li> </ul>
Vehicle	All	<ul style="list-style-type: none"> <li>• Type and configuration</li> <li>• VIN</li> <li>• Age/model year</li> <li>• Weight</li> <li>• Registration information/Plates</li> <li>• Defects</li> <li>• Owner information</li> <li>• Safety devices (type and condition)</li> </ul>
	Commercial	<ul style="list-style-type: none"> <li>• Carrier information</li> <li>• Hazardous materials/Placards</li> <li>• Inspection/Out of Service Records</li> </ul>
Driver		<ul style="list-style-type: none"> <li>• Age/DOB</li> <li>• Gender and Ethnicity</li> <li>• Experience, driver education</li> <li>• License status</li> <li>• Conviction history</li> </ul>

Enforcement/Adjudication	<ul style="list-style-type: none"> <li>• Citation tracking</li> <li>• Traffic case volume</li> <li>• Conviction</li> <li>• Sentencing</li> <li>• Case tracking</li> </ul>
--------------------------	---

The following represent the major sections of the Traffic Records Chapter of the Highway Safety Program Advisory. Sections include the contents of each of the components of a traffic records system, data quality, uses of a traffic records system, and coordination and planning efforts involving a State Traffic Records Coordinating Committee (TRCC) to guide State efforts.

#### SECTION 1: TRAFFIC RECORDS SYSTEM INFORMATION COMPONENTS

- 1-A: Crash Information
- 1-B: Roadway Information
- 1-C: Vehicle Information
- 1-D: Driver Information
- 1-E: Enforcement/Adjudication Information
- 1-F: Injury Surveillance System Information
- 1-G: Other Information

#### SECTION 2: INFORMATION QUALITY

- 2-A: Crash Information Quality
- 2-B: Roadway Information Quality
- 2-C: Vehicle Information Quality
- 2-D: Driver Information Quality
- 2-E: Enforcement/Adjudication Information Quality
- 2-F: Injury Surveillance Systems Information Quality

#### SECTION 3: USES OF A TRAFFIC RECORDS SYSTEM

- 3-A: Program Management and Evaluation
- 3-B: Research and Program Development
- 3-C: Policy Development
- 3-D: Private Sector and Public Requests

#### SECTION 4: MANAGEMENT INITIATIVES

- 4-A: Coordination
- 4-B: Strategic Planning
- 4-C: Training and Staff Capabilities

**Appendix E: Roster of TRCC Stakeholders**

This listing of the TRCC Roster is based on representatives who were active in December 2005, when final drafting and prioritizing of the Strategic Plan program areas was accomplished.

**----- TRCC Representatives -----**

TRCC representatives include local or state agency stakeholders, who are active in TRCC activities.

**Department of Transportation**

<b>Juliet Little</b> Highway Safety Management Specialist	860-594-2365 (2374 fax)	Juliet.little@po.state.ct.us
<b>Sebastian Puglisi</b> Accident Records Section	860-594-2094	Sebastian.puglisi@po.state.ct.us
<b>Eugene Interlandi</b> Accident Records Section	860-594-2096	Eugene.interlandi@po.state.ct.us
<b>Harley Polverelli</b> FARS System	860-594-2098	Harley.polverelli@po.state.ct.us
<b>James Spencer</b> GeoSpatial Planning	860-594-2014	James.spencer@po.state.ct.us

**Department of Motor Vehicles**

<b>Andy Munson</b> Business Administration	203-805-6238	Andy.munson@dmvct.org
<b>George White</b> Planning, Research & Analysis	203-805-6259 (6154 fax)	George.white@dmvct.org
<b>Bob Sardo</b> RTOL/Special Projects	860-263-5488	Bob.sardo@dmvct.org
<b>Donald Bridge</b> Commercial Vehicle Safety	860-263-5446	Donald.bridge@dmvct.org

**Department of Public Safety**

<b>Philip Halibozek</b> CVARS	860-685-8277	Philip.halibozek@po.state.ct.us
<b>Robert Tolomeo</b> Field Technology Section	860-685-8130 (8901 fax)	Robert.tolomeo@po.state.ct.us
<b>Anthony Schirillo</b> Business Development	860-685-8197	Anthony.schirillo@po.state.ct.us
<b>William Freeman</b> CAD/RMS	860-685-8393	William.freeman@po.state.ct.us
<b>David Aflalo</b> Traffic Services	860-685-8653	David.aflalo@po.state.ct.us

----- TRCC Representatives -----

**Department of Public Health**

<b>Marian Storch</b> Health Program	860-509-7791	Marian.storch@po.state.ct.us
<b>Susan Hewes</b> Health Program	860-509-7795	Susan.hewes@po.state.ct.us
<b>Jennifer Morin</b> CODES System	860-509-7497	Jennifer.morin@po.state.ct.us

**Office of Policy and Management**

<b>Theron Schnure</b> CIDRIS System	860-418-6390 (6496 fax)	Terry.schnure@po.state.ct.us
--	-------------------------	------------------------------

**Judicial Branch**

<b>Sam Hannan</b> Division of Court Operations - CIB	860-529-0510, ext. 353	Sam.hannan@jud.ct.gov
<b>Pamela Frank-Hall</b> Division of Court Operations - CIB	860-529-0510, ext. 332	Pamela.frankhall@jud.ct.gov

**Local Law Enforcement**

<b>Paul Jakobson</b> CPCA, Police Chief's Association	203-318-3036 (3533 fax)	Jakubsonpd@madisonct.org
<b>James Donnelly</b> CRCOG, New Britain PD	860-826-3087	James.donnelly@ps.ci.new-britain.ct.us
<b>John Murphy</b> East Hartford PD	860-291-7580	Jmurphy@ci.east-hartford.ct.us

**Regional Planning Organization**

<b>Peter Dorpalen</b> COGCNV	203-757-0535	Pdorpalen@cogcnv.org
<b>Thomas Maziarz</b> CRCOG	860-522-2217, ext. 14	Tmaziarz@crcog.org

**DUI Prosecutor's Office**

<b>Susan Naide</b> DUI Prosecutor's Office	860-258-5926 (5858 fax)	Susan.naide@po.state.ct.us
---	-------------------------	----------------------------

**University of Connecticut**

<b>John Ivan</b> University of Connecticut, Connecticut Transportation Institute	860-486-0352	John.ivan@uconn.edu www.cti.uconn.edu
--	--------------	--

----- **Advisors to the TRCC** -----

Advisors to the TRCC include federal representatives, consultants, and others, whose input to the TRCC is vital, but who might exclude themselves from activities, such as the prioritizing in December 2005 of strategic plan initiatives, or who are unable to participate as actively as others in TRCC efforts.

***Department of Transportation***

<b>Andy Asaro</b> Planning, Inventory & Data	860-594-2020	Angelo.asaro@po.state.ct.us

***Department of Motor Vehicles***

<b>Robert Apuzzo</b> CVSD	860-263-5446	Robert.apuzzo@dmvct.org
<b>Philip Archambeault</b> Consultant	203-805-6262	Philip.archambeault@dmvct.org

***Department of Public Safety***

<b>Paul Krisavage</b> Scientific Services, Tox Lab	203-694-6400	Paul.krisavage@po.state.ct.us

***Department of Public Health***

<b>William Teel</b> OEMS	860-509-8116	Bill.teel@po.state.ct.us

***Judicial Branch***

<b>Ned Loiselle</b> Division of Court Operations – Court Op	860-282-6418	Edwin.loiselle@jud.ct.gov
<b>Larry D’Orsi</b> Division of Court Operations – Court Op	860-563-8134	Larry.dorsi@jud.ct.gov

***Regional Planning Organization***

<b>Sue Prosi</b> SWRPA	203-316-5190, ext. 16	Prosi@swrpa.org

----- **Advisors to the TRCC** -----

***Department of Information Technology***

<b>Eric Lindquist</b> Management Oversight	860-622-2494	Eric.lindquist@po.state.ct.us
<b>Charles Dew</b> DOT Liaison	860-594-2209	Charles.dew@po.state.ct.us
<b>Kate Trudeau</b> DOT Liaison	860-594-3549	Katherine.trudeau@po.state.ct.us

***University of Connecticut***

<b>Thomas Jonsson</b> UConn	860-486-2340	Thoj@engr.uconn.edu

***Research Consulting***

<b>Katie Ledingham</b> Preusser Research	203-459-8700	Kledingham@preussergroup.com
<b>Tom Zwicker</b> Preusser Research	203-459-8700	Tzwicker@preussergroup.com

***Federal Agencies***

<b>Mario Damiata</b> NHTSA	617-494-2606	Mario.damiata@nhtsa.dot.gov
<b>Robert Ramirez</b> FHWA	860-659-6703, ext. 3004	Robert.ramirez@fhwa.dot.gov
<b>Bonnie DuBose</b> FHWA	860-659-6703, ext. 3002	Bonnie.dubose@fhwa.dot.gov
<b>Jeffrey Cimahosky</b> FMCSA	860-659-6700, ext. 3015	Jeffrey.cimahosky@fmcsa.dot.gov

*Appendix F: TRCC Vision, Mission, Memorandum of Understanding*

**Comprehensive Traffic Records System  
Vision / Mission for Connecticut's  
Traffic Records Coordinating Committee  
(TRCC)**

**Vision** – A Comprehensive Traffic Records System to Provide 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.

**Mission** – Implement a Delivery System to Provide Timely, Complete, Accurate, Uniform, Integrated, and Accessible Traffic Records (Safety Data) to Manage Highway and Traffic Safety Programs.

- Assess traffic records system state-of-the-state
- Establish goals, objectives, priorities
- Develop strategies to achieve objectives/goals
- Utilize an ongoing strategic planning process
- Implement traffic records system improvements
- Traffic Records Coordinating Committee to manage

**Comprehensive Traffic Records System  
Memorandum of Understanding for Connecticut's  
Traffic Records Coordinating Committee  
(TRCC)**

**Memorandum of Understanding (MOU)** – The Connecticut Traffic Records Coordinating Committee (TRCC) was established in July 1994 as an advisory forum with the purposes of identifying the public and private sector needs for traffic safety information, and technologies necessary to improve the safety information system to meet the needs of the safety community.

The common objectives, within the human and financial resources available, of the participating agencies, are to increase operational efficiencies and to provide a complete Traffic Records information system, enabling widespread and disparate safety communities to operate in partnership through the sharing of information. The availability of timely and accurate information pertaining to highway, human and vehicle factors is essential to implement efficient, effective and comprehensive statewide highway safety countermeasures. Comprehensive accident, driver, vehicle, roadway, enforcement, emergency medical services, and health services information linked together and provided to the safety community is necessary for efficient

planning (problem identification), management and evaluation of statewide coordinated highway safety activities.

The complex and fragmented nature of the current processes does not support efficient, effective and comprehensive statewide highway safety countermeasures. Each agency is charged with specific activities to minimize injuries and to ensure a safe, efficient and cost-effective highway system. Without an integrated safety information system, safety issues cannot be adequately identified, coordinated countermeasures cannot be implemented and controlled, nor can important evaluation be conducted.

There is great opportunity for applying technology to improve operations efficiency for the State, reduce injuries and improve highway safety for the motoring public. As outlined in the Strategic Plan, implementation of the recommended applications improves efficiency, and reduces operational and administrative costs related to safety activities while enhancing traffic safety.

The findings and recommendations outlined in the Strategic Plan are significant in nature and we, the stakeholder agencies and associations that deal with highway safety on a regular basis, do hereby, endorse the broad objectives of the Strategic Plan for Traffic Records. We also concur that the TRCC be designated as an official planning and coordination entity for safety data improvements. The TRCC shall continue to promote and facilitate the mutual benefits of stakeholder agencies and associations in moving forward with system wide improvements to the State's safety data.

Agreement to the nature and intent of this Memorandum of Understanding shall be demonstrated by a representative signature from each of the following stakeholder agencies and associations represented on the TRCC.

- Department of Transportation (Transportation Safety Section)
- Department of Public Safety (Division of State Police)
- Department of Motor Vehicles
- Department of Public Health
- Judicial Branch
- Office of Policy and Management
- Police Chief's Association
- New Britain Police Department
- East Hartford Police Department
- Council of Governments of the Central Naugatuck Valley
- Capitol Region Council of Governments
- South Western Regional Planning Organization
- DUI Prosecutor's Office
- University of Connecticut, Connecticut Transportation Institute

## ***Appendix G: NHTSA/FMCSA/FHWA Traffic Safety Data – State Assistance***

Federal Register / Vol. 71, No. 22 / Thursday, February 2, 2006 / Notices

### **DEPARTMENT OF TRANSPORTATION - National Highway Traffic Safety Administration [Docket No. NHTSA-2006-23771] State Traffic Safety Information System Improvement Grants**

**AGENCY:** National Highway Traffic Safety Administration, DOT.

**ACTION:** Announcement of grants to support state traffic safety information system improvements.

**SUMMARY:** The National Highway Traffic Safety Administration (NHTSA) announces a grant program to improve State traffic safety information systems under Section 2006 of the Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy For Users (SAFETEA-LU). This Notice informs the 50 states, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, through their Governors' Representatives for Highway Safety, and the Bureau of Indian Affairs (on behalf of the Indian tribes), of the application procedures to receive grants to be made available in fiscal years 2006 through 2009.

**DATES:** Applications must be received by the appropriate NHTSA Regional Office on or before June 15 of the fiscal year for which a State seeks a grant.

**ADDRESSES:** Applications must be submitted to the appropriate Regional Administrator.

**FOR FURTHER INFORMATION CONTACT:** For program issues, Jack Oates, Office of Traffic Injury Control, Injury Control Operations and Resources (NTI-200), NHTSA, 400 Seventh Street, SW., Room 5118, Washington, DC 20590, by phone at (202) 366-2121 or by e-mail at [jack.oates@nhtsa.dot.gov](mailto:jack.oates@nhtsa.dot.gov). For legal issues, Dana Sade, Office of Chief Counsel, NCC-113, NHTSA, 400 Seventh Street, SW., Room 5219, Washington, DC 20590, by phone at (202) 366-1834 or by email at [dana.sade@nhtsa.dot.gov](mailto:dana.sade@nhtsa.dot.gov).

#### **SUPPLEMENTARY INFORMATION:**

##### **Background**

Section 2006 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy For Users (SAFETEA-LU) establishes a State traffic safety information system improvement grant program, administered by NHTSA. The purpose of this grant program is to support the development and implementation of effective programs by the States to:

- (1) Improve the timeliness, accuracy, completeness, uniformity, integration, and accessibility of the safety data that States need to identify priorities for national, State and local highway and traffic safety programs;
- (2) Evaluate the effectiveness of efforts to make such improvements;
- (3) Link the State data systems, including traffic records, with other data systems within the State, such as systems that contain medical, roadway, and economic data; and
- (4) Improve the compatibility and interoperability of the States' data systems with national traffic safety data systems and data systems of other States and enhance NHTSA's ability to observe and analyze national trends in crash occurrences, rates, outcomes, and circumstances.

Section 2006 authorizes \$34.5 million in funding for each of four fiscal years from FY 2006 through FY 2009. The Section 2006 grant program is codified in 23 U.S.C. 408 ("the Section 408 Program"). Today's Notice solicits applications for grants under this program. SAFETEA-LU provides that the amount of each first fiscal year grant shall be the higher of \$300,000 or an amount determined by multiplying the amount appropriated to carry out the Section 408 Program for that fiscal year by the ratio that the funds apportioned to the State under section 402 for FY 2003 bears to the funds apportioned to all eligible States under section 402 for FY 2003. Each State that qualifies for a successive fiscal year grant shall be eligible to receive the higher of \$500,000 or an amount determined by multiplying the amount appropriated to carry out the Section 408 Program for that fiscal year by the ratio that the funds apportioned to the State under section 402 for FY 2003 bears to the funds apportioned to all eligible States under section 402 for FY 2003. No State may receive a grant under this section in more than four years.

#### **Requirements To Receive a Grant**

##### **First Year Grants**

SAFETEA-LU provides that a State may qualify for a first year grant by demonstrating that it has: (a) Established a highway safety data and traffic records coordinating committee (a "TRCC"); and (b) developed a multiyear highway safety data and traffic records system strategic plan (a "Multiyear Plan" or "Strategic Plan").

In addition, the State must certify that it has adopted and uses model data elements identified under the Section

408 Program, or that the 408 grant funds it receives will be used toward adopting and using the maximum number of Model Data Elements as soon as practicable.

### **TRCC Requirement**

In order to satisfy the TRCC requirement for a first year grant, SAFETEA–LU provides that a State TRCC must have a multidisciplinary membership that includes, among others, managers, collectors, and users of traffic records and public health and injury control data systems, and the authority to approve the State’s Strategic Plan. The role and function of a TRCC in the section 408 program is very similar to that of a “coordinating committee” in section 408’s predecessor program on data improvements (23 U.S.C. 411).

Therefore, consistent with the section 411 requirements, under which States already have established the necessary organizational structure, a TRCC should:

- (a) Include representatives from highway safety, highway infrastructure, law enforcement and adjudication, public health, injury control and motor carrier agencies and organizations;
- (b) Have authority to review any of the State’s highway safety data and traffic records systems and to review changes to such systems before the changes are implemented;
- (c) Provide a forum for the discussion of highway safety data and traffic records issues and report on any such issues to the agencies and organizations in the State that create, maintain and use highway safety data and traffic records;
- (d) Consider and coordinate the views of organizations in the State that are involved in the administration, collection and use of the highway safety data and traffic records system;
- (e) Represent the interests of the agencies and organizations within the traffic records system to outside organizations; and
- (f) Review and evaluate new technologies to keep the highway safety data and traffic records systems up-to-date.

### **Strategic Plan Requirement**

SAFETEA–LU provides that a Strategic Plan shall:

- (a) Be approved by the State’s TRCC;
- (b) Address existing deficiencies in a State’s highway safety data and traffic records system; 1
- (c) Specify how deficiencies in the system were identified;
- (d) Prioritize the needs and set goals for improving the system;
- (e) Identify performance-based measures by which progress towards those goals will be determined; and
- (f) Specify how the State will use section 408 and other funds of the State to address the needs and goals identified in its Strategic Plan.

The Section 408 Program, like the Section 411 Program, requires that a State identify in its Strategic Plan specific performance-based measures. When Congress first introduced this performance-based measure requirement, NHTSA received numerous requests from States for technical assistance in identifying performance-based measures applicable to their highway safety data and traffic records systems. In response, NHTSA incorporated into its Traffic Records Highway Safety Advisory (the relevant portion of which is set forth in Appendix 3 to this guidance), a chapter detailing performance-based measures applicable to each of a State’s information systems, including its crash, vehicle, driver, citation/adjudication, and injury surveillance systems.

States have incorporated the performance measures identified in NHTSA’s Traffic Records Highway Safety Advisory into their Strategic Plans under section 411, and also have relied on those measures in establishing, updating and analyzing the performance of their highway safety data and traffic records systems. Therefore, under the Section 408 Program states should continue to incorporate into their Strategic Plans performance-based measures identified in Appendix 3, both as baselines or benchmarks for and as gauges of their progress towards achieving the goals and objectives identified in their Strategic Plans. Among other baseline measures identified in Appendix 3, States should specify in their Strategic Plans which MMUCC and NEMSIS data elements they currently use.

### **Model Data Elements Requirement**

SAFETEA–LU provides that the Secretary shall, in consultation with the States and appropriate elements of the law enforcement community, determine the model data elements that are useful for observation and analysis of State and national trends in occurrences, rates, outcomes, and circumstances of motor vehicle traffic accidents, including the impact on traffic safety of the use of electronic devices while driving. As explained in more detail below, two sets of model data elements have been developed through collaborative efforts among NHTSA, the States, and other Federal and State stakeholders: the Model Minimum Uniform Crash Criteria (“MMUCC”) and the National Emergency Medical Services Information System (NEMSIS). 2 Therefore, in order to satisfy the model data elements requirement, a State must certify that it has adopted and uses the MMUCC and NEMSIS data elements, 3 or that the 408 grant funds it receives will be used toward adopting and using the maximum number of MMUCC and NEMSIS data elements as soon as practicable.

The MMUCC resulted from requests for technical assistance received by NHTSA from States interested in improving and standardizing their crash data systems. In response, NHTSA and the Federal Highway Administration worked with the Governors

Highway Safety Association (“GHSA”), 4 as well as numerous other Federal, State and academic stakeholders, to develop a voluntary minimum set of crash data elements that are accurate, reliable and credible within states, among states, and at the national level. Known as the MMUCC, these model data elements were incorporated into the assessment requirement of the section 411 program, so States already should be applying them to their crash data systems. One of the MMUCC elements, Data Element P-16 covering driver distraction, specifically addresses driver distraction by electronic communications devices, including cell phones, pagers, navigation devices, palm pilots and other such devices, as mandated by SAFETEA-LU.

NEMSIS was developed in 2001 by the National Association of State EMS Officials (“NASEMSO”), 5 with the assistance of NHTSA and the Department of Health and Human Services, in response to a need for greater uniformity and consistency in Emergency Medical Services data. NEMSIS is a voluntary set of data elements related to patient care and emergency response that has received widespread endorsement by the States for application to their EMS data systems. 6

### **Successive Year Grants**

SAFETEA-LU provides that a State may qualify for a successive year grant by:

- (a) Certifying that an assessment or audit of its highway safety and data and traffic records system has been conducted or updated within the preceding 5 years (an “assessment” or “audit”),
- (b) Certifying that its TRCC continues to operate and supports the Strategic Plan,
- (c) Specifying how section 408 grant funds and any other funds of the State are to be used to address the needs and goals identified in the Strategic Plan,
- (d) Demonstrating measurable progress toward achieving the goals and objectives identified in its Strategic Plan (“measurable progress”), and
- (e) Submitting a current report on the State’s progress in implementing its Strategic Plan (a “Current Report”).

In addition, the State must certify that it has adopted and uses the Model Data Elements, or that section 408 grant funds it receives will be used toward adopting and using the maximum number of such Model Data Elements as soon as practicable.

### **Assessment or Audit Requirement**

In order to qualify for a successive year grant, SAFETEA-LU requires a State to certify that an assessment or audit of its highway safety data and traffic records system has been conducted or updated within the preceding 5 years. The section 411 program contained a similar assessment requirement. In arranging for assessments of their highway safety data and traffic records systems since 2000, States have relied on the assessment requirement detailed in the section 411 regulation.

Consequently, consistent with State practice under section 411, an assessment or audit used by a State to meet the section 408 Program’s assessment or audit requirement should be:

- (a) An in-depth, formal review of a State’s highway safety data and traffic records system that addresses the criteria in NHTSA’s Traffic Records Highway Safety Program Advisory,
- (b) That generates an impartial report on the status of the highway safety data and traffic records system in the State, and
- (c) That is conducted by an organization or group that is knowledgeable about highway safety data and traffic records systems, but independent from the organizations involved in the administration, collection and use of the highway safety data and traffic records systems in the State.

### **Measurable Progress Requirement**

SAFETEA-LU requires that a State demonstrate measurable progress towards achieving the goals and objectives identified in its Strategic Plan. As discussed above, under the section 411 program, States incorporated into their Strategic Plans the performance-based measures detailed in Appendix 3. Consistent with State practice under section 411 and to avoid the imposition of new burdens, in demonstrating measurable progress in a Current Report, States should reference performance-based measures identified in Appendix 3, both as baselines or benchmarks for and as gauges of their progress in implementing their Strategic Plans.

### **Current Report Requirement**

SAFETEA-LU requires that a State submit a Current Report on its progress in implementing its Strategic Plan. The section 411 program contained a similar report requirement in order to qualify for a successive year grant. In accordance with SAFETEA-LU, a Current Report should:

- (a) Use performance-based measures, including baseline or benchmark measures, to demonstrate measurable progress toward achieving the goals and objectives identified in a State’s Strategic Plan and
- (b) Specify how the State will use new or additional section 408 grant funds and other State funds to address the needs and goals identified in its Strategic Plan.

A Current Report also should discuss a State's planned expenditures and measurable progress in terms of specific projects and systems, document any changes in its Strategic Plan, and address recommendations contained in the State's most recent traffic records assessment or audit. 7 In lieu of submitting a Current Report in support of a successive year section 408 grant application, a State may submit its most recent Annual Report (discussed below in the section entitled Reporting Requirements). However, in order to satisfy section 408's Current Report requirement, an Annual Report must demonstrate Measurable Progress using performance-based measures and adequately identify the State's expenditures in support of its Strategic Plan, as required by SAFETEA-LU. A State that submits an outdated or incomplete Annual Report in lieu of a Current Report runs the risk of failing to qualify for a successive year grant.

### **Eligibility**

The 50 states, the District of Columbia, Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and Indian tribes through the Bureau of Indian Affairs are eligible to apply for grants under the Section 408 Program.

### **Application Procedures**

To apply for a first fiscal year grant, a State must submit the certification required by Appendix 1, signed by the Governor's Representative for Highway Safety, to the appropriate NHTSA Administrator no later than June 15 of the fiscal year. To apply for a successive fiscal year grant, a State must submit the certification required by Appendix 2, signed by the Governor's Representative for Highway Safety, to the appropriate NHTSA Administrator no later than June 15 of the fiscal year.

### **Award Notification**

NHTSA will review the information referenced in each State's certification for compliance with section 408 and notify qualifying States in writing of grant awards.

### **Eligible Uses of Grant Funds**

As prescribed in SAFETEA-LU, States may use section 2006 grant funds for:

- o Improving the timeliness, accuracy, completeness, uniformity, integration and accessibility of State traffic safety data needed to identify national, State and local highway and traffic safety priorities; 8
- o Evaluating the effectiveness of efforts to improve State traffic safety data;
- o Linking State traffic safety data systems with other State data systems, including those containing medical, roadway and economic data; and
- o Improving the compatibility and interoperability of State data systems with national traffic safety data systems and data systems of other States to enhance the observation and analysis of national trends in crash occurrences, rules, outcomes, and circumstances.

### **Financial Accounting and Administration**

Within 30 days after notification of award, but in no event later than September 12, States must submit electronically to the agency a program cost summary (HS Form 217) obligating the funds to the Section 408 Program. Submission of the program cost summary is necessary to ensure proper accounting for federal funds and is a precondition to receiving grant funds. SAFETEA-LU requires that a State 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 2003 and FY 2004. The Federal share of programs funded under this section shall not exceed 80 percent, except that the Federal share may be increased for Indian tribes, as provided by 23 U.S.C. 402(d).

### **Reporting Requirements**

Each fiscal year until all section 408 grant funds are expended, States should carefully document how they intend to use the NHTSA-administered funds in the Highway Safety Plan they submit pursuant to 23 U.S.C. 402 (or in an amendment to that plan) and detail the program activities accomplished in the Annual Report they submit pursuant to 23 CFR 1200.33. In addition, an Annual Report needs to account for the status of all funds awarded under section 408 and include a list of projects implemented in the past fiscal year, brief descriptions of activities completed, and any problems encountered. As discussed above in the section entitled Current Report, a State submitting its Annual Report in satisfaction of section 408's Current Report Requirement should ensure that its Annual Report also contains adequate project and system-specific information to demonstrate Measurable Progress, using performance-based measures, and adequately identifies the State's expenditures in support of its Strategic Plan.

### **Appendix 1: State Traffic Safety Information System Improvement Grant (23 U.S.C. 408)**

#### **First Year Certification**

**State (or Commonwealth):**

**Fiscal Year:**

I hereby certify that, pursuant to Section 408, the State:

- Has established a highway safety data and traffic records coordinating committee (“TRCC”);
- Has developed a multiyear highway safety data and traffic records system strategic plan (“Strategic Plan”);
- Has adopted and is using the MMUCC and NEMSIS data elements, or that 408 grant funds it receives will be used toward adopting and using the maximum number of MMUCC and NEMSIS data elements as soon as practicable; and
- Will make available or submit to NHTSA its Strategic Plan and documentation of the TRCC’s membership, organization and authority; and

that, if awarded Section 408 grant funds, the State will:

- Use the funds only to evaluate, improve and link its highway safety data and traffic records system, in accordance with the eligible uses detailed in 23 U.S.C. 408;
- Administer the funds in accordance with 49 CFR Part 18; and
- 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 2003 and FY 2004.

**Governor’s Highway Safety Representative:**

**Date:**

***Appendix 2: State Traffic Safety Information  
System Improvement Grant (23 U.S.C. 408)***

***Successive Year Certification***

**State (or Commonwealth)**

**Fiscal Year:**

I hereby certify that, pursuant to Section 408, the State has:

- Had an Assessment or Audit of the State’s highway safety data and traffic records systems, conducted or updated within the preceding 5 years;
- A TRCC that continues to operate and supports the Strategic Plan; and
- Adopted and is using the MMUCC and NEMSIS data elements, or that 408 grant funds it receives will be used toward adopting and using the maximum number of MMUCC and NEMSIS data elements as soon as practicable; and

that the State 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 5 years; and
- To the extent that the TRCC charter or membership has changed since the State’s previous 408 application, an updated charter or membership list; and

that, if awarded Section 408 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. 408;
- Administer 408 grant funds in accordance with 49 C.F.R. Part 18; and
- 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 2003 and FY 2004.

**Governor’s Highway Safety Representative:**

**Date:**

***Appendix 3: Performance-Based Measures***

Following are the standardized, quantitative measurements of data quality used to gauge both a State’s baseline or benchmark for and its progress towards achieving the goals and objectives identified in its Strategic Plan:

- Timeliness
- Consistency
- Completeness
- Accuracy
- Accessibility
- Data integration with other information

The definition of each performance-based measure and its relative significance may vary for each of a State's information systems, including its crash, vehicle, driver, enforcement/adjudication, and injury surveillance systems.

### **Crash Information Quality**

- **Timeliness**—The information should be available within a time frame to be currently meaningful for effective analysis of the State's crash experience, preferably within 90 days of a crash.
- **Consistency**—The information should be consistent with nationally accepted and published guidelines and standards, for example:
  - Model Minimum Uniform Crash Criteria (MMUCC).
  - Manual on Classification of Motor Vehicle Traffic Accidents, 6th Edition, ANSI D16.1–1996.
  - Data Element Dictionary for Traffic Records Systems, ANSI D20.1, 1993.
  - EMS Data Dictionary (Uniform Pre-Hospital Emergency Medical Services Data Conference). (Note: Currently the National EMS Information System (NEMSIS) Dataset and Data Dictionary, Version 2.2 or later.)
  - The information should be consistent among reporting jurisdictions; i.e., the same reporting threshold should be used by all jurisdictions and the same set of core data elements should be reported by all jurisdictions.
  - Should it become necessary to change or modify a data element or to change the values of data elements, this should be clearly documented. Frequently, data element values are expanded to provide greater detail than previously (e.g., trucks involved in crashes were previously coded as light or heavy; the new values are changed to “under 10,000 pounds, 10,001–20,000 pounds, greater than 20,000 pounds).
- **Completeness**—The information should be complete in terms of:
  - All reportable crashes throughout the State are available for analysis.
  - All variables on the individual crash records are completed as appropriate.
- **Accuracy**—The State should employ quality control methods to ensure accurate and reliable information to describe individual crashes (e.g., validity and consistency checks in the data capture and data entry processes, feedback to jurisdictions submitting inaccurate reports) and the State crash experience in the aggregate (e.g., edit checks to determine if specific data variables or categories are possibly under- or over-reported such as putting all unknown crash times into a specific category rather than using imputation methods).
- **Accessibility**—The information should be readily and easily accessible to the principal users of these databases containing the crash information for both direct (automated) access and periodic outputs (standard reports) from the system.
- **Data Integration**—Crash information should be capable of linkage with other information sources through the use of common identifiers where possible and permitted by law. Where common file identifiers or linking variables are not available, some consideration should be given to file linkage using probabilistic linkage methods.

### **Roadway Information Quality**

- **Timeliness**—The information should be updated as required to produce valid analysis. This implies that changes on the roadway (e.g., construction, sign improvements) should be available for analysis as soon as the project is completed.
- **Consistency**—The same data elements should be collected over time and for various classes of roadways. Should it become necessary to change or modify a data element or to change the values of data elements, this should be clearly documented.
- **Completeness**—The information should be complete in terms of the miles of roadway, the trafficway characteristics, the highway structures, traffic volumes, traffic control devices, speeds, signs, etc.
- **Accuracy**—The State should employ methods for collecting and maintaining roadway data that produces accurate data and should make use of current technologies designed for these purposes.
- **Accessibility**—The information should be readily and easily accessible to the principal users of these databases containing the roadway information for both direct (automated) access and periodic outputs (standard reports) from the files.
- **Data Integration**—In order to develop viable traffic safety policies and programs, the roadway information must be linked to other information files through common identifiers such as location reference point. Integration should also be supported between State and local systems.

### **Vehicle Information Quality**

- **Timeliness**—The information should be updated at least annually.
- **Consistency**—The same data elements should be collected over time and they should be consistent with the data elements contained in the other components of the traffic records system. Should it become necessary to change or modify a data element or to change the values of data elements, this should be clearly documented.
- **Completeness**—The information should be complete in terms of vehicle ownership, registration, type, VIN, etc. Information on vehicle miles traveled (VMT) by type or class of vehicle should be available. For commercial vehicles, completeness also involves collection and availability of standard data elements (such as the NGA elements, a set of data developed and recommended by the National Governors' Association for collection of data from crashes involving commercial vehicles).

- Accuracy—The State should employ methods for collecting and maintaining vehicle data that produces accurate data and should make use of current technologies designed for these purposes. This includes the use of bar-coded vehicle registration forms that allow scanning of vehicle registration information directly onto appropriate forms (citation, crash, other forms).
- Accessibility—The information should be readily and easily accessible to the principal users of these databases containing the vehicle information for both direct (automated) access and periodic outputs (standard reports) from the system, consistent with State confidentiality requirements.
- Data Integration—Vehicle information should be capable of linkage with other information sources and use common identifiers (*e.g.*, VIN, Crash Reports Number, etc.) where possible and permitted by law.

#### **Driver Information Quality**

- Timeliness—Routine license issuance information should be updated at least weekly. Adverse actions (license suspension, traffic conviction) should be posted daily.
- Consistency—Information maintained on the State’s Driver File should be compatible for exchange with other driver-related systems such as the National Driver Register (NDR), the Commercial Driver License Information System (CDLIS), and other applications for interstate exchange of driver records, especially those facilitated via the American Association of Motor Vehicle Administrators Telecommunications Network (AAMVANet).
- Completeness—The information should be complete in terms of data elements (*e.g.*, unique personal identifiers and descriptive data such as name, date of birth, gender) and complete in terms of all prior driving history, especially adverse actions received from other States either while licensed elsewhere or while driving in other States.
- Accuracy—The State should employ methods for collecting and maintaining driver information that makes use of current technologies (*e.g.*, magnetic-stripe, bar-codes, smart-cards).
- Accessibility—The information should be readily and easily accessible to the principal users of these databases, including driver licensing personnel, law enforcement officers, the courts, and for general use in highway safety analysis. The information should be available electronically for individual record access, and technology should be available to support automated downloading of summary data sets for analytical purposes, provided that appropriate safeguards are in place to protect individual confidentiality within the guidelines established by the State.
- Data Integration—Driver information should be capable of linkage with other information sources and use common identifiers (*e.g.*, driver license number, citation number, crash report number) where possible and permitted by law. Updates of driver information from courts should be accomplished through linkages, preferably electronic, to the driver history data.

#### **Citation/Adjudication Information Quality**

- Timeliness—Information from an issued citation should be recorded on a statewide citation file as soon as the citation is filed in the court of jurisdiction. Information regarding the disposition of a citation should be entered on the citation file, as well as on the driver history record, immediately after adjudication by the courts.
- Consistency—All jurisdictions should use a uniform traffic citation form, and the information should be uniformly reported throughout all enforcement jurisdictions.
- Completeness—All citations issued should be recorded in a statewide citation file with all variables on the form completed including the violation type; the issuing enforcement agency; violation location; a cross reference to a crash report, if applicable; and BAC, where applicable, etc. All dispositions from all courts should be forwarded for entry on the driver history record.
- Accuracy—The State should employ quality control methods to ensure accurate and reliable information is reported on the citation form and updated on the citation and driver history files. The use of mag-stripe, bar-code, smart-card scanner technology to directly input driver information onto the citation form is encouraged.
- Accessibility—The information should be readily and easily accessible to the principal users, particularly:
  - Driver control personnel—to take timely license sanction actions when appropriate.
  - Law enforcement personnel—for operational analysis and allocation of resources.
  - Agencies with administrative oversight responsibilities related to the courts—for monitoring court activity regarding the disposition of traffic cases.
  - Court officials—to assess traffic case adjudication workload and activity.
- Data Integration—Citation information should be capable of linkage with other information sources, such as the crash and driver history data, and use common identifiers (*e.g.*, crash report number, driver license number) where possible and permitted by law.

#### **Injury Surveillance Systems Information Quality**

- Timeliness—Ideally, the medical data on an injury should be available within an Injury Surveillance System (ISS) in the same time frame as data about the crash is available elsewhere within the traffic records system. However, the medical record on the individual may be incomplete initially because local protocols dictate that the medical record is only placed in the ISS when the patient leaves the health care system (*e.g.*, discharged). Every effort should be made to integrate the ISS record with the crash data as soon as the medical records become available.

- Consistency—The reporting of EMS run data, hospital ED and admission data, trauma registry data, and long term health care data should be consistent with statewide formats which should follow national standards such as ICD–9–CM, as published by the Centers for Disease Control (CDC), the use of Injury Severity Scale standards, etc.
- Completeness—Although a trauma-registry-based ISS can provide a valuable source of ISS information, it cannot provide a complete picture of the injuries within a community or State. Where possible, the ISS should represent a consensus of all injuries that occur within the community. The ISS should, where feasible, be maintained at a State level but, at a minimum, should be maintained at the local level.
- Accuracy—The State should provide local health care providers with training and support in the accurate coding of injuries and should foster the proper use of the resulting ISS data through education of data users in proper interpretation of these data.
- Accessibility—Recognizing the issues of patient and institutional confidentiality, there should be mechanisms in place to balance the demands for data accessibility from end users and the requirements of State and local privacy rules. At a minimum, the traffic safety and injury control communities should be able to access these data in summarized reports designed to address specific needs, including injury type and severity cost data. Ideally, the system should support the creation of “sanitized” extracts of the ISS data for use in research, problem identification, and program evaluation efforts.
- Data Integration—The true power of the ISS is recognized when the ISS data are integrated with other traffic records system data such as traffic crash, roadway, and crime data, as well as internally between EMS runs, hospital/ED admission data and discharge data. The ISS should be implemented in a fashion that supports this integration in as efficient a manner as possible. Often GIS systems provide the ideal platform for linkage and interpretation of the ISS and traditional traffic records system data. The use of common identifiers whenever possible within the traditional traffic records system and ISS data systems will facilitate this integration effort.

Issued on: January 30, 2006.

**Jacqueline Glassman,**

*Deputy Administrator.*

[FR Doc. E6–1426 Filed 2–1–06; 8:45 am]

**BILLING CODE 4910–59–P**

1 Consistent with concern expressed by the Government Accountability Office about the need for States to link traffic records assessment, strategic plans and progress reports, in addressing existing deficiencies, States should identify and discuss the recommendations contained in their most recent traffic records assessment or audit.

2 The MMUCC data elements may be accessed at: <http://www.mmucc.us/guideline.aspx> and the NEMSIS data elements may be accessed at: <http://www.nemsis.org/PDFs/NEMSIS%20Version%202.2%20Data%20Dictionary%20Final.pdf>

3 Other data elements may be relevant to a State’s Highway Safety Data and Traffic Records systems such as data elements required by the Federal Motor Carrier Safety Administration and Federal Highway Administration. Funding sources other than section 408 are available to support the adoption of those data elements.

4 At that time, GHSA was known as the National Association of Governors’ Highway Safety Representatives or NAGHSR.

5 At that time, NASEMSO was known as the National Association of State EMS Directors or NASEMSD. NASEMSO is an organization made up of representatives of State EMS Officials.

6 After finalizing NEMSIS, NASEMESO prepared a memorandum of understanding to be signed by each State when it was prepared to commit to work toward becoming NEMSIS compliant. Currently, all but two states have signed the memorandum.

7 See footnote 1 above

8 This would include the use of section 408 grant funds to adopt and use the MMUCC and NEMSIS data elements.

-----  
Data Quality/State Assistance – Federal Motor Carrier Safety Administration (FMCSA)

<http://ai.fmcsa.dot.gov/DataQuality/StateAssistance.asp>

### Financial Assistance is Available to Help States Improve Their Safety Data Reporting

FMCSA recognizes that each State faces unique challenges when collecting and reporting safety data. So the agency has a program to help States identify their challenges and implement improvement strategies. With this program you could be implementing a new project - in only a few months - that helps you improve your processes and meet FMCSA reporting requirements.

- Federal funding is available up to 100%
- No State match is required
- Existing projects are also eligible for assistance

*What type of help is available*

*FMCSA assistance goes beyond funding approved proposals. Expert staff are also available to help you to identify your data quality challenges and design workable solutions.*

*What projects are eligible*

The Safety Data Improvement Program (SaDIP) was created to improve the timeliness, accuracy, and completeness of State-reported truck and bus safety data. Proposals will be considered that have the greatest impact on improving large truck and bus safety data reporting and quality, such as those related to crash reporting, roadside inspections, and compliance reviews.

*What are some examples*

*There is no "one size fits all" improvement strategy, such as hiring a dedicated data analyst or funding new and improved information systems. Some options include:*

- Hire staff to manage data quality improvement programs
- Revise an outdated crash report form
- Hire staff to code and enter crash data
- Train law enforcement officers in collecting crash data
- Develop software to transfer data from the State repository to SAFETYNET
- Purchase equipment to support SaDIP activities
- Purchase software for field data collection and data transfer

---

Data Quality/State Assistance – Federal Highway Administration (FHWA)

<http://www.fhwa.dot.gov>

National Highway System (NHS)  
 Congestion Mitigation and Air Quality (CMAQ)  
 Surface Transportation Program (STP)  
 Metropolitan Planning Funds  
 State Planning and Research Funds  
 Focused Approach Opportunity States  
 Accelerating Safety Activities Program (ASAP)

Funds may be used for safety data systems as they relate to the planning, development, and operation of a system for managing highway safety.

## ***Appendix H: Standards and Guidelines (D16, D20, MMUCC, NEMSIS)***

Information is provided here regarding two standards and a guideline (D16, D20, and MMUCC), which deal directly with motor vehicle crash reporting, and are often confused or intermixed in their application. Questions arise as to whether these different guidelines/standards are needed, and do they have different purposes that they serve. The answer, as illustrated below, is that they do serve different purposes. Information for NEMSIS follows the MMUCC Guideline.

### **ANSI D16.1 - Manual on Classification of Motor Vehicle Traffic Accidents**

Secretariat: National Safety Council (NSC)

The D16.1 is a standard for classifying motor vehicle traffic accidents. The primary purpose of the D16.1 Manual is to promote uniformity and comparability of motor vehicle traffic accident data, being developed and used in states and local jurisdictions. The D16.1 Manual provides a common language for reporters, classifiers, analysts, and users of traffic accident data. The following questions from the D16.1 address all of the distinguishing characteristics of motor vehicle traffic accidents. If the answer to each of these questions is “yes”, the incident is a motor vehicle accident.

1. Did the incident include one or more occurrences of injury or damage?
2. Was there at least one occurrence of injury or damage, which was not a direct result of a cataclysm?
3. Did the incident involve one or more motor vehicles?
4. Of the motor vehicles involved, was at least one in transport?
5. Was the incident an unstabilized situation?
6. Did the unstabilized situation originate on a trafficway or did injury or damage occur on a trafficway?

### **ANSI D20.1 - Data Element Dictionary for Traffic Records Systems**

Secretariat: American Association of Motor Vehicle Administrators (AAMVA)

The D20.1 is a standard (Data Dictionary) for promoting uniformity in the transmission of records between jurisdictions in the following areas related to highway safety, driver licensing and vehicle registration.

- Motor vehicle registration and titling
- Driver licensing
- Highway inventory and traffic
- Accidents and emergency medical services
- Motor vehicle inspection
- Commercial drivers licensing
- Traffic law enforcement
- Motor vehicle insurance

### **MMUCC - Model Minimum Uniform Crash Criteria**

Sponsors: NHTSA, FHWA, FMCSA, GHSA

MMUCC represents a public/private collaborative effort of the highway and traffic safety communities

MMUCC is a guideline, which represents a model minimum set of uniform variables or data elements for describing a motor vehicle traffic crash. MMUCC includes 77 data elements that need to be collected by law enforcement at the crash scene and an additional 34 data elements that can be derived from those that are collected at the scene or obtained by linking to other data files, e.g., driver history, injury, and roadway inventory data. MMUCC was originally developed in response to requests by states interested in improving and standardizing their state crash data, leading to more complete reporting with uniform data element attributes.

### **NEMSIS – National EMS Information System**

NHTSA – EMS Division

NEMSIS represents a Uniform Pre-Hospital Emergency Medical Services data set

The NHTSA EMS Uniform Pre-Hospital Dataset, Version 2.2 is composed of three separate components. A Demographic Dataset provides a standardized set of definitions describing an EMS System. An EMS Dataset provides a standardized set of definitions describing an EMS event. The third component is an XML format and definition created to promote the movement of the data elements between data systems.

Any implementation of the NHTSA Version 2.2 dataset must include the use of the Demographic dataset, EMS dataset, and XML standard. The data set provides over 400 definitions which can be implemented by an EMS system. The National EMS Information System (NEMSIS) serves to provide technical assistance for the implementation of the dataset. National data elements are defined which should be collected by a National EMS Database but additional data elements should be considered for use at the state and local levels depending on each state or local EMS systems need. The goal of NEMSIS is to establish an EMS data system at the local, state, and national levels.

## ***Appendix I: Differences in Definitions for Reportable Commercial Vehicle Crashes***

As continued training proceeds in regards to the reporting and data capture of motor vehicle crashes involving commercial motor vehicles, it is important that trainers understand and appreciate these subtle differences which have existed (and may still exist) in outstanding crash report forms, brochures and guides.

These first two examples represent 1994 and 2001 versions/revisions of the PR-1 Crash Report.

### PR-1 (Rev. 01/01) – Reportable Accident for Commercial Motor Vehicles

Report only that data relative to a qualifying vehicle involved in a qualifying accident. A qualifying vehicle is:

- Any motor vehicle displaying a hazardous material placard, or
- A motor vehicle having a gross vehicle weight rating (GVWR), or a gross combination weight rating (GCWR) of more than 10,000 pounds used on public highways to carry property, or
- Any motor vehicle designed to transport more than eight persons including the driver

A qualifying accident is one which results in:

- A fatality to any person or
- Injury to any person that requires immediate medical treatment away from the accident site, or
- Disablement of any vehicle as a result of damage sustained in the accident

---

### PR-1 (Rev. 12/94) – Reportable Accident for Commercial Motor Vehicles

Assume these are no longer in use, but reported here for informational purposes.

Definition of a qualifying vehicle differed from the 01/01 revision of the PR-1. Differences included:

- Any motor vehicle equipped for carrying property and having at least two axles and six tires, or
- Any motor vehicle designed to transport more than fifteen persons including the driver

This definition of a qualifying vehicle did not include the designation – designed to transport 9-15 people. Also, as referenced on page 25 of the PR-1 Investigator's Guide, the GVWR appeared to be the GCWR.

DMV/CVSD Brochure – Reportable Accident for Commercial Motor Vehicles

For the Commercial Vehicle Safety Division (CVSD), the definition of a qualifying vehicle differed from the 01/01 revision of the PR-1. Differences included:

- A truck having at least two axles and six tires in contact with the road surface, or
- A bus with seating for sixteen or more persons including the driver

Definition of a qualifying accident differed from the 01/01 revision of the PR-1. Differences included:

- One or more of the vehicles has to be towed from the scene as a result of the accident.

---

MMUCC/FMCSA (Federal Motor Carrier Safety Administration) – Reportable Accident for the Commercial Vehicle Analysis Reporting System (CVARS)

Definition of a qualifying vehicle for CVARS differs from the 01/01 revision of the PR-1. Differences include:

- A motor vehicle (bus/large van) providing seats for 9-15 passengers including the driver and used primarily for the transportation of persons, or
- A motor vehicle (bus) providing seats for 16 or more persons including the driver and used primarily for the transportation of persons

Other differences exist between the data that is captured for CVARS versus the 01/01 revision of the PR-1, including:

- Commercial Motor Vehicle Configuration (V28/CVARS); differences in single unit truck descriptions, heavy vehicle (unclassifiable), and bus/large van (seats for >8, and seats for >15)
- Commercial Motor Vehicle Cargo Body Type (V29/CVARS); differences in hopper (grain, chips, gravel), pole, not applicable (<10,001 lbs, and not displaying HM placard)
- Sequence of Events (V20/CVARS); CVARS list more extensive for Non-Collision, Fixed Object, and Stuck by falling \_\_\_\_, Set in Motion by Motor Vehicle, Work Zone.

## *Appendix J: Electronic Data Capture Standard XML – Sample Crash File*

The following represents a sample crash illustrating the XML format being used in a neighboring state for a motor vehicle crash. It is presented here for example. When the TRCC moves ahead with Program Area #1 for Crash Data Content, the recommended standard will be to adopt the Global Justice XML Data Model, which is also a component of the CIDRIS Project, already underway. Elements of the sample crash report information presented here include:

- Two motor vehicles involved
- Intersection location
- Vehicle one with driver and passenger information
- Vehicle two with driver and injured passenger information
- Information pertaining to two non-motorists
- Information pertaining to two witnesses

As the following formatted text (XML) illustrates, information pertaining to the various components of this sample crash, i.e., vehicle, occupant, non-motorist, etc., are fairly easy to spot.

<CRASH>

```
<CRASH_REPORT DTD_VERSION_NUMBER="1" CRASH_REPORT_TYPE="POLICE"
CRASH_REPORT_ID="NEW1234" CRASH_DATE="01/15/2001" CRASH_TIME="05:20 PM"
CITY_TOWN_CODE="042" NUMBER_VEHICLES="2" TOTAL_INJURIES="1"
AMBIENT_LIGHT_CODE="4" WEATHER_CONDITION_CODE_PRIMARY="1"
WEATHER_CONDITION_CODE_SECONDARY="2"
TRAFFIC_CONTROL_DEVICE_TYPE_CODE="3"
TRAFFIC_CONTROL_DEVICE_FUNCTIONING_CODE="2"
ROAD_SURFACE_CONDITION_CODE="1" ROADWAY_INTERSECTION_TYPE_CODE="3"
TRAFFICWAY_DESCRIPTION_CODE="2" SCHOOL_BUS_RELATED_CODE="1"
WORK_ZONE_RELATED_CODE="1" MANNER_COLLISION_CODE="2"
FIRST_HARMFUL_EVENT_LOCATION_CODE="1" FIRST_HARMFUL_EVENT_CODE="1"
CRASH_NARRATIVE="Didn't see them slowing down."
DIAGRAM_NAME="cdssample1.jpg"/>
```

```
<LOCATION SPEED_LIMIT="35">
<AT_INTERSECTION INTERSECTION_ROADWAY_1_NAME="Washington St."
INTERSECTION_ROADWAY_2_NAME="Adams Street"/>
</LOCATION>
```

```
<VEHICLE VEHICLE_UNIT_NUMBER="1"
VEHICLE_REGISTRATION_PLATE_NUMBER="032488562"
VEHICLE_REGISTRATION_STATE_CODE="MA" VEHICLE_CONFIGURATION_CODE="1"
EMERGENCY_USE_CODE="1" HIT_RUN_CODE="1"
VEHICLE_OWNER_FIRST_NAME="Bruce" VEHICLE_OWNER_LAST_NAME="Wayne"
```

OWNER\_ADDRESS\_STREET\_1="45A North Street" OWNER\_ADDRESS\_CITY="Gotham"  
OWNER\_ADDRESS\_STATE\_CODE="NY" OWNER\_ADDRESS\_ZIP\_CODE="12345-6789"  
VEHICLE\_MODEL\_YEAR="1994" VEHICLE\_MAKE="Ford"  
TOTAL\_OCCUPANTS\_IN\_VEHICLE="2" VEHICLE\_MANUEVER\_ACTION\_CODE="1"  
SEQUENCE\_EVENT\_1="1" MOST\_HARMFUL\_EVENT="1"  
UNDERRIDE\_OVERRIDE\_CODE="1" MOST\_DAMAGE\_AREA\_CODE\_1="4"  
MOST\_DAMAGE\_AREA\_CODE\_2="5" MOST\_DAMAGE\_AREA\_CODE\_3="6"  
VEHICLE\_TOWED\_FROM\_SCENE="1" VEHICLE\_INSURANCE\_COMPANY="State Farm"  
TRAVEL\_DIRECTION\_CODE="E">

<OCCUPANT OCCUPANT\_SEATING\_POSITION\_CODE="1"  
OCCUPANT\_PROTECTION\_SYSTEM\_USE\_CODE="0"  
OCCUPANT\_AIR\_BAG\_DEPLOYED\_CODE="1"  
OCCUPANT\_AIR\_BAG\_SWITCH\_STATUS\_CODE="99"  
OCCUPANT\_EJECTION\_CODE="0" OCCUPANT\_TRAPPED\_CODE="0">  
<PERSON DATE\_OF\_BIRTH="2/15/1950" AGE="51" SEX="M"  
PERSON\_FIRST\_NAME="Bruce" PERSON\_LAST\_NAME="Wayne"  
PERSON\_ADDRESS\_STREET\_1="45A North Street" PERSON\_ADDRESS\_CITY="Gotham"  
PERSON\_ADDRESS\_STATE\_CODE="NY" PERSON\_ADDRESS\_ZIP\_CODE="12345-6789"  
INJURY\_STATUS\_CODE="4">  
</PERSON>  
<DRIVER DRIVER\_LICENSE\_STATE\_PROVINCE\_CODE="MA"  
DRIVER\_LICENSE\_NUMBER="MA4379245" DRIVER\_LICENSE\_CLASS\_CODE\_1="D"  
DRIVER\_CONTRIBUTING\_CODE\_1="15" LICENSE\_RESTRICTION="1" CITED\_CODE="1">  
</DRIVER>  
</OCCUPANT>

<OCCUPANT OCCUPANT\_SEATING\_POSITION\_CODE="2"  
OCCUPANT\_PROTECTION\_SYSTEM\_USE\_CODE="0"  
OCCUPANT\_AIR\_BAG\_DEPLOYED\_CODE="1"  
OCCUPANT\_AIR\_BAG\_SWITCH\_STATUS\_CODE="99"  
OCCUPANT\_EJECTION\_CODE="0" OCCUPANT\_TRAPPED\_CODE="0">  
<PERSON DATE\_OF\_BIRTH="07/08/1967" AGE="33" SEX="M"  
PERSON\_FIRST\_NAME="Dick" PERSON\_LAST\_NAME="Gracen"  
PERSON\_ADDRESS\_STREET\_1="45A North Street" PERSON\_ADDRESS\_CITY="Gotham"  
PERSON\_ADDRESS\_STATE\_CODE="NY" PERSON\_ADDRESS\_ZIP\_CODE="12345-6789"  
INJURY\_STATUS\_CODE="4">  
</PERSON>  
</OCCUPANT>  
</VEHICLE>

<VEHICLE VEHICLE\_UNIT\_NUMBER="2"  
VEHICLE\_REGISTRATION\_PLATE\_NUMBER="006268602"  
VEHICLE\_REGISTRATION\_STATE\_CODE="MA" VEHICLE\_CONFIGURATION\_CODE="2"  
EMERGENCY\_USE\_CODE="1" HIT\_RUN\_CODE="1"  
VEHICLE\_OWNER\_FIRST\_NAME="Albar" VEHICLE\_OWNER\_MIDDLE\_NAME="J"

VEHICLE\_OWNER\_LAST\_NAME="Johnson" OWNER\_ADDRESS\_STREET\_1="52 Hartford Street" OWNER\_ADDRESS\_CITY="Bridgewater" OWNER\_ADDRESS\_STATE\_CODE="MA" OWNER\_ADDRESS\_ZIP\_CODE="02324" VEHICLE\_MODEL\_YEAR="1998" VEHICLE\_MAKE="Dodg" TOTAL\_OCCUPANTS\_IN\_VEHICLE="2" VEHICLE\_MANUEVER\_ACTION\_CODE="1" SEQUENCE\_EVENT\_1="1" MOST\_HARMFUL\_EVENT="1" UNDERRIDE\_OVERRIDE\_CODE="1" MOST\_DAMAGE\_AREA\_CODE\_1="1" MOST\_DAMAGE\_AREA\_CODE\_2="2" MOST\_DAMAGE\_AREA\_CODE\_3="8" VEHICLE\_TOWED\_FROM\_SCENE="1" VEHICLE\_INSURANCE\_COMPANY="State Farm" TRAVEL\_DIRECTION\_CODE="W">

<OCCUPANT OCCUPANT\_SEATING\_POSITION\_CODE="1" OCCUPANT\_PROTECTION\_SYSTEM\_USE\_CODE="1" OCCUPANT\_AIR\_BAG\_DEPLOYED\_CODE="5" OCCUPANT\_AIR\_BAG\_SWITCH\_STATUS\_CODE="99" OCCUPANT\_EJECTION\_CODE="0" OCCUPANT\_TRAPPED\_CODE="0">  
<PERSON DATE\_OF\_BIRTH="03/16/1962" AGE="38" SEX="F" PERSON\_FIRST\_NAME="Lisa" PERSON\_MIDDLE\_NAME="M" PERSON\_LAST\_NAME="Johnson" PERSON\_ADDRESS\_STREET\_1="52 Hartford Street" PERSON\_ADDRESS\_CITY="Bridgewater" PERSON\_ADDRESS\_STATE\_CODE="MA" PERSON\_ADDRESS\_ZIP\_CODE="02324" INJURY\_STATUS\_CODE="5">  
</PERSON>  
<DRIVER DRIVER\_LICENSE\_STATE\_PROVINCE\_CODE="MA" DRIVER\_LICENSE\_NUMBER="MA843" DRIVER\_LICENSE\_CLASS\_CODE\_1="D" DRIVER\_CONTRIBUTING\_CODE\_1="23" LICENSE\_RESTRICTION="1">  
</DRIVER>  
</OCCUPANT>

<OCCUPANT OCCUPANT\_SEATING\_POSITION\_CODE="6" OCCUPANT\_PROTECTION\_SYSTEM\_USE\_CODE="1" OCCUPANT\_AIR\_BAG\_DEPLOYED\_CODE="5" OCCUPANT\_AIR\_BAG\_SWITCH\_STATUS\_CODE="99" OCCUPANT\_EJECTION\_CODE="0" OCCUPANT\_TRAPPED\_CODE="0">

<PERSON DATE\_OF\_BIRTH="01/06/1990" AGE="10" SEX="F" PERSON\_FIRST\_NAME="Megan" PERSON\_MIDDLE\_NAME="L" PERSON\_LAST\_NAME="Johnson" PERSON\_ADDRESS\_STREET\_1="52 Hartford Street" PERSON\_ADDRESS\_CITY="Bridgewater" PERSON\_ADDRESS\_STATE\_CODE="MA" PERSON\_ADDRESS\_ZIP\_CODE="02324" INJURY\_STATUS\_CODE="2">  
<INJURED\_PERSON TRANSPORTED\_BY\_CODE="2" MEDICAL\_FACILITY="Brigham"/>  
</PERSON>  
</OCCUPANT>  
</VEHICLE>

<NON\_MOTORIST NON\_MOTORIST\_TYPE\_CODE="1" NON\_MOTORIST\_ACTION\_CODE="2" NON\_MOTORIST\_CONDITION\_CODE="5" NON\_MOTORIST\_LOCATION\_CODE="4" SAFETY\_EQUIPMENT\_CODE\_1="6">

<PERSON DATE\_OF\_BIRTH="03/14/1948" SEX="M" PERSON\_FIRST\_NAME="Clark"  
PERSON\_LAST\_NAME="Kent" PERSON\_ADDRESS\_STREET\_1="14 South Street"  
PERSON\_ADDRESS\_CITY="Metropolis" PERSON\_ADDRESS\_STATE\_CODE="NY"  
PERSON\_ADDRESS\_ZIP\_CODE="12053" INJURY\_STATUS\_CODE="5">  
</PERSON>  
</NON\_MOTORIST>

<NON\_MOTORIST NON\_MOTORIST\_TYPE\_CODE="2"  
NON\_MOTORIST\_ACTION\_CODE="1" NON\_MOTORIST\_CONDITION\_CODE="4"  
NON\_MOTORIST\_LOCATION\_CODE="2" SAFETY\_EQUIPMENT\_CODE\_1="7">  
<PERSON DATE\_OF\_BIRTH="11/04/1968" SEX="M" PERSON\_FIRST\_NAME="Vincent"  
PERSON\_MIDDLE\_NAME="V" PERSON\_LAST\_NAME="Victor"  
PERSON\_ADDRESS\_STREET\_1="55 Summer Ave" PERSON\_ADDRESS\_CITY="Medway"  
PERSON\_ADDRESS\_STATE\_CODE="MA" PERSON\_ADDRESS\_ZIP\_CODE="02053"  
INJURY\_STATUS\_CODE="5">  
</PERSON>  
</NON\_MOTORIST>

<WITNESS WITNESS\_PHONE\_NUMBER="617-555-4347"  
WITNESS\_STATEMENT\_CODE="1">  
<PERSON PERSON\_FIRST\_NAME="Peter" PERSON\_LAST\_NAME="Parker"  
PERSON\_ADDRESS\_STREET\_1="Washington St"  
PERSON\_ADDRESS\_CITY="Bridgewater" PERSON\_ADDRESS\_STATE\_CODE="MA"  
PERSON\_ADDRESS\_ZIP\_CODE="02324" INJURY\_STATUS\_CODE="5">  
</PERSON>  
</WITNESS>

<WITNESS WITNESS\_PHONE\_NUMBER="900-555-1234"  
WITNESS\_STATEMENT\_CODE="1">  
<PERSON PERSON\_FIRST\_NAME="John" PERSON\_MIDDLE\_NAME="J"  
PERSON\_LAST\_NAME="Jake" PERSON\_ADDRESS\_STREET\_1="144 State Street"  
PERSON\_ADDRESS\_CITY="Bridgewater" PERSON\_ADDRESS\_STATE\_CODE="MA"  
PERSON\_ADDRESS\_ZIP\_CODE="02324" INJURY\_STATUS\_CODE="5">  
</PERSON>  
</WITNESS>  
</CRASH>

## ***Appendix K: Electronic Data Capture Standard – Guidance for Vendors***

This example is based on guidance being provided to vendors in a neighboring state that is attempting to adopt electronic crash reporting statewide.

### ***Overview***

In January 2006 the State rolled out a new system for collecting motor vehicle crash data. A major component of this new system is a new paper form for police reports. To help the Records Management Vendors put their role in context, the main project goals for the new system are listed below:

### **Project Goals**

1. Capture accurate crash location data
  - Improve collection and storage of crash data and diagrams
  - Promote accurate reporting of data with a redesigned crash form and process
  - Validate crash location captured or entered against a roadway inventory
2. Replace outdated technologies
  - On-line accessibility to multiple agencies
  - Automate and streamline file / document storage and retrieval
3. Reduce / eliminate paper processing through electronic data entry / transfers
  - Increase productivity
  - Increase accuracy
  - Reduce duplicate data entry
  - Improve document management and work flow

In conjunction with the rollout of the new Motor Vehicle Crash Police Report form, the State also implemented a process for submitting these forms electronically. This allows for the automated submission of these reports and significantly reduces the effort and inevitable errors that are associated with making these submissions manually. This benefits both the State and the individual law enforcement agencies because manual processes are currently involved on both sides of the submission. It also should reduce the number of forms that are sent back for reprocessing due to errors or insufficient information. This document covers the details necessary for the Records Management Vendors to implement this electronic submission process.

### **The Police Form**

In 1998, the National Highway Traffic Safety Administration (NHTSA), the Governor's Highway Safety Association (GHSA), and others published a set of criteria called the Model Minimum Uniform Crash Criteria (MMUCC) Guideline and recommended that MMUCC serve as the model data elements for crash reporting. The primary benefit of this is uniform reporting across the states. When designing the new form for the State, we based the data to collect on the MMUCC guidelines.

The police form is the result of many months of intense discussions on what data should be included and what should not using the MMUCC Guideline as the basis. Participants in these discussions included representatives from State and Local law enforcement, DMV, DOT, DPH, and others. The form was piloted by State Police barracks and local police agencies producing crash reports and detailed feedback on the use of the form. The feedback was incorporated and the result is the new Motor Vehicle Crash Police Report form for the State. On the following page is the new form as well as the overlays that the Police will use when filling out the form. Form instructions are also listed as part of the overlays.

### **The Process**

The following scenario illustrates the steps typically taken under the current process. The crash data is collected and entered by each law enforcement agency into a system at their site. After the data is entered, it is printed out and mailed to the DMV. Once it is received by the DMV it again goes through a manual data entry process. If errors are found then it is sent back to the agency for correction. As it might be noted, this process involves significant manual intervention including multiple data entry steps which can lead to errors being introduced at several points during the process. To help reduce some of this manual process and hopefully eliminate some of the potential for errors, a method for electronic submission has been introduced. The electronic submission process allows the data that has been entered by the police to be transmitted directly to the State in an electronic format bypassing the need to print out and mail the forms as well as the step of reentering the information once it reaches the State. The format that was chosen is called XML, which is an industry standard format for transmitting data electronically. XML is explained in the next section.

The following scenario maps out the new process as it is envisioned by the State. The data would still be collected and entered by the law enforcement agency into their local system. After the data entry process is complete and verified, they would click a button and the electronic submission of the crash report would be handled automatically for them. Behind the scenes, a file containing the crash data and a separate file containing the crash diagram image would be produced. These files could either be immediately transmitted to the State, or they could be saved and transmitted as part of a larger batch at a scheduled time. As can be seen, this would eliminate the redundant data entry. It would also eliminate the manual effort needed to print out each crash report and mail it to the State. Because of the savings that will result from this process and the potential reduction in errors, the ability to submit crash report electronically should be a great benefit for law enforcement agencies as well as for the State.

### **XML Overview - What It Is**

XML stands for Extensible Markup Language. Initially designed solely as a means to transfer data across the web, the designers were so successful that it is quickly becoming the corporate standard for all data transfer. One XML author sums it up well - "As with most technology revolutions, the concept behind XML is deceptively simple - to provide a standardization for specifying the meaning of information exchanged over networks". XML was created because of the limitations of HTML. HTML allows only a predefined set of tag names and attributes. For example, to make something bold in HTML you would use the <b> tag like this:  
<b>This is bold</b>

While excellent for displaying information on a web page, it does not provide the flexibility necessary to effectively represent business data. Using XML, user defined tag names are permitted. These tags are referred to as elements in XML. In addition to the name, an element can contain attributes, which provide more information about the element. Again, where HTML has only a limited number of predefined attributes for each element, XML allows users to define their own attributes which dramatically increases its usefulness for describing business data. An example of a partial representation of witness information might look like the following:

```
<WITNESS
WITNESS_PHONE_NUMBER="(617) 555-1212"
WITNESS_STATEMENT_CODE="1">
<PERSON
DATE_OF_BIRTH="01/01/1950"
SEX="M"
PERSON_FIRST_NAME="John"
PERSON_MIDDLE_NAME="Robert"
PERSON_LAST_NAME="Doe">
</PERSON>
</WITNESS>
```

It's easy to see how a format such as this has uses beyond just the Internet. XML data is nothing more than formatted text. However instead of using delimiters or positional fields, XML uses tags. A structure file is used to define the format of the data including nesting and cardinality for each element, which greatly simplifies the interpretation of the data on the receiving side. This structure file is called a Document Type Definition (DTD). The DTD is used to specify which elements and attributes are allowed, the order that they should be found, and whether the elements and attributes are optional, required, or can occur multiple times. One common use of a DTD is to help ensure that the XML created by one system can be understood by another system.

### **The Use of XML At The State**

At the State, the format for the XML has been structured so that the major divisions of the report are represented as elements, and the specific pieces of data are represented as attributes of those elements. This has been done so that the main divisions are instantly distinguishable and so that the relationships between them can be easily discerned. The individual pieces of data are then kept in context of the element to which they are most closely related. When an XML file is received by the State, it will be parsed to make sure that it meets the basic requirements necessary for it to be considered valid XML. It will also be validated against the DTD. For this validation to succeed, it is required that all of the elements and attributes found in the XML exist in the DTD and that they are in the same order. The nesting of elements within other elements and the cardinality of the elements must also be correct. Only after the XML has been parsed and validated will it be stored in the database at the State.

### **Creating The Data**

The XML is one of two pieces of data that should be produced for the electronic submission of crash reports to the State; the other is the diagram of the crash. The XML represents the detailed information that has been collected about the crash. The crash diagram is an electronic image file

containing a graphical depiction of the crash. These two files should be sent to the State at the same time in two separate files. The specifics of each file are detailed in this section.

## **Electronic Submission Procedures**

### **How and Where to Send Data**

Once the crash data has been collected and the XML and JPEG files have been created, they should be sent to the State via FTP. Each department will be given a unique login ID and password, as well as their own directory in which to put the files that are transmitted. This will allow the State to easily identify the originator in cases where files are received that cannot be processed for some reason. The FTP site to which files should be transmitted is located at [crashdata.com](http://crashdata.com). It is necessary that the XML be transmitted in ASCII format and that the JPEG files be transmitted in binary format. This is to ensure that unwanted conversions are not made to the files by the FTP process that might result in corruption of the files.

### **Testing**

When a vendor has completed the programming necessary for submitting electronic reports, it should contact the State to begin integrated testing with the State systems. This is the final step necessary before actual electronic crash reports can be submitted to the State.

### **Implementation**

There is no intention to make this procedure any more complicated than is absolutely necessary. The State will work with the vendors as well as the individual departments throughout the entire process to make sure that the implementation of crash report electronic submission is as successful as possible.

## ***Appendix L: Technology/Costs for Upgrades to Law Enforcement Vehicles***

Cost(s) to equip a law enforcement vehicle for electronic data capture.

Estimate \$7,000 per vehicle – depends in large part on the decision to use a non-ruggedized laptop (approx \$1,000 cost ea.) vs. a ruggedized laptop (approx \$3,000-\$5,000 cost ea.)

At \$7,000, the cost for 1,000 vehicles: approx \$7 million.

Important to determine whether the majority of law enforcement vehicles in the State are already equipped with mobile data computers.

Other details for the car –

- \* Mounting equipment
- \* Installation/retrofitting
- \* Portable printers
- \* Modems/GPS enabled
- \* Radio communications
- \* Cellular airtime
- \* Scanner/barcode readers
- \* FTP software for moving data
- \* Cellular airtime

These cost do not include back-end (Data Warehouse) costs

A Crash Data Warehouse has been proposed that will provide a database that contains all relevant data from the following agencies – State and local law enforcement, Department of Transportation, Judicial Branch, Department of Motor Vehicles, Department of Public Health, and others.

### **Priority – Electronic Roadside Data Capture**

A high priority for the National Highway Traffic Safety Administration (NHTSA)/U.S. DOT, as well as Connecticut's TRCC, is for electronic roadside data capture of motor vehicle traffic crash, traffic citation, and other highway traffic safety incident reporting. The following specifications, presented for illustration purposes, could apply to any number of software applications for in-vehicle roadside data capture. In Connecticut, like many other states, multiple software applications have emerged at both the state and local levels for meeting electronic roadside data capture needs.

## In-Vehicle Specifications

### **Recommended:**

Color Touchscreen  
Pentium III 700 Mhz  
512 MB RAM  
20 GB Hard Drive  
Windows 2000

### Ports:

3 Serial Ports  
1 Comm Port  
2 USB Ports  
Parallel for printer

### Keyboard:

Liquid-resistant,  
back-lit keyboard  
w/built in touchpad  
or pointing device

### **Minimum:**

Any 800x600 screen  
Pentium II 500 Mhz  
256 MB RAM  
Drive with 2 GB free  
Windows 98

### Ports:

2 USB ports  
  
Any port for printer

### Keyboard:

Any keyboard

Printer: Any Microsoft Windows compatible printer

Scanner: Any 2D bar code reader capable of reading PDF417 format

## Work Station Specifications

### **Recommended:**

Windows 2000 SP3  
Pentium III 700 Mhz  
256 MB RAM  
20 GB Hard Drive

### **Minimum:**

98SE, NT 4.0  
Pentium II 400 Mhz  
128 MB RAM  
Drive with 2 GB free

Monitor: Supports 800x600 resolution

**Appendix M: Related Technology Links from IACP Web Site**

**International Association of Chiefs of Police (IACP) Technology Article Links** – The following represent examples from the more than 275 links to applicable technology articles, referenced on the IACP technology Web site <http://www.iacptechnology.org> under the headings – Mobile Computing, Communications, Mapping/GIS, Transportation, and Information Sharing. The IACP Technology Clearinghouse was created a number of years ago to provide a one-stop reference for law enforcement agencies planning to invest in one or more of these types of technologies.

<p>The links below are to law enforcement technology related articles, which have appeared in various publications. If you find a link on this or any other page of the IACP Technology Clearinghouse that does not work please contact <a href="#">Tom Robey</a>.</p> <p style="text-align: center;"><a href="#"><u>Mobile Computing</u></a></p> <p style="text-align: center;"><a href="#"><u>Communications</u></a></p> <p style="text-align: center;"><a href="#"><u>Mapping/GIS</u></a></p> <p style="text-align: center;"><a href="#"><u>Transportation</u></a></p> <p style="text-align: center;"><a href="#"><u>Information Sharing</u></a></p> <p style="text-align: center;"><b>Mobile Computing</b></p> <p><a href="#">Acquisition of New Technology - A Best Practices Guide</a>, <i>Big Ideas for smaller police departments</i>  (Adobe Acrobat Document)</p> <p><a href="#">Benicia Police Implement New High-Tech System</a>, by Bay City News Service, January 18, 2004</p> <p><a href="#">Benson Police Officers Get Computers Courtesy of Grant</a>, <i>The Daily Record</i>, by Jon Soles, March 24, 2005 <span style="background-color: yellow;">NEW</span></p> <p><a href="#">Berrien patrol cars getting upgrades</a>, <i>South Bend Tribune</i>, by Jeff Romig, December 19, 2004</p> <p><a href="#">Bike cops get info on Palm - Bellevue police test 30 new Palm Pilots</a>, <i>Eastside Journal</i>, December 3, 2000</p> <p><a href="#">City Police Going Electronic On Incident Reports</a>, the Chattanooga, June 30, 2004</p> <p><a href="#">Computer citations coming to Mississippi</a>, <i>SunHerald.com</i>, from Associated Press, November 21, 2003</p>	<p style="text-align: center;"><b>Mapping/GIS</b></p> <p><a href="#">Arming Beat Cops With GIS Weapons</a> <i>Civic.COM</i>, April 1998</p> <p><a href="#">The Chicago Police Department's Information Collection for Automated Mapping (ICAM) Program</a></p> <p><a href="#">Crime maps improve patrols, analyses in Camden</a>, <i>American City &amp; County</i>, October 1, 2002</p> <p><a href="#">Electronic Turf Warfare</a> <i>Civic.COM</i> Salinas Police Department's geographic information system (GIS)</p> <p><a href="#">Emerging Technologies In Law Enforcement: GIS and GPS</a>, Bruce Blair, Technology Division, Montgomery County Police Department</p> <p><a href="#">GIS Fights Crime in Chicago</a>, eWEEK, by Anne Cheen, May 31, 2004</p> <p><a href="#">How Law Enforcement Agencies Can Make Geographic Information Technologies Work for Them</a>, <i>The Police Chief Magazine</i>, September 2000  (Adobe Acrobat Document)</p> <p><a href="#">Law Enforcement Use of Geographic Information Systems</a> <i>Salinas Police Department Salinas, California</i>, 1998</p> <p><a href="#">Mobile Mapping</a>, <i>Government Technology -Mobile Government</i>, by Tod Newcombe, November 2002</p> <p><a href="#">New York Police Use New Mapping Software To Solve Crimes</a>, <i>The Times Union</i>, by Tim Obrien, June 9, 2004</p> <p><a href="#">Police strategy: New day new ideas</a>, <i>Delta Democrat Times</i>, by Amy Redwine, December 23, 2003</p> <p><a href="#">Saint Louis University Maps Schools to Help Police</a>, <i>Government Technology</i>, by Shane Peterson, October 2002</p> <p><a href="#">San Francisco Introduces New Crime Mapping Technology Called CrimeMAPs</a>, <i>GeoCommunity</i>, November 24, 2003</p>
---	--

[Jersey City Cops Add Video To Shoe Leather](#), *InformationWeek*,  
by Larry Greenemeier, March 7, 2005 **NEW**

[Kenton gets \\$1M for computers](#), *The Kentucky Post*, by Michael Collins, September 29, 2001

[LAPD eyes PDAs to monitor racial profiling](#), CNN.com

[Los Angeles Police Department will implement ProfilerPD\(TM\)](#),  
Wireless Developer Network, Oct. 13, 2003

[Local law enforcement gets federal grants for new technology](#),  
*The Telegraph*, by Steve Whitworth, September 27, 2001

[New computers aid Newport PD](#), *Newport Independent*,  
December 31, 2003

[Notebooks and Wi-Fi keep Colorado cops on the beat](#),  
SearchMobileComputing.com, by Jim Rendon, March 2004

[Patrol cars suit up with computers](#), *Great Falls Tribune*, by Kim Skornogoski, September 27, 2002

[Patrolling with Wi-Fi](#), [Wi-FiPlanet.com](#), by Paul Swinder,  
November 10, 2003

[Police asking for upgrade to mobile data system](#), Northwest  
Arkansas Times, by Kate Ward, December 5, 2004

[Police Armed with PDAs - New Wireless App Fights Crime](#), By  
Jay Wrolstad [www.WirelessNewsFactor.com](#), Part of the  
NewsFactor Network, June 12, 2001

[Police cut to the chase with wireless technology](#),  
DesMoinesRegister.com, by Frank Vinluan, January 17,  
2005 **NEW**

[Police, fire log on to new safety tool](#), *The Detroit News*, by Mike  
Wovk, March 8, 2002

[Police Get a Hand from New Palm PCs](#), *Washington Times*,  
August 29, 2000; John Drake

[Police cars get high tech boost](#), *Bradenton Herald*, by Aimee  
Juarez, June 30, 2004

[Police laptops to hit the road](#), *The Daily Telegram*, by Dennis  
Pelham, June 2, 2004

[Police look at computers for squad cars](#), *Albert Lea Tribune*, by  
Benjamin Dipman, January 16, 2004

[Police Officer Brings Computer Age to Squad Car](#), Associated  
Press, June 2, 2003

[Police save time by going high-tech](#), NEWS 10 NOW, by

## Transportation

[Black boxes in GM cars increasingly help police after accidents](#),  
*Knight Ridder Newspapers*, by Ralph Vigoda, July 12, 2002

[Blurred Lines](#), *LOCAL.US*, *Government Technology* publication,  
July 2000, Tod Newcombe

[CellNet Helps Nab Meter Thieves](#), *Wireless Week*, May 24, 1999

[Eyes on traffic](#), *Roanoke Times*, by Mike Gagloff, June 20, 2004

[Governor's crash elevates awareness of new technology](#), *The  
Providence Journal*, by David Sharp, June 20, 2004

[Kentucky's CRASH: An Enterprise Solution for Traffic Collision  
Records](#), *The Police Chief*, by Sgt. John R. Carrico, July 2002

 (Adobe Acrobat Document)

[Las Vegas Public-Safety Officials to Test Wireless Broadband  
Network](#), *Government Technology*, August 2004

[New technology aids police in accident investigations](#), by Paula  
Reed Ward, *Savannah Morning News*, August 6, 2001

[Police grants help update department](#), *Daily Gate City*, By Cindy  
Iutzi, November 7, 2003

[Police Go Online With Traffic Accident Information](#), *The Times  
Record*, by John Lyon, January 21, 2004

[State Police get \\$1 million for high-tech equipment](#), *The  
Pawtucket Times*, by Tim Grace, January 9, 2001

[Is Photo Enforcement for You- \(A White Paper for Public  
Officials\)](#)  (Adobe Acrobat Document) Public Technology,  
Incorporated Urban Consortium Transportation Task Force

## Information Sharing

[\\$20M Data-sharing Project to Aid Coast Law Enforcement](#), *The  
Clarion-Ledger*, October 21, 2002

[A Shared Law Enforcement Information Network](#), *The Police  
Chief Magazine*, by J. William Schmitt and Donald Dolfi,  
September 2004

[Alabama agencies embrace new system](#), *Federal Computer  
Weekly*, by Brian Robinson, October 21, 2003

[Analysis added to state network](#), *FCW.com*, by Diane Frank,  
March 16, 2004

[ARRESTING CRIME With Integrated Justice Technology](#),

Veronica Castello, June 17, 2004

[Purdue police improve enforcement with new technology](#), *The Exponent*, February 8, 2005 **NEW**

[Rural police may get tech boost](#), *FCW.com*, by Dinya Sarker, October 19, 2001

[S.F. police read palms for evidence/New computers scan beyond fingerprints](#), *San Francisco Chronicle*, by Peter Hartlaub, September 4, 2001

[Senate Expected to Enact E911 Law](#), *Wireless NewsFactor.com*, by Glenn Bischoff, January 22, 2004

[Silicon Valley Police Packing PDAs](#), *SiliconValley.Internet.com*, Michael Singer, December 7, 2000

[Small, Simple Computer for Cops on the go](#), *CNN.com*, July 20, 2000

[Video system allows police to record, track incidents](#), *Tyler Morning Telegraph*, by Jaque Hilburn, July 3, 2004

[Village police adopt 'e-ticketing' for traffic citations](#), *Pinecrest Tribune Online*, by John Hohensee, *The Police Chief*, Village of Pinecrest, January 8, 2004

[Voorhees police battle crime with laptops](#), *Courier Post Online*, by Bill Duhart, November 5, 2003

[Westchester County Police Do High-Tech Checks](#), *Government Technology*, October 3, 2002

[Wireless Crime-Fighting](#) - *CNN.com*, August 12, 1999

## Communications

[1 Adam 12, 1 Adam 12, Go to the Wireless...](#), by Shane Peterson, *Wireless.NewsFactor.com*,

[746-806 MHz Creates A Regulatory Melee](#), *Wireless Week*, January 10, 2000

[800 MHz still not in full gear](#), *The Sentinel*, by Linda Franz, January 5, 2004

[An end to emergency radio woes](#), *New York Newsday*, by Graham Rayman, May 21, 2004

[Antenna System Guide](#), NIJ Guide 202-00, April 2001

[APCO Recommends Best Practices for Telematics Call Processing](#), *Government Technology*, August 24, 2004

*Washington Technology*, by James Schultz, December 11, 2000

[Automating Arrest Warrants Between Courts and Law Enforcement](#), *The Police Chief Magazine*, by Mark Perbix, October 2001  (Adobe Acrobat Document)

[Best Practice Recommendation For The Capture Of Mugshots](#) *National Institute of Standards & Technology, Information Technology Laboratory*, September 23, 1997

[City, county law enforcement to celebrate cyber connection](#), *The Lubbock Avalanche-Journal*, by Elizabeth Langton, Dec. 8, 2000

[City police singled out for Homeland Security equipment](#), *Port Clinton News Herald*, by Dan Dearth, March 8, 2005 **NEW**

[Coast Law Enforcement The Envy of the State](#), *WLOX.com*, June 30, 2004

[Computer Network Will Link Courts, Jails, Police, Prison](#), *GOVERNMENT TECHNOLOGY*, Katharine Webster, Aug 25, 2003

[Costly police data system doesn't meet expectations](#), *Stratford Star*, by Jack P. Terceno, December 23, 2003

[CriMNet: Minnesota Catches Up with Criminals](#), *The Police Chief*, by Rich Stanek, May 2004

[Data sharing system to grow](#), *Sun Herald*, by Robin Fitzgerald, July 1, 2004

[Data sharing tightens net for the law](#), *Government Computer News*, by Trudy Walsh, July 2001

[Department Uses New Database to Analyze CAD Records](#), *The Police Chief Magazine*, September 2000.  (Adobe Acrobat Document)

[DHS Launches Critical Infrastructure Pilot Program](#), *Government Technology*, June 25, 2004

[Digital Camera Considerations for Crime Scene Investigations](#) - *Police Central Inc.* 1997

[Digital Images](#), *Law & Order Magazine*, February 2000

[DOJ readies regional exchange](#), *Federal Computer Week*, by David Perera, March 7, 2005 **NEW**

[FBI Cooperation levels seen rising](#), *The Washington Times*, by Jerry Seper, December 24, 2003

[FEMA Releases NIMS Compliance Assessment Tool For Federal, State, Local and Tribal Agencies](#), *Government Technology*,

## *Appendix N: New York State Best Practices Award*

New York State won the 2005 Best Practices Award during the 31<sup>st</sup> Annual National Traffic Records Forum in Buffalo, New York.

### **Highway Safety Management in New York – Safety Data Background**

There is a need to improve New York's current traffic ticket and accident reporting system that relies on costly, inefficient manual paper processes. Timely and accurate data is essential to effective strategic planning. Too many revoked and suspended drivers continue to drive undetected. Prolonged traffic stops place officers in harms way and sometimes lead to injury or death.

To remedy this, the New York State Police is heading a coalition of several agencies to bring the Traffic and Criminal Software system "TraCS" to New York. TraCS is an automated data collection system that includes electronic ticket and accident forms, DWI forms, arrest and incident forms, commercial vehicle inspection forms, and the use of GPS devices and GIS maps, among other tools.

A data movement infrastructure has been developed that will allow police agencies to send their ticket and accident data electronically to a central repository. The central repository will send the data electronically to DMV, DOT and the Office of Court Administration (for forwarding to the respective local courts). For further information – <http://www.tracs.troopers.state.ny.us>

New York State is currently leading a **collaborative 25-State effort** to address similar needs and to develop/employ standard technology solutions in seeking improvements to State traffic records/safety data systems.

## ***Appendix O: Data Analysis Reporting Environment (CARE)***

CARE Research and Development Web Site – <http://care.cs.ua.edu>

Developed with funding support by the National Highway Traffic Safety Administration (NHTSA), this suite of software tools is providing many states with both desktop as well as Web based user-friendly tools to perform data analysis, problem identification, evaluation and reporting. It is included here as an example of a public domain software solution.

The Critical Analysis Reporting Environment (CARE) is a software system designed to provide individual decision-makers direct access to accident/crash information. CARE users require no formal training in computer hardware or software. Computer expertise is not necessary because the various options of CARE are incorporated into windows that provide a thorough guide to all desired output. By following the directions provided, users obtain information on the screen or at the printer.

### **CARE General Description**

- CARE exists in two platforms: desktop and Web. The CARE desktop is designed to operate on PC-compatible microcomputers under all recent versions of Windows (e.g., 95, 98, NT, 2000, ME).
- CARE is designed for problem identification and countermeasure development purposes.
- Most CARE results come to the screen in a few seconds, providing the feedback necessary to stimulate the user to make subsequent queries based on preliminary results. Once the subsequent queries are refined enough to be of use in printed form, they can be saved to a file and edited with the aid of a word processor to produce the final report.
- CARE capabilities are extensible. CARE can directly satisfy well over 95 percent of the safety information requests that exist within safety databases to which it is applied. However, it is recognized that there are some special studies that require more sophisticated statistical techniques. CARE can be used as a front end to any other statistical processor by its ability to create files of any user-defined subset of the database.
- CARE source data may emanate from two sources: (1) they may be downloaded from the central database, or (2) they may be entered at the local level, ultimately providing an uploading capability. In all applications currently being made the data are downloaded and a CARE BASE processor interprets this data for CARE processing.
- CARE provides several major advances that facilitate problem identification. By producing information in a matter of seconds directly to the decision-maker, queries can be modified immediately, giving users the ability to hone in on exactly what they want. On the other hand, when they do not know what is in the database, CARE gets them started immediately by its information mining capability (IMPACT). This generates information by the comparison of subsets of data (e.g., weather-related vs. non-weather-related cases), and graphically demonstrates possible potential areas for countermeasure implementation.

## CARE Capabilities

This section presents the various CARE capabilities in more detail. Generally these capabilities exist for both the desktop and the web version of CARE (exceptions will be noted). They are presented in the general order in which users of CARE request them.

- **Database/relation selection.** This is the ability to select the database or the relation within a database from which information is desired.
- **Filter Selection.** Definition: A **filter** is a specification that enables analyses to be directed at only a specific subset of the data (e.g., those occurring in bad weather conditions). When the user selects a filter, it will be called the current filter, and it will be stay in effect ("current") for the remainder of the CARE session or until changed by the user. Certain filters are predefined in that many of the subsets of interest are known. For example, in traffic accidents, filters are generally predefined for all crashes caused by or related to: alcohol, bicycle, driver, EMS (injury and fatal), fatal, motorcycle, pedestrian, roadway defects, railroad, school bus, truck, vehicle defects, age, and political subdivisions (counties and cities).
- **Filter Combination.** Combinations of predefined filters can be created and made current on demand with standard Boolean AND and OR operations (e.g., the user might specify that only alcohol-related, motorcycle-fatality crashes will be analyzed). The option exists to obtain more sophisticated combinations with two filter lists within an intuitive user interface.
- **User-defined filters.** In addition to creating filters from those already created, the user can create additional filters from "scratch." This is accomplished by using an intuitive interface that walks the user through the selection of any combination of variables and values from the database. Thus, a filter defining any subset may be defined. Examples could include certain age groups, BAC levels, or driver visibility. Once a user-created subset is defined, it has the same status as any other predefined subset. Thus, it may be combined with any of the other filters to produce more specifically defined subsets. Examples might include pedestrian accidents for ages 7-9, fatal accidents with driver BAC levels between 0.050 percent and 0.099 percent, and motorcycle accidents involving poor visibility. Note: In the capabilities that follow, the term *subset* will be used to indicate that subset of the records defined by the current filter. Also, these capabilities are arranged from those obtained by the more simple queries to those that are much more sophisticated.
- **Frequency distributions.** Obtain labeled frequency distributions for any or all variables for any subset. Variables (such as time of day, day of the week, weather, driver age, etc.) are listed on a selection menu. Tabular frequency distributions are accompanied by a menu for obtaining bar charts to visualize any of them.
- **Cross-tabulations.** Obtain fully labeled cross-tabulations of sets of any two variables for any subset of the data.
- **Area Criticality Technique (ACT).** This list is prioritized worst first by rate as calculated using some demographic (such as city population). Typically, this is composed of a list of cities (stratified within population groupings) that are prioritized according to crashes per city population, where crashes can be for any subset specified.

- **Information Mining Performance Attainment Control Technique (IMPACT).** This module performs true automated information discovery by systematically finding all over-representations between any two subsets. Graphical and tabular outputs are arranged in order of worst first order for each variable. This is one of the most powerful tools within CARE in that it finds and prioritizes over-representations without user intervention or even any knowledge of the underlying database. As an example, a comparisons of weather-related accidents with non-weather-related accidents will tell the most over-represented who, what, where, when, how and why, so that countermeasures can begin to be considered in the most critical areas.
- **High-density locations.** This module finds high accident locations (intersections, non-mile posted segments, or mile posted segments) for any subset. The interactive nature of this task enables any number of accidents specified to define a "high-accident location." Users can dynamically redefine mile posted locations to be sure that all relevant accidents are included for a location. Further processing can continue when the appropriate locations are generated to produce any of the outputs in Capabilities 5-9, above and/or case numbers for any location (or set of locations) found. (Location capability is available only on the desktop version.)

CARE is fully compatible with existing data-oriented software packages such as Access and Excel.

While some of the capabilities of CARE are quite sophisticated, they can all be obtained by merely selecting options from menus and following the stepwise procedures. In addition, none of the procedures above require more than 30 seconds of processing time, and most are returned virtually instantaneously. As an example, a complete IMPACT run over all variables for a database of a half-million records of 200 attributes takes less than 30 seconds on the typical desktop computer.

Although most of the examples given in this overview are in terms of accident records, it is important to recognize that CARE is not restricted to this application. CARE can easily be adapted to new applications.

## ***Appendix P: Sources of Training Impacting Traffic Records/Crash Reporting***

[http://www.nhtsa-tsis.net/projects/pages/safetydata\\_training.htm](http://www.nhtsa-tsis.net/projects/pages/safetydata_training.htm)

The following represent different sources of Safety Data Training listed at the NHTSA Web site.

### **Professional Development and Training**

*Association of Transportation Safety Information Professionals (ATSIP)*

ATSIP is currently developing a professional training module in management, system design, standards, data collection, and data management analysis, interpretation, and use. Updates will be posted at the ATSIP website.

### **Highway Safety Information Systems (HSIS) Leadership Workshop**

*National Highway Traffic Safety Administration (NHTSA)*

A one-day workshop developed to provide highway safety leaders with information that will help them exert a leadership role in the development or improvement of a state's highway safety information systems.

### **“Safety Starts With Crash Data” Roll-Call Video**

*Federal Highway Administration (FHWA)*

“Safety Starts with Crash Data” is a video designed to encourage law enforcement personnel who collect data at crash scenes to thoroughly investigate these crashes and submit accurate, complete and timely crash reports. “Safety Starts with Crash Data” was produced as a cooperative effort between the International Association of Chiefs of Police (IACP), National Sheriffs' Association (NSA), Federal Highway Administration (FHWA), National Highway Traffic Safety Administration (NHTSA) and Federal Motor Carrier Safety Administration (FMCSA). Content that is presented by engineering, highway safety and law enforcement representatives includes:

- Countermeasures
- Completing reports
- Investigating MV crashes
- Commercial MV crashes
- Intersections
- Technology – laptops, GPS, mobile enforcement, etc.
- Less time spent in Court with good crash reporting
- Fraudulent claims
- Importance of reporting minor crashes
- Identifying traffic problems
- Trend information
- Safe community
- Officer protects the scene, captures data
- Central data bank; data accessible to any entity
- Data that is accurate, complete, thorough, timely
- Data collection and analysis
- Safety of the officer
- Community traffic safety team
- Corridor – high in crashes
- Officer doing a report in the field (9/10 still using pen and paper)
- Impact on their communities – citizens
- Endorsements

**“Taming the Numbers” Course**

*National Highway Traffic Safety Administration (NHTSA)*

Training course on quantitative use of safety data by program managers.

**Traffic Records Resource Brochure**

*National Highway Traffic Safety Administration (NHTSA)*

This is a new NHTSA brochure, which lists as many resources as possible, which are available to persons working with traffic records.

***The following organizations have crash reporting-related training materials or modules:***

**American Association of Motor Vehicle Administrators** - AAMVA

**The American Driver and Traffic Safety Education Association** - ADTSEA

**Federal Highway Administration** - FHWA

**Federal Motor Carrier Safety Administration** - FMCSA

**The International Association of Chiefs of Police** - IACP

**2004 NHTSA Traffic Safety Materials Catalogue** - NHTSA

## ***Appendix Q: Crash Data Collection for Commercial Motor Vehicles***

The following describes a one-day training course offered by the Federal Motor Carrier Safety Administration (FMCSA).

Attendance is recommended for State and local law enforcement officers, commercial motor vehicle inspection authorities, accident reconstructionists, accident investigation trainers, and State department of transportation accident records developers and users. Course is customized to a State's crash report and incorporates all of FMCSA's SAFETYNET and National Governors Association – recommended data elements for recording crashes involving large trucks and buses.

All of the five lessons demonstrate how the use of nationally-accepted terminology for crash data reporting can be beneficial in the preparation of the State's crash report and in supporting the State's reporting guidelines.

### **Lesson 1: Reportable Commercial Motor Vehicle Crashes**

This lesson provides a detailed review of the selection process and incorporates both new and existing terminology needed for data consistency. This lesson also applies terminology using exercises customized to the State's crash report.

### **Lesson 2: Configuration, Cargo Body and GVWR**

This lesson uses “real-world” photographs to illustrate both typical and unusual vehicle configurations and cargo body types. It includes a detailed examination of the recording and calculation of GVWR and GCWR and uses actual crash scenarios and diagrams to illustrate the proper data entry customized for a State's crash report and instruction manual.

### **Lesson 3: Motor Carrier Identification**

This lesson discusses the importance of obtaining the correct information to provide accurate records for FMCSA safety activities. It contains a review of a step-by-step approach for locating and recording the information using available documents and resources. Also included is an examination of common pitfalls in determining the correct information.

### **Lesson 4: Crash Events**

This lesson uses photographs to illustrate collisions with fixed objects, and clarifies how to determine the entire sequence of events along with the first harmful event and most severe injury or damage producing events. This lesson clarifies collision and non-collision crashes and incorporates a multi-vehicle crash exercise to provide hands-on application of relevant data fields from a State's crash report.

## Lesson 5: Recording Hazardous Materials

This lesson reviews the classes of hazardous materials, placard requirements, and quantity reporting procedures. It also uses sample case exercises tailored to a State's crash report to show proper recording of hazmat information.

## ***Appendix R: Model Minimum Crash Reporting (MMUCC) Guideline Training***

### **MMUCC Web-based Crash Report Training**

National Highway Traffic Safety Administration (NHTSA)

<http://www.mmucc.us>

The following represents a training tool/initiative being promoted by NHTSA.

Each element from the Model Minimum Uniform Crash Criteria (MMUCC) Guideline is covered in an online presentation. Interrelated or dependent elements are hyperlinked to allow easy navigation between the lessons. At any time in the presentation the user may return to the Home screen to enter a different module by clicking the MMUCC logo in the top-left corner of each screen. The main menu (table of contents) will always be accessible from each lesson by clicking the MMUCC logo in the top left-hand corner of the browser window.

The presentations open in the same window and can be viewed by using the lesson outline navigational links on the left. Within each element presentation, the attributes are linked to their respective locations to allow direct navigation to a desired attribute's details. After viewing each attribute's information the user may either use the browser's back button or use the link on the left-hand side of the page to return to the list of data elements.

The most technically involved elements of the crash criteria are explained using narrative, photographs, examples and illustrations. The elements grouped within each module focus on related topics and are not bound by the element groupings of Crash, Vehicle, and Person as found in the manual hard copy. All elements within each training topic are cross-linked to illustrate their logical relationships and interdependence. Data elements covered in each module can be reviewed by clicking on each elements title in the Menu bar.

---

### **MMUCC Guideline Workshop**

(Workshop designed for 1998 MMUCC Guideline. NHTSA is currently putting more emphasis in using the MMUCC Web site, to augment Crash Report training)

#### **Module I: Introduction**

A short description of the MMUCC Guideline. MMUCC benefits.

#### **Module II: Why MMUCC Around**

Why crash data are important. Collaborative development of the MMUCC Guideline. Why MMUCC should be adopted.

#### **Module III: The MMUCC Data Elements**

The structure of the MMUCC Guideline. Data elements, values, and rationale. Workgroups compare MMUCC data elements, values, and definitions to those currently used on their state crash data reports.

**Module IV: Applying MMUCC Data Elements to Safety Issues**

Identify and select MMUCC data elements that address important traffic safety issues.

**Module V: Identifying Obstacles and Strategies**

Identify and describe potential obstacles (challenges to migrating to MMUCC) to adopting MMUCC. Appropriate strategies for meeting migration challenges.

**Module VI: MMUCC Presentation Materials**

Materials provided and demonstrated for participants to use when they advocate for MMUCC in their area of responsibility (<http://www.mmucc.us>).

**Include discussion from MMUCC Training Web site**

**Module VII: Review and Summary**

Benefits of MMUCC. Obstacles and strategies for adoption statewide. Final questions.

## *Appendix S: ANSI D16.1 Accident Classification Training Course*

### **ANSI D16.1 Training Consists of (8) Lessons**

The following represents a one day training initiative being promoted by NHTSA. The ANSI D16.1 Classification Manual and training focuses on the proper methods and terminology for classifying motor vehicle traffic accident (crash). Lessons include:

- 1) Introduction ... Classification and the Process for Determining a Motor Vehicle Traffic Accident
- 2) Accident Classification by Injury or Damage
- 3) Accident Classification by Persons and Vehicles
- 4) Accident Classification by First Harmful Event
- 5) Accident Classification by Class of Trafficway
- 6) Accident Classification by Location
- 7) Private Ways, Parking Lots and Construction Zones
- 8) School Bus Accidents

Lessons demonstrate how the ANSI D-16 Manual can answer the commonly asked questions of law enforcement officers responsible for preparing the police accident report (PAR).

[http://www.nsc.org/public/mem/ansid16\\_1.pdf](http://www.nsc.org/public/mem/ansid16_1.pdf) (free copy/download of the D16.1 Manual)

## ***Appendix T: Impaired Driver Records Information Systems – (AL, IA, NE, WI)***

### **NHTSA's Model Impaired Driving Records Information System**

The following represents an abstract for the 2005 Traffic Records Forum session on Impaired Driving Records Information System updates for Alabama, Iowa, Nebraska, and Wisconsin. In 2004, Connecticut became the fifth State in the U.S. to be added to this NHTSA effort.

Moderator - J. De Carlo Ciccel, NHTSA Impaired Driving Division

#### **Speakers:**

Allen Parrish, Alabama's Model Impaired Driving Access System (MIDAS)

Michael Overton, Nebraska's Impaired Driver Tracking System (NIDTS)

Mary Jensen, Iowa's Impaired Driving Records Demonstration Project

Anna Biermeier, Wisconsin DOT

The session involved case studies from four States (AL, IA, NE and WI) demonstrating a Model Impaired Driving Records Information System. Presentations included the totality of a state's efforts to generate, transmit, store, update, link, manage, analyze, and report information on impaired driving offenders and citations.

#### **States are now able to:**

- Appropriately identify, charge, and sanction impaired driving offenders, based on their driving history,
- Manage cases from arrest through the completion/non-completion of court and administrative sanctions,
- Identify target populations and trends, evaluate countermeasures, and identify problematic components of the overall impaired driving control system,
- Provide stakeholders with adequate and timely information to fulfill their responsibilities, and
- Reduce administrative costs for system stakeholders and increase system efficiencies.

**Alabama** - has designed and is demonstrating a model impaired driving records information system. Alabama already has a very unique statewide Court Referral Officer (CRO) system to track DUI offenders, but the system is not automated statewide. Project goals are to fully automate the CRO system and allow integration with the citation and driver records systems that will enable all jurisdictions to identify; charge and sanction impaired driving offenders based on their driving history. In addition, the project proposes to generate a research component to determine the relationship between the sanctions.

**Nebraska** - has been involved in various efforts dealing with increasing access to existing databases as well as integrating or enhancing systems involving State and local agencies. Projects have included standard automation (for jails, prosecutors and law enforcement), AFIS, victim notification, eCitations, systems integration and NCJIS (the Nebraska Criminal Justice Information System - a secure, Internet based data portal providing indexed access to various state and local databases for authorized criminal justice users that provides cost effective access to criminal histories, jail bookings and similar data).

**Iowa** - Impaired Driving Records Demonstration Project includes:

- Use of Traffic and Criminal Software (TraCS) to collect and electronically transmit implied consent forms,
- Access of information for the roadside officer through Iowa Online Warrants and Articles (IOWA System),
- Movement and tracking of data during adjudication process using the Iowa Court Information System (ICIS), a computerized, unified system,
- Availability of information to judges through the Criminal Justice Information Network, and
- Data available for individuals or aggregated data for analysis available through the Justice Data Warehouse (JDW).

**Wisconsin** – Department of Transportation Revocation and Suspension Section, is involved in the license withdrawal system redesign and traffic citation processing. The Department of Transportation has developed methods to enable courts of all sizes to participate in the electronic transfer of court information to the State DOT, and the resulting timely availability of information to its partners.

## *Appendix U: Acronyms*

AAMVA	American Association of Motor Vehicle Administrators
AAA	American Automobile Association
AASHTO	American Association of State Highway Transportation Officials
ADT	Average Daily Traffic
ALS	Advanced Life Support
ANSI	American National Standards Institute
ASCII	American Standard Code for Information Interchange
ATSIP	Association of Transportation Safety Information Professionals
BAC	Blood Alcohol Concentration
BLS	Basic Life Support
BRFSS	Behavioral Risk Factor Surveillance System
BTS	Bureau of Transportation Statistics
CA	Customer Account
CAD	Computer Aided Dispatch
CADRE	Critical Automated Data Reporting Elements
CAPTAIN	Connecticut Area Police Total Access Information Network
CARE	Critical Analysis Reporting Environment
CAST	Reports - User Groups Involved in Crashes
CCMC	Connecticut Children's Medical Center
CD	Compact Disk
CDC	Centers for Disease Control and Prevention
CDL	Commercial Driver License
CDLIS	Commercial Driver License Information System
CDPD	Cellular Digital Packet Data
CHA	Connecticut Hospital Association
CHIME	Connecticut Hospital Information and Management Exchange
CIB	Centralized Infractions Bureau
CIDRIS	Connecticut Impaired Driving Records Information System
CJIS	Criminal Justice information System
CMV	Commercial Motor Vehicle
CODES	Crash Outcome Data Evaluation System
COLLECT	Connecticut On-Line Law Enforcement Communication Teleprocessing
COGCNV	Council of Governments of the Central Naugatuck Valley
ConnDOT	Connecticut Department of Transportation
CPCA	Connecticut Police Chief's Association
CRCOG	Capitol Region Council of Governments
CRMVS	Judicial Computer Systems
CSAO	Chief State's Attorney's Office
CSP	Connecticut State Police
CVARS	Commercial Vehicle Analysis Reporting System
CVISN	Commercial Vehicle Information Systems Network
CVSD	Commercial Vehicle Safety Division
DCS	Data Collection System

DEMHS	Department of Emergency Management and Homeland Security
DHS	Division of Highway Safety
DLN	Driver License Number
DMV	Department of Motor Vehicles
DoIT	Department of Information Technology
DOT	Department of Transportation
DPH	Department of Public Health
DPS	Department of Public Safety
DSS	Decision Support System
DUI	Driving Under the Influence
DW	Data Warehouse
DWI	Driving While Intoxicated
ED	Emergency Department
EMIT	Enzyme Multiplied Immunoassay Technique
EMS	Emergency Medical Services
EMT	Emergency Medical Technician
FARS	Fatality Analysis Reporting System
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
FTP	File Transfer Protocol
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectroscopy
GDL	Graduated Driver Licensing
GES	General Estimates System
GHSA	Governor's Highway Safety Association
GIS	Geographic Information System
GJXDM	Global Justice XML Data Model
GPS	Global Positioning System
GVWR	Gross Vehicle Weight Rating
HHS	Health and Human Services
HIPAA	Health Insurance Portability & Accountability Act
HS	Head Space
HSIS	Highway Safety Information System
HSP	Highway Safety Plan
HSPP	Highway Safety Planning Process
HTML	Hypertext Markup Language
HTSMIS	Highway and Traffic Safety Management Information System
IACP	International Association of Chiefs of Police
ICD-10	International Classification of Diseases
IRP	International Registration Plan
ISMP	Integrated Safety Management Process
ISS	Injury Surveillance System
IT	Information Technology
ITS	Intelligent Transportation System
JAD	Joint Application Development
JIS	Judicial Information System

KSDS	Keyed Sequential Data Set
KWIC	Key Word in Context
LE	Law Enforcement
LEL	Law Enforcement Liaison
LRS	Linear Reference System
MCH	Maternal and Child Health
MCMIS	Motor Carrier Management Information System
MCSAP	Motor Carrier Safety Action Program
MDT	Mobile Data Terminal
MMUCC	Model Minimum Uniform Crash Criteria
MOU	Memorandum of Understanding
MTRS	Model Traffic Records System
NCHRP	National Cooperative Highway Research Program
NCIC	National Crime Information Center
NCSA	National Center for Statistics and Analysis
NDR	National Driver Register
NEMSIS	National Emergency Medical Services Information System
NGA	National Governors Association
NHTSA	National Highway Traffic Safety Administration
NIEM	National Information Exchange Model
NLETS	National Law Enforcement Telecommunications System
NSC	National Safety Council
NTOR	No Turn on Red
OBTS	Offender Based Tracking System
OCS	Operator Control System
OEMS	Office of Emergency Medical Services
OHCA	Office of Health Care Access
OLR	Office of Legislative Research
OPM	Office of Policy and Management
PCMCIA	Personal Computer Memory Card International Association
PDF	Portable Document Format
PDO	Property Damage Only
PDPS	Problem Driver Pointer System
PHHS	Preventive Health and Health Services
PI&E	Public Information & Education
PR-1	Police Crash Report
PR-2	Supplemental Report for Fatal Accidents
Q&A	Question and Answer
RDBMS	Relational Database Management System
Re-ROD	Regulation of Driver Systems Re-Engineering
RF	Radio Frequency
RFP	Request for Proposals
RMS	Records Management System
RPA	Regional Planning Agency
RPO	Regional Planning Organization
RTOL	Real-Time Online

SAFETEA	Safe, Accountable, Flexible and Efficient Transportation Equity Act
SDI	Safety Data Initiative
SFST	Standardized Field Sobriety Tests
SHSO	State Highway Safety Office
SLOSSS	Suggested List of Surveillance Study Sites
SMS	Safety Management System
SP	Strategic Plan
SPL	Safety Program Leadership
SPRAMIS	State Police Resource Allocation Management Information System
SRD	System Requirements Definition
SSOLV	Social Security On Line Verification System
SSN	Social Security Number
STIPDA	State and Territorial Injury Prevention Directors Association
SWRPA	South Western Regional Planning Agency
TASR	Traffic Accident Surveillance Report
TAVS	Traffic Accident Viewing System
TCAS	Traffic Citation/Adjudication System
TCP/IP	The Communications Protocol used by the Internet
TEA-21	Transportation Equity Act for the 21 <sup>st</sup> Century
TOPS	Traffic Occupant Protection Strategies
TraCS	Traffic and Criminal Software System
TRA	Traffic Records Assessment
TRCC	Traffic Records Coordinating Committee
TRS	Traffic Records System
TSIMS	Transportation Safety Information Management System
TSIS	Traffic Safety Information System
TSS	Transportation Safety Section
UConn	University of Connecticut
UHF	Ultra High Frequency
UAR	Uniform Arrest Record
URL	Universal Resource Locator (Address of a Web Page)
VIN	Vehicle Identification Number
VINA	VIN Decoding Software
VMT	Vehicle Miles Traveled
VSAM	Virtual Storage Access Method
WWW	World Wide Web
XML	eXtensible Markup Language
YRBS	Youth Risk Behavior Surveillance System