STATE
OF
FLORIDA

TRAFFIC RECORDS
ASSESSMENT

JUNE 5 – JUNE 9, 2006

National Highway Traffic
Safety Administration
Technical Assessment Team

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NOTES AND DISCLAIMERS

NOTE: The terms "Highway Safety Information System" and "Traffic Records System" are interchangeable. This Advisory uses the term, "Traffic Records System" to be consistent not only with its traditional use, but also with references in many of the publications and documents listed at the back of this Advisory, as well as its use in various pieces of legislation.

NOTE: The term "crash" is used in lieu of the term "accident" in this document. Many of the references cited in this document use the term "accident" as do many of the laws defining crashes or accidents at the state level. This advisory recommends that states begin to use the term "crash" and to reflect that change in legislation.

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EXECUTIVE SUMMARY

Upon request by the State Safety Office (SSO) of the Florida Department of Transportation (FDOT), the National Highway Traffic Safety Administration (NHTSA) assembled a team to facilitate a traffic records assessment. Concurrently the SSO carried out the necessary logistical and administrative steps in preparation for the onsite assessment. A team of professionals with backgrounds and expertise in the several component areas of traffic records data systems (crash, driver/vehicle, traffic engineering, enforcement and adjudication, and healthcare data systems) conducted the assessment June 5 to 9, 2006.

The scope of this assessment covered all of the components of a traffic records system. The purpose was to determine whether the Florida traffic records system is capable of supporting management's needs to identify the state's safety problems, to manage the countermeasures applied to reduce or eliminate those problems, and to evaluate those programs for their effectiveness. The following discusses some of the key findings regarding the ability of the present traffic records system to support management of the state's highway safety programs.

Crash Records System
The State of Florida processes more than 250,000 crash reports annually. These reports are submitted by more than 350 law enforcement agencies to the Florida Department of Highway Safety and Motor Vehicles (DHSMV) where information from the reports is entered into the state's official crash file. This system is presently totally paper-based. Reports are submitted on the paper crash report (*Florida Traffic Crash Report Form Numbers HSMV-90003 through HSMV-90006, rev January 2002*). Upon receipt, the reports undergo a time consuming, multi-step process to enter the data into the crash file, resulting in a several-month backlog of crash reports to be entered. The 2005 crash file is not expected to be complete and available for analysis until July of 2006.

Several state officials have indicated that improving the timeliness of crash data is one of their major priorities. To their credit the DHSMV and FDOT have converted the crash report to an electronic format to be completed on in-vehicle computers using the Traffic and Criminal Software (TraCS) or CTS America's *SmartRMS* systems. However, while the implementation of these systems for data collection promises to reduce the time for report preparation, realization of that goal will not be met for some time for several reasons.

For one, the lack of a Traffic Records Coordinating Committee (TRCC) diminishes the ability of the many crash stakeholders to marshal the required funding and resources to implement these systems in a timely manner. Further, the State has yet to develop the interfaces to transfer the crash reports electronically between the various agency servers and the state's crash database. Presently each law enforcement agency using TraCS and *SmartRMS* submits the electronic reports to its local server but has to print paper reports to send to DHSMV where they are placed in the processing queue with the other reports for data entry. Also, the development of an XML format for data transfer between the servers and the main crash database still needs to be put in place.

Acceleration of the development of the XML transmission protocol including the establishment of edits and validation routines can produce immediate benefits. Several agencies now operate their own Records Management Systems (RMS) from which files could be generated using the XML schema and transferred electronically to the state's crash database. Also a number of agencies are using third party vendor products that are now unable to transmit electronically. Presently these agencies must print paper reports to submit to the state.

Driver and Vehicle Records Systems

The DHSMV vehicle programs include the advanced capabilities of the programs of the American Association of Motor Vehicle Administrators: National Motor Vehicle Title Information System, Electronic Lien and Title, Business Partner Electronic Vehicle Registration, and an emerging Electronic Title Transfer. The driver data are complete in all respects, especially in view of the complete citation tracking system (described below) in place, and many of the requirements for Real ID are already met through using both the Social Security On-Line Verification process and the Systematic Alien Verification for Entitlements (SAVE) Program.

DHSMV, in conjunction with the Criminal Justice Network (CJNET), provides a Driver And Vehicle Information Database (DAVID) to users through CJNET. The information search can be initiated using a name, driver license number, license plate number, VIN, or other personal details. The return includes the following elements, in brief:

Digital Images and Signatures—including current and previously stored photographs
Driver License Information—descriptors, restrictions, status, and complete driver history
Vehicle Information—registration and title and the history of them back to 1999
Crash Reports—including information about alcohol and drug involvement
Information on non-US citizens known to the Department

Healthcare Data Systems

Florida does not have a functional comprehensive statewide injury surveillance system, although there are several key components with varying degrees of maturity and functionality including: **EMS** - the Division of Emergency Medical Operations (DEMO) within the Florida Department of Health (FDOH) maintains the Florida Pre-Hospital Data Collection and Reporting System. However, there is no uniform run report and only aggregate data are submitted to the DEMO thereby impacting the quality of data for analysis. **Trauma** – only designated Trauma Centers (21 out of 240 acute care hospitals statewide) are required to submit trauma data to the State Trauma Registry, which receives 36,000 cases annually. **Hospital Discharge** – data are collected quarterly for the Hospital Discharge Data database maintained by the Florida Agency for Health Care Administration (FAHCA). **Emergency Department Data** – as authorized by 2005 legislation, FAHCA now requires the reporting of "all emergency department visits in which emergency department registration occurs and the patient is not admitted for in-patient care." **Mortality Data** – Florida law mandates that all death certificates be filed with the FDOH Office of Vital Records.

Citation Records System
The State of Florida has the distinction of being one of a small number of states that has a system containing information about the life cycle of all citations issued to traffic violators by law enforcement. DHSMV's Inventory System contains information which identifies all traffic arrest and conviction activity of the state, including information which tracks a citation from the time of its printing, to its distribution to an enforcement jurisdiction, through its issuance to an offender, its disposition by a court, and its posting of convictions to the driver history record.

As a citation is filed with a court of jurisdiction, the Traffic Citation and Accounting Transmission System (TCATS) operated by the Florida Association of Court Clerks (FACC) electronically sends a notice of the filing to DHSMV for entry in the Inventory System as an open case. Upon adjudication of the case the court, via the TCATS, electronically transmits the disposition information to be updated to the Inventory System. For cases resulting in a conviction, an entry is also posted to the driver history record.

With this fully functional statewide tracking system, Florida has the capability to evaluate the level of enforcement activity in the state, to account for and control the printing and distribution of citation forms, and to monitor the judiciary's processing of traffic cases.

Traffic Records Coordinating Committee
Presently, there is no TRCC as called for in the *Advisory*. The previous TRCC was disbanded in 2002. The State now plans to form a new TRCC. To be effective, the reinstituted TRCC should consist of two levels: an executive level and a working/technical level. The executive level should set the mission of the TRCC and provide oversight, approval authority, and resource support for actions proposed by the technical level members. The executive level group may not need to meet as frequently as the technical level members, only when necessary to approve major projects or receive progress reports on ongoing activities.

The restructured TRCC needs to be formalized by memoranda of agreement to commit the executive members to their roles in the TRCC and to officially designate their respective technical staff that will represent them on the TRCC. The newly organized TRCC will also need to examine its membership roster to insure that all stakeholders have been included. This combined executive and technical level TRCC will be critical for the state to properly develop, maintain, and track the progress of a Strategic Plan for Traffic Records as recommended in this report and as required by the SAFETEA-LU legislation.

Roadway Information Systems
The FDOT uses a location reference system (LRS) that employs an eight-digit numeric code (Roadway ID) and the milepost number. This LRS can locate sections of road on the entire state-maintained system and serves as a linking mechanism between the various roadway files and the crash file.

Some roadway features are located by latitude/longitude coordinates through the video log program. But the accuracy range of the equipment used is not acceptable. The Roadway ID number and milepost, therefore, remains the LRS of preference for FDOT. This LRS is more

than adequate for roadway files and the internal users of the files. However, as FDOT expands its responsibility into collecting and providing data on all public roads, this LRS will prove to be too cumbersome and difficult to apply and maintain on the 88,000 miles of off-system roads not now included in the FDOT database.

Strategic Planning
The FDOT conducted a strategic plan for traffic records improvements in 1998 with an existing traffic records subcommittee of the Safety Management System steering committee. Target dates for action items were updated on an annual basis until the traffic records subcommittee ceased to exist in 2002.

The FDOT is attempting to revive the strategic planning process for traffic records and an operational TRCC in order to submit an application for a 408 grant. The impetus for this action is to meet the requirements of a NHTSA grant program to improve state traffic safety information systems under Section 2006 of the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA–LU).

Following are the major recommendations to address the deficiencies noted here and to improve the State's traffic records system. The references indicate the sections of the report from which the recommendations are drawn.

MAJOR RECOMMENDATIONS

Crash Records System

Develop a timeline and a plan to implement the electronic transfer of crash data from all vendor systems including TraCS or *SmartRMS* systems. **(Section 1-A)**

Complete a comprehensive vendor certification program that addresses all information needed for submission of electronic crash data including the following tasks:
- Publish a data import specification guide to include edits, dependencies, and XML standards.
- Create a method to explain the certification process for accepting electronic data.
- Create an automated process to evaluate the quality of vendor-provided crash data. **(Section 1-A)**

Establish a formalized Quality Assurance (QA) measurement program for crash data. **(Section 2-A)**

Healthcare Data Systems

Use one data format for the EMS run form. Discontinue accepting paper run data. **(Section 2-F)**

Develop and implement a data validation process that will check the data for completion, and validate the data variables prior to appending to the EMS production data base. **(Section 2-F)**

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Continue to move forward with the EMSTARS project and electronic data submission process for EMS run reports. **(Section 2-F)**

Consider using the healthcare data warehouse and the Transportation Related Injury Prevention Program (warehousing traffic related injury data) concepts as a model or platform for a statewide traffic records data warehouse with the support of the TRCC. **(Section 2-F)**

Traffic Records Coordinating Committee

Create an executive level TRCC from the stakeholders to set policy and to provide oversight, support, resources, and direction to all ongoing traffic records activities within Florida. **(Section 4-A)**

Formalize the TRCC by developing a charter, obtaining Memoranda of Understanding committing agency heads to participate on the executive TRCC, and generating letters of designation for the technical level TRCC members. **(Section 4-A)**

Encourage someone from among the membership of the Executive Committee to champion traffic records. **(Section 4-A)**

Designate a traffic records coordinator on the State Safety Office staff. **(Section 4-A)**

Roadway Information Systems

Establish a GIS enterprise platform for all roadway data. **(Section 1-B)**

Establish latitude/longitude coordinates as the enterprise LRS. **(Section 1-B)**

Pursue the collection of roadway and traffic characteristics data on all public roads. **(Section 2-B)**

Aid local agencies in obtaining the necessary roadway information for safety analysis and program development. **(Section 2-B)**

Examine the FDOT policy for access to roadway and safety data with a view to allow access for legitimate business and traffic safety uses. **(Section 2-B)**

Strategic Planning

Task the State Traffic Records Coordinating Committee with conducting a traffic records system strategic plan that helps state and local data owners support the overall safety program needs. This Strategic Plan should:

- Specify the requirements for and from each component of the traffic records system.

- Identify the goals for improvements for each of the traffic records system components.
- Set priorities for each goal with a timeline for implementation.
- Secure commitment to the goal implementation and the timeline.
- Establish performance-based measures for each of the goals and the strategies developed to achieve the goal.
- Develop a monitoring process to track progress for each goal and a mechanism to modify or replace goals as required. **(Section 4-B)**

ACKNOWLEDGMENTS

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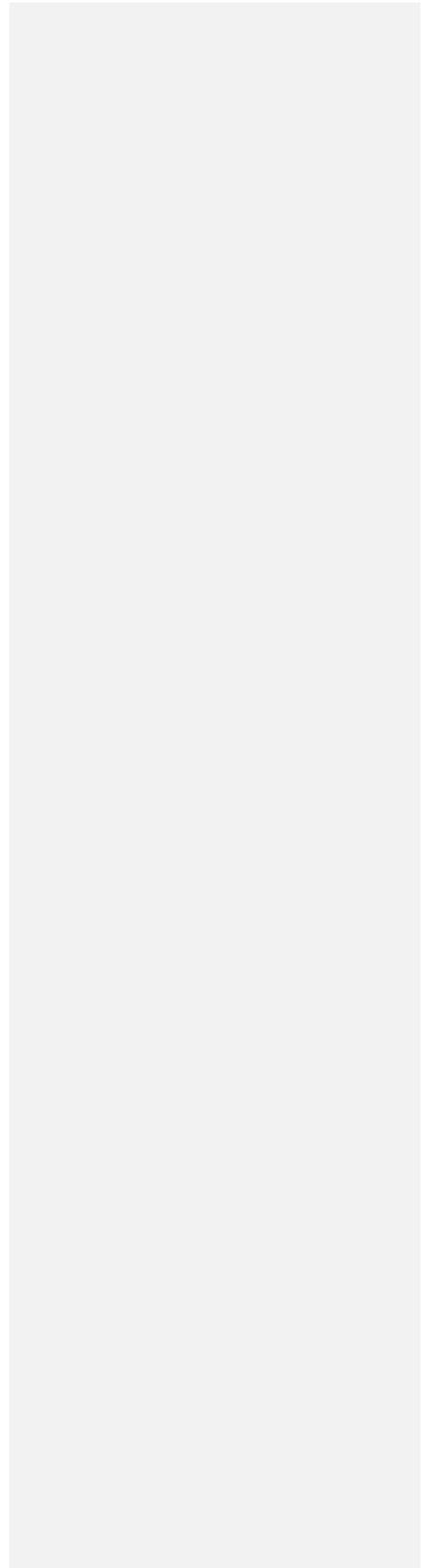Cambridge Systematic

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INTRODUCTION

A complete traffic records program is necessary for planning (problem identification), operational management or control, and evaluation of a state's highway safety activities. 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. 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.

Assessment Background

The Traffic Records Assessment is a technical assistance tool that the National Highway Traffic Safety Administration (NHTSA), the Federal Motor Carrier Safety Administration (FMCSA) and the Federal Highway Administration (FHWA) offer to state offices of highway safety to allow management to review the state's traffic records program. NHTSA, FMCSA and FHWA have co-published a Highway Safety Program Advisory for Traffic Records which establishes criteria to guide state development and use of its highway safety information resources. The Traffic Records Assessment is a process for giving the state a snapshot of its status relative to that Advisory.

This assessment report documents the state's traffic records activities as compared to the provisions in the Advisory, notes the state's traffic records strengths and accomplishments, and offers suggestions where improvements can be made.

Methodology

The assessment process follows a "peer" review team approach. Working with the NHTSA Regional Office, the FHWA Division Office, FMCSA, and the State's Highway Safety Office, the NHTSA selected a team of individuals with demonstrated expertise in major highway safety program areas including: law enforcement, engineering, driver and vehicle services, injury surveillance systems, and general traffic records development, management, and use. Credentials of the assessment team are listed in the Team Credentials section of this report. The state officials who were interviewed during this assessment are listed in the List of Presenters section. Throughout the assessment, NHTSA, FMCSA, and FHWA representatives served as observers and are also listed in the Acknowledgments section.

Recommendations

The recommendations in the sections following may include suggestions on how they might best be achieved, based on the experience of team members and information provided.

Report Contents

In this report, the text following the "*Advisory*" excerpt heading was drawn from the Highway Safety Program Advisory for Traffic Records. The "*Advisory*" excerpt portion is in italics to distinguish it from the "Status and Recommendations" related to that section which immediately follows. The status and recommendations represent the assessment team's understanding of the state's traffic records system and their suggestions for improvement. The findings are based entirely on the documents provided prior to and during the assessment, together with the information gathered through the face-to-face discussions with the listed state officials. Recommendations for improvements in the state's records program are based on the assessment team's judgment.

It is recognized that, based on resources and other program priorities, the recommended improvements would be considered for implementation through a strategic plan established by the State Office of Highway Safety in coordination with all affected state and local agencies.

The report will follow the outline in the Advisory and present the "*Advisory*" excerpt followed by the "Status" and "Recommendation" for each section and subsection of the Advisory. Section 1-A would present the text from the Advisory related to Crash Information followed by a statement of the findings and the recommendations for improvements to crash information. Section 1-B would repeat for Roadway Information, etc.

SECTION 1:
TRAFFIC RECORDS SYSTEM INFORMATION COMPONENTS

At the time of passage of the Highway Safety Act of 1966, state central traffic records systems generally contained basic files on crashes, drivers, vehicles, and roadways. Some states added data on highway safety-related education, either as a separate file or as a subset of the Driver File. As highway safety programs matured, many states added Emergency Medical Services (EMS) and Citation/Conviction Files. Additionally, some states and localities also maintain a Safety Management File, which consists of summary information from the central files useful for problem identification and safety planning.

As the capabilities of computer hardware and software systems increased and the availability of powerful systems has expanded to the local level, many states have adopted a more distributed model of data processing. For this reason, the model of a traffic records system needs to incorporate a view of information and information flow, as opposed to focusing on the files in which that information resides. Figure 1 displays this view of distributed data processing in a traffic records system.

Under this more distributed model, it doesn't matter whether data for a given system component are housed in a single file on a single computer or spread throughout the state on multiple local systems. What matters is whether or not the information is available to users, in a form they can use, and that this information is of sufficient quality to support its intended uses. Thus it is important to look at information sources. These 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.

Further descriptions of these types of information are provided in the following sections.

Figure 1: Model of Distributed Data Processing in a Traffic Records System
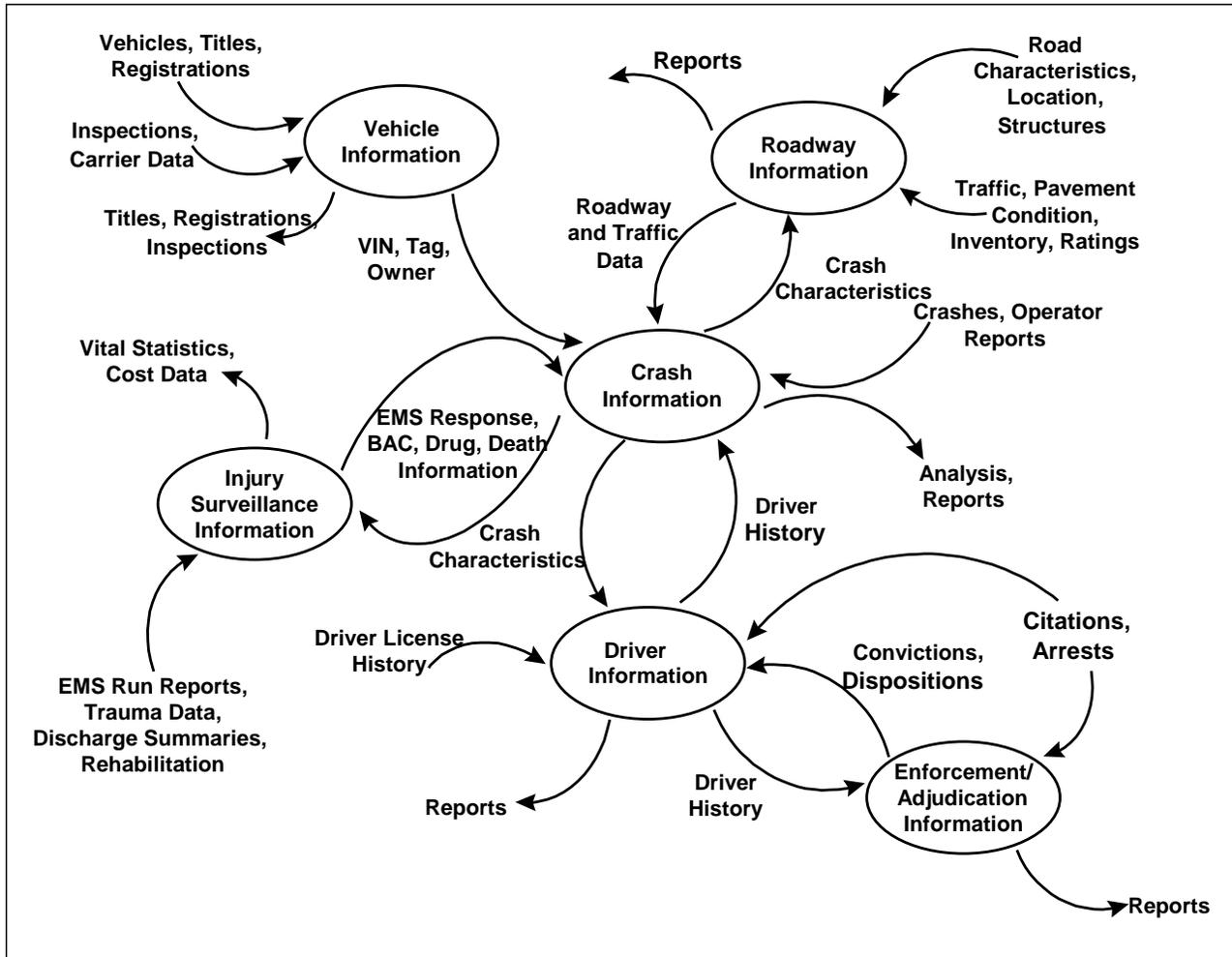
Table 1. Components of a Traffic Records System	
COMPONENTS	EXAMPLES
Crash	• Weather conditions and pavement • Illumination • Time of Day, Day of Week • Avoidance maneuvers • Violation of traffic law (speed, turns, failure to obey, reckless driving) • Number and severity of injuries or level of property damage • Number of vehicles involved • Manner of collision and speed • Object struck • Person type (driver, occupant, pedestrians) • Substance abuse • Safety device use
Injury Surveillance System	• EMS response time for driver/pedestrian/pedacyclist • Hospital assessment of injury severity • Hospital length of stay and cost • Rehabilitation time and cost
Roadway	• Location referencing system • Roadway character (jurisdiction, classification, surface, geometries) • Structures (bridges, tunnels) • Traffic control devices, signs, delineations, and markings • Roadside features (hardware, conditions, bike lanes, sidewalks, land use) • Rail grade crossings • Traffic volume and characteristics
Vehicle — All	• Type and configuration • VIN • Age/model year • Weight • Registration information/Plates • Defects • Owner information • Safety devices (type and condition)
Vehicle — Commercial	• Carrier information • Hazardous materials/Placards • Inspection/Out of Service Records
Driver	• Age/DOB • Gender and Ethnicity • Experience, driver education • License status • Conviction history
Enforcement/Adjudication	• Citation tracking • Traffic case volume • Conviction • Sentencing • Case tracking

Section 1-A: Crash Information

Advisory Excerpt: *The Crash Component documents the time, location, environment, and characteristics (sequence of events, rollover, etc.) of a crash. Through links to the crash-involved segments of Roadway, Vehicle, and Driver Information, the Crash Component identifies the roadways, vehicles, and people (drivers, occupants, pedestrians) involved in the crash and documents the consequences of the crash (fatalities, injuries, property damage, and violations charged). In addition to providing information on a particular crash, the Crash Component supports analysis of crashes in general and crashes within specific categories defined by: person characteristics (e.g., age or gender), location characteristics (e.g., roadway type or specific intersections), vehicle characteristics (e.g., condition and legal status), and the interaction of various components (e.g., time of day, day of week, weather, driver actions, pedestrian actions, etc.).*

The Crash Component of the Traffic Records System should contain some basic information about every reportable motor vehicle crash on any public roadway in the state. Details of various data elements to be collected are described in a number of publications. The Model Minimum Uniform Crash Criteria (MMUCC) provides a guideline for a suggested minimum set of data elements to be collected for each crash. Additional information should be collected (as necessary) for crashes involving an injury or fatality to meet the requirements for tracking and analysis for the state, and other systems (e.g., the Fatality Analysis Reporting System [FARS], General Estimates System [GES]).

Status

The (*Florida Traffic Crash Report Form Numbers HSMV-90003 through HSMV-90006, rev January 2002)* are currently the principal method used by law enforcement officers throughout the state to document the time, location, environment, and characteristics of crashes. State statute requires all crashes be investigated and reported on *HSMV-90003* hereafter referred to as the Long Form, if the crash involves injury or death, or the crash involves driving under the influence of alcohol or drugs, or the crash is hit-and-run, or any of the vehicles involved require towing from the scene. *HSMV-90006* hereafter referred to as the Short Form is used for all other reported crashes. No account is kept of unreported crashes or of crashes that occurred on private property.

The 2004 *Florida Traffic Crash Facts* reported that there were 3,257 fatalities from 2,936 fatal crashes; 227,192 injuries from 142,388 injury crashes and 107,578 PDO crashes for a total of 292,902 crashes. The official crash master file is maintained by the Florida Department of Highway Safety and Motor Vehicles (DHSMV) and is stored on a mainframe computer as a multi-record-per-crash flat file format. Two other statewide crash databases are maintained by state government: 1) a SQL Server database housed at DHSMV Office of Management Research and Development (OMRD) for the purpose of responding to requests for crash information and for creating the Traffic Crash Facts book and 2) a DB2 database housed at the Florida Department of Transportation (FDOT) to serve their crash analysis reporting requirements. Law enforcement agencies usually begin the collection of crash data with a call for service to the

agency. Once the law enforcement officer arrives at the scene, the data are collected in one of four ways for crashes meeting the reporting criteria: 1) on the State provided multi-page Long form, 2) on an electronically created CTS America *SmartRMS* system accessed from in-car computers or at the agency, 3) electronically created crash forms from the Traffic and Criminal Software (TraCS) system accessed from in-car computers or at the agency, and 4) electronically created forms created by other vendors. Although data can be captured electronically using a number of automated systems, officers must now print a hard copy report to submit the data to DHSMV which ultimately reenters all data so it can be stored in the statewide crash databases.

Traffic crashes not meeting the state reporting criteria are also collected on the Short Form but are not included in any statewide databases.

The multi-page Long Form was revised in January 2002. One of the major changes was the incorporation of the variables required for commercial motor vehicle crashes that were previously collected on a CMV supplemental form. Florida currently has a "Yellow" (Fair) quality rating by the Federal Motor Carrier Safety Administration (FMCSA) for reporting CMV involved crashes to the MCMIS database. Areas targeted for improvement were reporting completeness and timeliness. Florida received a "Yellow" rating for completeness, meaning that 80-89 percent of the CMV fatal crashes reported to MCMIS were found on the FARS database. Florida received a "Red" rating for timeliness, meaning that less than 60 percent of the CMV crashes reported to MCMIS were reported within 90 days. CMV involved crashes are sent to MCMIS by the state Motor Carrier Compliance office. The office receives CMV involved crash information from the FDOT Crash Analysis and Reporting System (CARS) database once weekly after the information has been processed. Timeliness could be improved by integrating this reporting earlier in the crash processing system. The current Long Form design has not been evaluated for conformance to the Model Minimum Uniform Crash Criteria (MMUCC) and the Manual on Classification of Motor Vehicle Traffic Accidents (ANSI D-16.1). There are no plans to revise the Long Form at this time.

After completing the form, the officer submits it for supervisory approval. Once approved, the form is included in the local agency's Records Management System (RMS), where applicable, and then a hard copy report is forwarded to DHSMV for processing.

Crash forms received at DHSMV are batched and sent to Prison Rehabilitative Industries and Diversified Enterprises, Inc. (PRIDE) for processing. At PRIDE, crash information is keyed and processed through a series of data edit checks and validation rules. Any errors that can be corrected at PRIDE are corrected. The crash reports are scanned and an image file created and sent to a subcontractor that hosts the images for DHSMV analysis and queries. A "suspended" file is created that contains error records. This file is returned to DHSMV for reconciliation with the originating law enforcement agency. The completed file without errors is returned to DHSMV for addition to the statewide crash master. A duplicate copy of completed crash data and crash images is copied to CDs and sent to FDOT for addition to their document management system and their DB2 crash database. At DHSMV a data extract is processed to move new crash data from the crash master to OMRD's SQL Server database. At FDOT the crash data are processed to add location information for crashes occurring on about 12,000 miles of road within Florida. This process adds a road section number, milepoint and national functional class to

crashes for which FDOT maintains referencing. There remains about 107,500 miles of roadway without linear referencing where crashes cannot be assigned referencing information. Crashes occurring on these roads are located only by local descriptions. At the end of the processing year FDOT returns the location information to DHSMV to be added to crashes on their crash master.

A serious barrier in achieving the accuracy of the location data is that location coding is not easily converted based on road descriptions provided by the officer. The process of locating is very labor intensive for the 12,000 miles of roadway currently referenced at FDOT. Using the current process, to locate crashes on the entire system would be prohibitive. Future plans by FDOT to obtain coordinate information by GPS processes integrated in the TraCS and the use of GIS systems have the potential to improve the accuracy of crash locating and the existing coverage beyond the current 12,000 miles of roadway.

Although crashes are currently entered into the statewide databases via keying of data taken from a paper form, the State is involved in a major initiative to create a process to accept electronic data from vendor systems that collect crash information with in-vehicle computers. Both DHSMV and FDOT should be recognized for their efforts to convert the crash report to an electronic format using the TraCS or *SmartRMS* systems. Currently, Florida Highway Patrol (FHP) is using the *SmartRMS* system to collect crash and citation data. FDOT and TraCS Florida is working with 94 local law enforcement agencies to collect citation and crash data within their jurisdictions. However, no firm timeline exists to provide for electronic submittal to the state's database. XML standards need to be put in place and processes established to allow electronic transfer from these systems to the state's crash databases. Establishment of an effective Traffic Records Coordinating Committee (TRCC) could bring stakeholders together to direct this initiative and secure the necessary funding and resources.

To complement electronic submittal, an efficient certification process for other vendors interested in providing electronic data should be developed. Up to 30 vendors reportedly are working with agencies throughout Florida to collect citation and/or crash data as part of their Records Management Systems (RMS). As data edit checks are established, they should be documented and included in a certification guide to any vendor who is interested in providing electronic data. The certification guide should also include the XML standard, file specifications, and automated processes where electronic data can be evaluated before allowing a new vendor or agency to submit electronic data.

As the state moves to electronic submittal of crash data, quality control/assurance procedures become even more important. Currently the system has very few quality control processes in place. A comprehensive crash records system should be able to monitor itself through these processes. Timeliness, accuracy, completeness, and uniformity of crash information can be measured for law enforcement agencies and vendor systems through quality assurance systems. By developing metrics and automated systems that can be run on demand, the value of the data and effectiveness of systems will increase significantly.

The Fatality Analysis Reporting System (FARS) database is compiled using a statewide notification system and reconciling fatal crash data from the system with fatal crash reports. The FARS analysts at DHSMV receive copies of fatal crash reports as soon as they arrive for processing. With the exception of receiving some BAC test results the system seems to be

working well. "Fast FARS" is being utilized, and acceptable data are being submitted to FARS in a timely manner. The process could be improved by populating some of the FARS data screens directly from state processed data and more timely reporting by the state's law enforcement agencies. Electronic submittal of crash information could significantly improve the timeliness and quality of fatal crash data.

It was noted and discussed throughout this assessment that the state has at least three statewide databases that require their own infrastructure, maintenance, and resources. Each of these databases has its own advantages and disadvantages. Because they are different, analyses from each of them yield different results. This is not only inefficient but has caused business problems. An effective TRCC can assist in consolidating infrastructure and processes to improve efficiency and provide quality crash information.

The final concern is the lack of accessible data. It was noted that redundant processes exist throughout the business areas. Local agencies are soliciting crash reports from law enforcement, again entering the data into spreadsheets and adhoc databases to support their analyses requirements. Florida has at least two analysis systems that can provide the means to share safety information. FDOT maintains the CARS which works well for their analysis needs. FHP provides a map-based Web application providing basic information about fatal crashes and their locations. Building on both these systems and making them accessible to stakeholders provides the potential of improved accessibility to safety information. Future plans should include the review of acceptable and appropriate uses of data and the establishment of systems that can provide data to those with a valid business need.

Recommendations

❑	Develop a timeline and a plan to implement the electronic transfer of crash data from all vendor systems including TraCS or *SmartRMS* systems.

❑	Complete a comprehensive vendor certification program that addresses all information needed for submission of electronic crash data including the following tasks:
- Publish a data import specification guide to include edits, dependencies, and XML standards.
- Create a method to explain the certification process for accepting electronic data.
- Create an automated process to evaluate the quality of vendor-provided crash data.

❑	Continue to develop comprehensive and consistent data edit checks to improve quality in the electronic data collection software, and enforce data edits on the front end to reduce data corrections.

❑	Consider expanding the coverage of the state's location referencing system to all roads in Florida, and improve crash locating processes to allow locating and analysis of crash data beyond the state maintained road system.

❑	Develop processes to improve the reporting of CMV crashes to MCMIS. This could be facilitated by integrating reporting to MCMIS earlier in the crash processing system.

❑ Conduct an evaluation of data on the Long Form for conformance to MMUCC and the Manual on Classification of Motor Vehicle Traffic Accidents (ANSI D-16.1) standards.

❑ Improve the accessibility of crash information to statewide stakeholders by developing reports, query capabilities, and user-friendly data access to statewide databases.

❑ Consolidate the separate statewide crash databases into a single official crash database.

Section 1-B: Roadway Information

Advisory Excerpt: *Roadway information includes roadway location, identification, and classification, as well as a description of a road's total physical characteristics and usage, which are tied to a location reference system. Linked safety and roadway information are valuable components in support of a state's construction and maintenance program development.*

Roadway information should be available for all public roads in the state whether under state or local jurisdiction. A location reference system should be used to link the various components of roadway information as well as other information sources (e.g., Crash/Environment information, EMS records) for analytical purposes.

Status

The Florida Department of Transportation (FDOT) is responsible for the maintenance of about 12,000 miles of the 121,000 miles of the state's public roads. The FDOT maintains a database of information on operational and geometric characteristics of all state highway system toads. Two major inventory files are maintained: a Road Characteristics Inventory (RCI) and a Traffic Characteristics Inventory (TCI). The RCI database includes administrative, physical, geometric, some structures, and a subset of traffic volumes data. Traffic data are maintained in the TCI database.

A subset of data is collected on an additional 14,000 miles of off-system roads. These roads are either functionally classed as collector roads or roads of state interest (1) because of a state maintained feature on the road such as a structure, or (2) they serve as a Strategic Intermodal System connector, or (3) they are a major generator of traffic.

The FDOT also maintains an electronic video log and a GIS for the state road system.

An electronic file of crash data is maintained by the FDOT Safety Office. The data are received from the Prison Rehabilitative Industries and Diversified Enterprises (PRIDE) that is under contract with the Department of Highway Safety and Motor Vehicles (DHSMV) to capture the data from the police crash report and provide quality checks before submitting the data electronically to FDOT and the DHSMV for their program use. The FDOT appends location data and a set of RCI and TCI data to the PRIDE crash file, to create a Crash Analysis Reporting System (CARS) database.

The FDOT uses a location reference system (LRS) that employs an eight-digit numeric code and milepost. The eight-digit code is made up of a two-digit county code, a three-digit section number, and a three-digit subsection number. This LRS identifies sections of road on the entire state maintained system and serves as a linking mechanism between the various roadway files and the crash file.

Some roadway features could be located by latitude/longitude coordinates using the video log images, but the accuracy range of the equipment used is not acceptable for FDOT inventory. The

roadway ID number and milepost, therefore, remains the LRS of preference for FDOT. This LRS is more than adequate for roadway files and the internal users of the files. However, if FDOT expands its responsibility into collecting and providing data on all public roads the current linear reference method will prove to be too cumbersome and difficult to apply and maintain on the remaining off-system roads not now included in the FDOT database.

The CARS created and maintained in FDOT is an excellent safety analysis database for road safety problem identification and countermeasure development. It also serves the department well in providing safety data to business functions of roadway design, construction/reconstruction, and maintenance.

FDOT District 7 loads crash data from CARS into a desktop GIS which plots individual crash records based on their roadway ID number and milepost and also aggregates crashes based on their nearest node to show various crash frequencies and attributes (severity, contributing factor, time of day, etc.) at each node. The GIS database allows a user to select specific types of crashes either system-wide or within a geographic area to help define priorities for particular countermeasures programs. For example, a system-wide selection of rural roadway run-off-road crashes could be selected and then mapped to indicate problem areas.

District 7 also provides technical support to help local county traffic engineers to map off-system crash data using nearest intersection references to local agency GIS centerline maps. This effort needs to be expanded to address the needs of local agencies across the state that do not have the information or analytic resources for safety analysis, problem identification, and countermeasure development.

The current Location Reference System can be maintained for historic data files. The establishment of a GIS enterprise platform for all road data with latitude/longitude coordinates as the primary Location Reference System will not only provide all units of FDOT with the safety analysis tools used by District 7 but will facilitate the inclusion of the entire public road system into a statewide database of road and traffic characteristics data. This capability will also serve the analysis needs of the Strategic Highway Safety Planning process now underway in FDOT.

Recommendations

❑   Establish a GIS enterprise platform for all roadway data.

❑   Establish latitude/longitude coordinates as the primary Location Reference System to serve as the enterprise Location Reference System for all public roads. In the meantime the enterprise database should be capable of translating between the lat/long coordinates and the current linear reference system.

❑   Provide financial and administrative support for all electronic collection of crash and citation data using GPS devices for collecting location coordinates data.

❑   Use more accurate and state-of-the-art GPS technology for locating roadway and traffic attributes on all public roads.

❑	Provide information and analytic resources to local safety agencies.
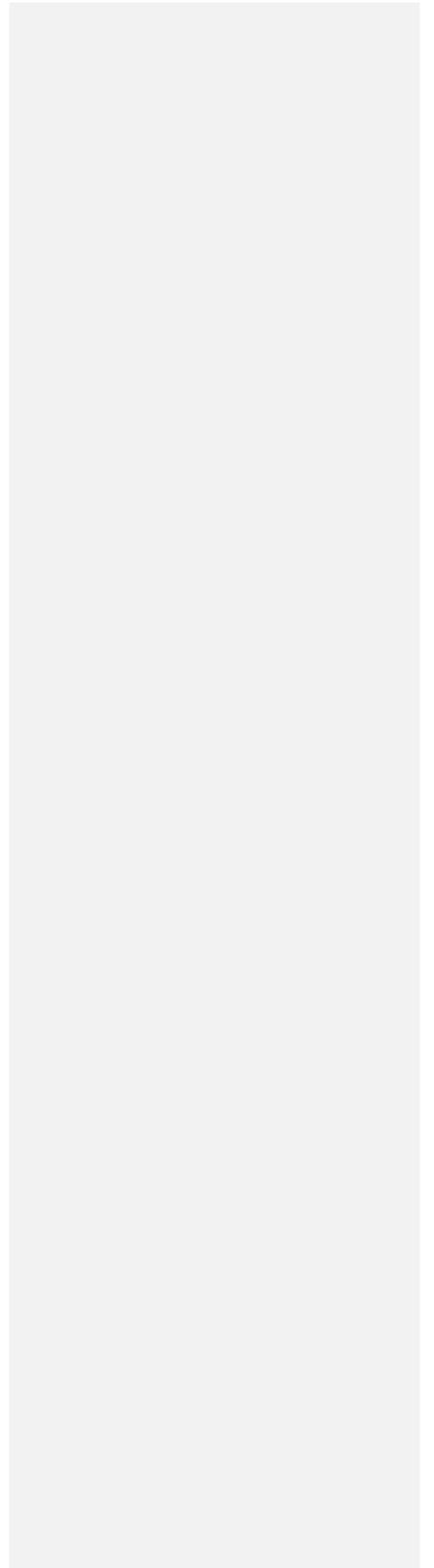
Section 1-C: Vehicle Information

Advisory Excerpt: *Vehicle information includes information on the identification and ownership of vehicles registered in the state. Data should be available regarding vehicle make, model, year of manufacture, body type, and miles traveled in order to produce the information needed to support analysis of vehicle-related factors which may contribute to a state's crash experience. Such analyses would be necessarily restricted to crashes involving in-state registered vehicles only.*

This information should also be available for commercial vehicles and carriers which may be registered in other states, but which are licensed to use the public roadways in the state.

Status

The Department of Highway Safety and Motor Vehicles (DHSMV) Division of Motor Vehicles (DMV) maintains the vehicle registration and title file. The file contains records on approximately 18 million registered motor vehicles of which 75 percent are automobiles and trucks. Commercial vehicle registrations are maintained in the same file and are identified as commercial.

Registrations and titles are processed through the 67 County Tax Collectors' (multiple) offices. The DHSMV web site lists within each county the DHSMV Driver License Offices, the Motor Vehicle Services (County Tax Collector) offices, the Florida Highway Patrol Stations, the Clerk of the Court Office, and the DMV District Offices - Other Motor Vehicle Services offices for transactions. The vehicle transactions are controlled by the DHSMV even though the physical processes are done by the tax collectors' offices.

The scope of information on all vehicles, private and commercial, meets the recommendations of the *Advisory* and is adequate for participation in the American Association of Motor Vehicle Administrators (AAMVA) applications. Vehicle identification and descriptive information includes the data elements recommended in the *Advisory*, in particular the Vehicle Identification Number (VIN) and vehicle body type.

Registrations are classified primarily by weight. Some classifications are by body type and use type (e.g., automobile, motorcycle, trailer) and by age of the vehicle. DMV classifications are not equivalent to those used on the crash report form.

Odometer readings are captured when vehicles are titled (including title transfers) and when duplicate titles are processed.

VIN configurations are validated by running the VIN verification program within the National Motor Vehicle Title Information System (NMVTIS), an AAMVAnet application discussed below. The information from decoding is not used to populate fields in the registration database.

Personal information is restricted for public inquiries according to the stipulations of the Driver Privacy Protection Act (DPPA), and Section 119.0712 F.S. governs use of vehicle data.

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Beyond maintaining the information necessary for the vehicle registration and title functions, the information from the file supports inquiries on individual records from law enforcement, other government entities, and authorized commercial businesses.

Management summary reports are produced annually and stratified by vehicle class. Ad hoc statistical queries are processed upon request.

Registrations normally require the same owner name styles that are used in the driver file for persons. The registration documents, produced by the County Tax Collectors, do not have a bar code or magnetic stripe. However, the DHSMV links the vehicle and driver databases (and the dealer database) and provides a full spectrum of information about drivers, the vehicles owned, and other data.

DHSMV has been a leader in developing, implementing, and participating in the advanced applications offered by the AAMVA in both vehicle and driver data management and application of administrative standards promulgated through AAMVA.

NMVTIS
DMV is a participant in the NMVTIS and has recently completed the structured test to upgrade from batch mode to interactive mode. Full participation in NMVTIS is anticipated within one month. Title brands from other states are retained in the vehicle file. Salvage information comes from title applications by insurance companies. By law, insurance companies are required to notify the DMV when a vehicle is salvaged.

ELT
The Electronic Lien and Title (ELT) application facilitates the creation of titles with liens and processing of lien satisfactions in an efficient, timely, and cost-saving manner.

BPEVR
The Business Partner Electronic Vehicle Registration application enables processing of registrations, including issuance of vehicle tags, through auto dealers. The dealers also process title applications but cannot issue titles—a function reserved for the DMV only. The process increases efficiency and accuracy in the data received by the DMV and provides simplified service to the public.

Electronic Title Transfer
This is a work in progress, not yet an AAMVAnet application. It would enable a "change state of record" for vehicle titles which would be comparable to the same process in the Commercial Driver License Information System. Florida is working with AAMVA to develop this process.

Recommendations

❏ None

Section 1-D: Driver Information

Advisory Excerpt: *Driver information includes information about the state's population of licensed drivers. It should include: personal identification, driver license number, type of license, license status, driver restrictions, convictions for traffic violations, crash history, driver improvement or control actions, and driver education data.*

Driver information should also be maintained to accommodate information obtained through interaction with the National Driver Register (NDR) and the Commercial Driver License Information System (CDLIS) to enable the state to maintain complete driving histories and to prevent drivers from circumventing driver control actions and obtaining multiple licenses.

Status

The Department of Highway Safety and Motor Vehicles (DHSMV) Division of Driver Licenses (DDL) maintains the driver file which contains records on nearly 20 million drivers, of which over 75 percent are active. The driver records include those on commercial drivers.

Driver license exams and issuance are processed through many DHSMV offices throughout the State. The DHSMV web site lists within each county the DHSMV Driver License Offices and the other offices conducting DHSMV business.

The descriptive information satisfies the recommendations of the *Advisory*. Learner permits and provisional licenses are contained in the file. Driver education information and driver improvement courses are included in the records.

Florida has a graduated license law and provides information about the program and its requirements on the DDL web site. Florida also has administrative license revocation and a complete citation tracking system that tracks every paper citation from printing to disposition to recording of convictions in the driver file. Electronic citations are also tracked from issuance to disposition and recording of convictions.

The information in the driver file supports the functions of license issuance and driver control. In addition, this file is used in support of the Problem Driver Pointer System (PDPS) and the Commercial Driver License Information System (CDLIS).

Driver histories from previous states are included in the driver file for commercial vehicle operators and non-commercial drivers. Criminal offenses are recorded in the Florida driver record as reported by a previous state of record. Florida is a Driver License Agreement participant.

Crash involvement is posted automatically to the driver file if a conviction is associated with the crash. If the driver was deemed by the enforcement officer to be at fault and a notice is received from a court, that crash involvement is posted manually. BAC data are recorded in the driver file if present on a crash report or a citation.

Convictions are submitted electronically by virtually all county courts through the Traffic Citation Accounting and Transmission System (TCATS). Only one county does not submit all convictions electronically, and it was reported that full submissions through TCATS for that county is expected within three months.

The DDL uses the Social Security On-Line Verification process and the Systematic Alien Verification for Entitlements (SAVE) Program. At present, DHSMV has facial recognition software, but it is not yet used in the driver file. It is being tested and evaluated for possible use.

The driver license documents currently being issued contain a 2-D bar code and a magnetic stripe to facilitate authentication of identity and enable auto-population of license information on electronic reports. Some electronic reports are also auto-populated by direct access to the DHSMV databases with both driver and vehicle owner information.

Courts and law enforcement access the driver data directly. DHSMV, in conjunction with the Criminal Justice Network (CJNET), provides a Driver And Vehicle Information Database (DAVID) to users through CJNET. The information search can be initiated using a name, driver license number, license plate number, VIN, or other personal details. The return includes the following elements, in brief:

Digital Images and Signatures—including current and previously stored photographs
Driver License Information—descriptors, restrictions, status, and complete driver history
Vehicle Information—registration and title and the history of them back to 1999
Crash Reports—including information about alcohol and drug involvement
Information on non-US citizens known to the Department.

Within the constraints of Florida's motor vehicle code and the DPPA the driver file also serves a variety of non-justice users.

Summaries of the driver file provide management and statistical information.

Recommendations

❑ None

Section 1-E: Enforcement/Adjudication Information

Advisory Excerpt: *Information should be available which identifies arrest and conviction activity of the state, including information which tracks a citation from the time of its distribution to an enforcement jurisdiction, through its issuance to an offender, and its disposition by a court. Information should be available to identify the type of violation, location, date and time, the enforcement agency, court of jurisdiction, and final disposition. Similar information for warnings and other motor vehicle incidents that would reflect enforcement activity are also useful for highway safety purposes.*

This information is useful in determining level of enforcement activity in the state, accounting and control of citation forms, and monitoring of court activity regarding the disposition of traffic cases.

Status

An integrated centralized repository for citations, pending actions, or dispositions which is useful to highway safety practitioners in evaluating and determining the effectiveness of statewide and local countermeasures is currently available in Florida. The state has a functioning citation tracking system that meets the criteria as called for in the *Advisory.*

The Uniform Traffic Citation (HSMV 75901) is used by all law enforcement officers in Florida to document traffic violations of state statutes and municipal ordinances. Oversight for the citation's design and content is the responsibility of the Department of Highway Safety and Motor Vehicles (DHSMV) according to Florida statute §316.650. The information being collected on the citation form meets the requirements of the *Advisory*.

State statute (§316.650 (2)) also requires the court, enforcement agencies, and DHSMV to jointly account for all uniform traffic citations. The Florida Highway Patrol (FHP), local law enforcement agencies, the Judiciary, and DHSMV have established internal controls and procedures to account for citations from their distribution to an officer, to issuance to an offender, to disposition by the court, and placement on the driver history file.

The Office of the State Courts Administrator (OSCA) provides administrative oversight for all courts within Florida. Violations of Florida's Traffic Code are adjudicated within the 67 County Courts.

Traffic citations issued by law enforcement officers are submitted to the clerk of the court. Data from the citation are entered into each of the county court's case management applications for following cases from the point of filing through prosecution to disposition. Additionally, the citation transaction is uploaded into the Traffic Citation Accounting and Transmission System (TCATS). TCATS is a dynamic electronic file that is used to provide DHSMV with the current status of a citation case (open, closed, and disposition). Oversight for the TCATS application is the responsibility of the Florida Association of Court Clerks (FACC).

The DHSMV and FACC are to be commended for having the vision to address the use of electronic citation technology by law enforcement by establishing the TCATS infrastructure to accept data from automated citation applications. TCATS resides in an Enformix database located on a Unix Server.

The FHP and many law enforcement agencies have implemented mobile data computing (MDC) initiatives that include a citation application. These applications must be approved by the DHSMV according to state statute (§316.650 (1c)).

The FHP in collaboration with DHSMV and the FACC has developed an electronic procedure for processing traffic violations from form initiation to issuance to adjudication. The *SmartRMS* application module includes a process for capturing citation information electronically in the field. The citation information is uploaded wirelessly using a Cingular 860 air card to the FHP's Records Management System (RMS). A paper version of the citation is then delivered to the court of jurisdiction for entry in the court's case management system and TCATS.

The FHP is piloting a completely automated citation process. This is an initiative in which it is envisioned that the citation information collected on the MDC and sent to FHP's RMS will be sent electronically to a server located at the FACC for posting into the county court's case management system and TCATS.

Another automated citation module being developed for use by law enforcement is included in the Traffic and Criminal Software (TraCS). The College of Engineering at the Florida State University (FSU) and Florida A & M University (FAMU) has been contracted by the Florida Department of Transportation to develop and customize TraCS to address Florida's business requirements for crash data, citation, and DUI arrest processing. This initiative is still in preliminary stages of development as it is being piloted.

Presently, each of the 67 county courts has its own case management system. The FACC has an initiative to establish a Comprehensive Case Information System (CCIS) containing information about open and closed cases from all county courts. It is anticipated that the CCIS, will serve as the portal for law enforcement, prosecutors, and court personnel to access complete information about defendants regarding any prior actions or cases that may be pending in another court's jurisdiction.

A statewide system that tracks the complete "life cycle" of a traffic citation (distribution to an officer, issuance to an offender, disposition by the court, and placement on the driver history file) is presently available in Florida. Stakeholders of the traffic safety community in Florida have the information necessary to evaluate the effectiveness of enforcement activities and can be assured that there are procedures in place to account for citations from the time they are printed until they are adjudicated and convictions posted on the driver record.

Recommendations

❑   None

Section 1-F: Injury Surveillance System Information

Advisory Excerpt: *With the growing interest in injury control programs within the traffic safety, public health, and enforcement communities, there are a number of local, state, and federal initiatives which drive the development of Injury Surveillance Systems (ISS). These systems typically incorporate pre-hospital (EMS), emergency department (ED), hospital admission/discharge, trauma registry, and long term rehabilitation databases to track injury causes, magnitude, costs, and outcomes. Often, these systems rely upon other components of the traffic records system to provide information on injury mechanisms or events (e.g., traffic crash reports).*

This system should allow the documentation of information which tracks magnitude, severity, and types of injuries sustained by persons in motor-vehicle related crashes. Although traffic crashes cause only a portion of the injuries within any population, they often represent one of the more significant causes of injuries in terms of frequency and cost to the community. The ISS should support integration of the ISS data with police reported traffic crashes. The EMS run reports and roadway attributes are the first critical steps in the identification of a community's injury problem, and in turn, the identification of cost-effective countermeasures which can positively impact both the traffic safety and health communities.

The use of these data should be supported through the provision of technical resources to analyze and interpret these data in terms of both the traditional traffic safety data relationships and the specific data relationships unique to the health care community. In turn, the use of the ISS should be integrated into the injury control programs within traffic safety, and other safety-related programs at the state and local levels.

Status

There are several key components of a comprehensive functional statewide Injury Surveillance System. These components are: emergency medical services, acute care, trauma and rehabilitation facilities, and vital records. Oversight for these entities' activities may be governed by local, state, and regional authorities. Collection of data from these entities provides a wealth of patient care routing, intervention, and prevention information that can be used to evaluate current treatment modalities and injury prevention activities. A comprehensive functional statewide injury surveillance system provides crucial healthcare and injury prevention information to local, state, and regional healthcare providers and policy making partners.

Florida does not have a functional comprehensive statewide Injury Surveillance System although there are several key components with varying degrees of maturity and functionality within the state. These key components are: the Florida Department of Health (FDOH), Division of Emergency Medical Operations (DEMO) which provides regulatory oversight for the EMS and Trauma Systems; the FDOH Office of Vital Records which maintains mortality data; and the Florida Agency for Health Care Administration (FAHCA), State Center for Health Care Statistics (SCHCS) which is the hospital discharge and Emergency Department data repository.

EMS

The Florida Pre-Hospital Data Collection and Reporting System that is maintained in the DEMO is designed to collect pre-hospital data from EMS providers. The pre-hospital aggregate data are self-reported by licensed EMS service providers in accordance with section 64E-2.013(13), Florida Administrative Code. Data are submitted quarterly. Validity of the data is limited due to the voluntary participation by the providers to correct discrepancies and/or to the limitations of the providers' data systems. Approximately 262 EMS providers can access the system and submit data. Currently there are 265 EMS providers and 48,000 EMS personnel that respond to over three million calls. All Emergency Medical Technicians (EMT) and Paramedics are required to complete the State's certification process.

EMS providers are required to submit all (medical and trauma) pre-hospital patient care reports in an aggregate data format to the state data repository. There is not a uniform run report. EMS providers can submit the aggregate pre-hospital data using the Florida pre-hospital data collection and reporting system; however, paper reports are still accepted by the DEMO. The DEMO has just completed the first phase in the development of a new electronic data collection system, Emergency Medical Services Tracking and Reporting System (EMSTARS). During this phase a collaborative process has been used that included the EMS providers and the EMS Advisory Council. These participants will be involved in establishing the system design and functionality requirements. The new data system will meet the requirements of the new version of the NHTSA National Emergency Medical Services Information System (NEMSIS) data dictionary and data format as stipulated in the existing NEMSIS Memoranda of Understanding.

Trauma

There are 240 acute care hospitals in Florida. The State Trauma System has 21 hospitals that are designated as either a Level I (9) or Level II (12) trauma center. Three of the Level II Trauma Centers are designated as both Adult and Pediatric Trauma Centers, and two others are designated as only Pediatric Trauma Centers. These Trauma Centers have completed an in-state trauma designation process. None of these Trauma Centers has completed the American College of Surgeons Trauma Verification process. Only designated Trauma Centers are required to submit data electronically to the State Trauma Registry. The State Trauma Registry was designed to complement the National Trauma Registry of the American College of Surgeons (NTRACS). Approximately 36,000 trauma cases are reported annually to the FDOH.

Hospital Discharge

The Hospital Discharge Data database is maintained by Florida's State Center for Health Statistics (SCHS). According to the *State Center for Health Statistics 2005 Annual Report* there are approximately 2.6 million patients discharged from Florida hospitals each year. Data are collected quarterly based on the patient's date of discharge or visit. Each facility submits data electronically (diskette, CD-ROM or computer tape) to the FAHCA in accordance with the requirements in the administrative rule Ch. 59E-7.012, F.A.C. This rule changed in 2005 to require hospitals to submit data via the Internet beginning January 1, 2006.

These data are submitted using a state data format that is inclusive of the standard Uniform Billing (UB-92) data format which is used by hospitals to bill for their charges. These data

include information on patients who spent at least 24 hours as in-patients but do not include patients who were treated in the emergency room and released. The SCHS collects three types of discharge data from 269 inpatient healthcare facilities including Acute Care Hospitals and Short-term Psychiatric Inpatient facilities, Comprehensive Rehabilitation Inpatient facilities, and Long-term Psychiatric Hospitals.

Emergency Department
The 2004 Affordable Health Care for Floridians Act (Chapter 2004-297, Laws of Florida) included new language that gave FAHCA the authority to collect emergency department data as of January 1, 2005. This statutory authority led to changes in the rule for ambulatory patient data, Ch. 59B-9, F.A.C, to require the reporting of "all emergency department visits in which emergency department registration occurs and the patient is not admitted for inpatient care" (§408.061(1)(a), F.S.). All patients billed for treatment must be reported by their acuity level or the level of seriousness of their condition.

The SCHS collects data from 593 Emergency Departments and freestanding ambulatory surgical centers, lithotripsy centers, cardiac catheterization laboratories, and short-term acute care hospitals in Florida. According to the *State Center for Health Statistics 2005 Annual Report* there were approximately 7.1 million Emergency Department visits in 2004.

Mortality Data
Florida state law mandates that all death data be filed with the FDOH Office of Vital Records. All Medical Examiners, funeral home directors, justices of the peace, and healthcare facilities are reporting data to the state data repository.

The death certificate data provide information on the number of deaths of Florida residents, demographic characteristics of the decedents, and the conditions leading to mortality, including deaths that may have occurred outside of the State of Florida.

Mortality data include the demographic data of the individual, occupation, gender, age, date of birth, age at death, place of death, manner of death, state of residence, and cause of death (identified by ICD-10, International Classification of Disease codes). The ICD-10 system is used to code and classify mortality (the number of deaths) data from death certificates.

Injury Prevention and Surveillance
In 2003, the FDOH Office of Injury Prevention (OIP) located within the Division of Health Access and Tobacco, was established to raise the level of awareness of the injury burden in Florida and to establish injury prevention as a priority within FDOH. In 2004, the Florida legislature recognized the need for a comprehensive statewide injury prevention program to support state and community health systems. Toward that end, in 2004, Section 401.243, Florida Statutes, was created and provides that FDOH shall establish an injury prevention program with responsibility for the statewide coordination and expansion of injury prevention activities. The duties may include: data collection, surveillance, education, and the promotion of interventions.

Recommendations

❑   Obtain legislative support for increased funding for the Florida EMS and Trauma System, injury prevention research activities, and Emergency Department data collection.

❑   Use one data format for the EMS run form.

❑   Move forward with a total electronic data submission process for EMS.

❑   Provide incentives to the EMS providers for submission of the required data set.

❑   Continue implementation of the statewide Emergency Department Data Collection and Analysis System.

❑   Include Trauma Registry data and EMS data, when patient level data are available, in Injury Prevention and Surveillance and traffic safety data analysis activities.

❑   Assure that <u>all</u> managers of the Injury Surveillance System components participate fully in the TRCC.

Section 1-G: Other Information

Advisory Excerpt: *The Traffic Records System should acknowledge the importance of, and incorporate where feasible, other types of information from the state and local level which will be useful in the identification of traffic safety problems and the evaluation of countermeasures. These supporting components may include:*

❑ *Geographic Information Systems (GIS) and Global Positioning System (GPS) data.*

❑ *Insurance data (carrier, policy number, expiration date, claims cost).*

❑ *Safety Program Evaluation data.*

❑ *Data specifically required by state or Federal programs (e.g., the Transportation Equity Act for the 21st Century [TEA-21]).*

❑ *Demographic data (data on the state's population including gender, age, rural/urban residence, ethnicity) sufficient to be used in normalizing crash data to the state's general population.*

❑ *Behavioral data (e.g., occupant protection usage).*

❑ *Attitude/perception/knowledge data (e.g., telephone surveys, focus groups).*

❑ *Economic loss data (e.g., medical, insurance cost, workers' compensation, lost productivity).*

❑ *Inventory - Each state should have in place procedures that result in the compilation of an inventory of state and local information sources. This inventory should include information on the source, ownership (contact agency/person), quality, and availability of these data from each information source.*

❑ *Performance data - Performance level data, as part of a traffic records system, are those measures relating to an ongoing or proposed countermeasure that addresses a crash problem. They can include number and types of citations and convictions, number or percent of drivers and occupants using occupant protection, average Blood Alcohol Concentration (BAC) levels, average speeds, percent of injured receiving EMS response, recidivism rates for past offenders/crash-involved drivers, highway countermeasures (e.g., breakaway signs), etc.*

❑ *Cost data - Cost data consist of dollar amounts spent on countermeasure programs, together with the costs of fatalities, injuries, and property damage crashes. The National Highway Traffic Safety Administration (NHTSA), the National Safety Council (NSC), and other national and state agencies have published cost data for use by the states. NHTSA has also made easy-to-use cost modeling software available. In addition, specific local*

costs can be accumulated through injury surveillance systems or other means of collecting treatment costs and outcomes.

❑ *ITS data – Intelligent Transportation Systems (ITS) is becoming a major force in the area of traffic mobility and traffic safety. ITS also has an enormous potential for capturing traffic safety data. The first area where ITS can facilitate the capture of traffic safety data concerns documenting crash instances. This can be accomplished through video monitoring systems where data are archived. The archived data can be reviewed to ascertain where a crash report was completed on the date and time of the crash observed. The archived data can also be used to corroborate data contained in the crash report such as date, time, crash location, vehicle type(s), and time of arrival of emergency vehicle(s).*

ITS can also be used to record normalizing data such as vehicle counts (ADT) by vehicle type, by location, time of day, and day of week. Normalizing data essential for data analysis where comparisons are made across time and across geographical locations.

Status

Geographic Information Systems (GIS) and Global Positioning Satellite (GPS) data.
The Florida Department of Transportation (FDOT) uses GIS for presenting data, collecting data, and maintaining data. The FDOT District 7 has developed a GIS process for assisting in the analysis of crash data. Other areas of FDOT are interested in using the process. District 7 loads crash data from FDOT's Crash and Analysis Reporting System into a desktop GIS which plots individual crash records based on their Roadway ID number and milepost and also aggregates crashes based on their nearest node to show various crash frequencies and attributes (severity, contributing factor, time of day, etc.) at each node. The GIS database allows a user to select specific types of crashes either system-wide or within a geographic area to help define priorities for particular countermeasures. For example, a system-wide selection of rural roadway run-off-road crashes could be selected and then mapped to indicate problem areas.

The Florida Highway Patrol (FHP) uses GIS to present the location of fatal crashes to the public on their Web site.

Safety Program Evaluation data.
FDOT uses crash and other data to evaluate highway safety program areas including roadway safety, occupant protection, alcohol, and others.

Data specifically required by state or Federal programs (e.g., the Transportation Equity Act for the 21st Century [TEA-21]).
FDOT reports data in accordance with federal programs such as the Highway Performance Monitoring System (HPMS).

Demographic data (data on the state's population including gender, age, rural/urban residence, ethnicity) sufficient to be used in normalizing crash data to the state's general population.
Demographic data for drivers and for the general population are used as normalizing factors and for planning purposes. Driver license data and corresponding rates of crashes, injuries, and fatalities are included in the *2004 Florida Traffic Crash Facts.*

Behavioral data (e.g., occupant protection usage).
FDOT has been involved in a number of programs to impact human behavior. Examples of just a few of these programs are: motor vehicle occupant protection, Click It or Ticket; You Drink, and Drive, You Lose; and the NHTSA Standardized Child Passenger Safety Technician Training.

Economic loss data (e.g., medical, insurance cost, workers' compensation, lost productivity).
Engineering analysis methodology at FDOT follows the requirements for economic loss values as referenced in the Federal Highway Administration's (FHWA) Technical Advisory T-7570.1 & .2, with adjusted dollar values according to the FHWA Memoranda of January 29, 2002.

Inventory data.
FDOT maintains roadway inventory information that is stored based on defined locations. The inventory applies to state roads only and includes signs, signals, pavement condition, bridges, and roadway characteristics.

Performance data.
Performance data related to specific programs are collected by the program administrators to meet reporting requirements. Data on crashes and DWI are collected for use in pre-/post-program evaluations. Program managers meet with traffic safety advocates and contractors in their districts to stay informed about local issues and to monitor the implementation of projects.

ITS data
There are a number of ITS-related initiatives in the state. These initiatives are primarily supported by FDOT and the major metropolitan areas across Florida. They have a wide range of objectives from reducing congestion on the state's turnpikes and freeways, promoting safety by controlling traffic signalization, and coordinating evacuation routes in response to natural disasters.

Recommendations

❑ Provide map-based road coverage for all public roads in Florida.

❑ Expand the use of the GIS model developed in FDOT's District 7 to other areas of the state.

SECTION 2:
INFORMATION QUALITY

A state's traffic records information should be of an acceptable level of quality to be useful and should be maintained in a form that is readily accessible to users throughout the state. The quality of information in a state's traffic records system is determined by the following characteristics:

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

The definition of each of these attributes and their relative significance may vary for each information area (crash, roadway, etc.). For example, while a high degree of timeliness may be crucial for entry of actions in a driver history database, it may not be as significant for certain roadway related data. Also, while the various information sources may exist separately, these sources should be easily tied together. This integration can eliminate the need to duplicate data, thus reducing data collection, entry, and storage costs.

<center>**2-A: Crash Information Quality**</center>

Advisory Excerpt:

❑ *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).*

   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.

❑ *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., feedback to jurisdictions submitting inaccurate reports) and the crash experience in the aggregate (e.g., edit checks in the data entry process).*

❑ *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 and use common identifiers where possible and permitted by law.*

Status

Timeliness
State law requires law enforcement agencies to submit crash reports within 10 days after the completion of their investigations. However, submittal times vary between agencies. The language allowing submittal after the completed investigation provides law enforcement great flexibility on when they submit their reports. No average reporting time is available. It is believed that submissions ranged from ten days to thirty days with fatal crashes usually taking

longer. The initial data entry and imaging occur at the Prison Rehabilitative Industries and Diversified Enterprises, Inc. (PRIDE) and is done by inmates. This process takes approximately one to two weeks after delivery. The time required for analysis when the crash report is received and again when it is returned from data entry makes the data unavailable for use at the Department of Highway Safety and Motor Vehicles (DHSMV) for approximately four months. Year-end close out is achieved by June or July of the following year. Timeliness in regards to availability is an issue.

Several other factors also figure into the timeliness issue. The redundant data entry required by both law enforcement and DHSMV is labor intensive and time consuming. This affects the crash data availability and the Fatality Analysis Reporting System (FARS) and MCMIS reporting. A portion of the problem will be addressed in the future by allowing electronically collected data to be sent to DHSMV, alleviating the need for data re-entry. Currently, there is no set schedule or timeline to show when the Traffic and Criminal Software (TraCS), CTS America *SmartRMS,* or any other electronically captured data will be transmitted.

Crash reports involving a fatality are processed by the FARS analyst with timeliness meeting National Highway Traffic Safety Administration standards although receiving the documents required from all sources creates somewhat of a timeliness issue. Electronic data capture will improve the time it takes to report fatality data to FARS.

Commercial Motor Vehicle (CMV) reporting, however, has serious timeliness issues that are due to a number of circumstances. This includes training of law enforcement in completing the CMV data on the Long Form, understanding of crash data by technicians providing the data to MCMIS at the Motor Carrier Compliance office, and the crash processing system. CMV involved crash data are not sent to the Motor Carrier Compliance office until it has been processed through the entire system. Florida Department of Transportation (FDOT) uses their CARS system to send data once a week. This requires that all processing has to be complete and FDOT has received the data before it can start the MCMIS process. The Federal Motor Carrier Safety Administration (FMCSA) uses 90 days as their measure of timeliness.

Consistency
The crash data are considered consistent from the standpoint that data are reported on a standard form. Electronic data collection tools are using the same form for their systems. However, because there is not an ongoing training program, problems exist in how law enforcement consistently completes the Long Form. Also, since Florida uses the Short Form it is questionable whether law enforcement's use of the appropriate forms are applied consistently across the state. Also, a MMUCC and ANSI D-16.1 conformance evaluation of the Long Form has not been conducted.

Completeness
The crash data completeness is an area that should be included in a quality assurance program. Other than a few spot checks for research purposes, there is no process in place to measure completeness based on the reporting criteria. This process should help understand if the Long and Short Forms are used correctly to meet the reporting criteria. For example there appears to

be a discrepancy between the number of crashes on the DHSMV SQL file and the number of crashes on the FDOT CARS file. This may be due to inconsistent interpretation of the requirements for Short Form versus Long Form completion.

Also, reports should be in place to measure law enforcement agency reporting status compared to data reported in prior years.

According to the FMCSA, CMV involved crashes are not being reported as expected. This can be attributed to problems identifying CMV involved crashes or processing issues at the Motor Carrier Compliance office. The CMV involved crash reporting process should be reviewed to identify areas needing improvement. FMCSA has designated Florida as a "yellow" state in the timeliness and completeness of CMV reporting. Again electronic data collection processes should improve CMV involved reporting because of automated edit checks in place.

Accuracy
To assure accuracy paper reports processed at DHSMV are processed through a number of edit checks. These edit checks are directed toward the correct coding within a code range, completion of mandatory fields, and some data logic checks. There is not an ongoing process in place that captures metrics from this processing to identify repeated errors or law enforcement agencies that may have difficulty completing certain areas of the form. If this process were in place, feedback could be provided to take corrective action.

Accessibility
There are many traffic safety partners that need crash data but are limited to obtaining data by submitting requests. Direct access is available to the FDOT CARS system, but it is limited to consultants and researchers involved in FDOT managed projects.

Traffic safety advocates want access to timely, statewide data to allow them to produce their own reports. An effective Traffic Records Coordinating Committee (TRCC) can help the traffic safety community move forward in communicating the need and priority for accessible data. Web-based systems to provide this access have been discussed but, because of more urgent issues, have been given a lower priority at this time.

Data Integration
Although DHSMV and other safety partners have identified the need for integrating their data systems, it is currently non-existent. In order to accomplish improved data integration, agreements would have to be established and an updated IT infrastructure put in place. There are a number of good models of data integration in the citation tracking and driver and vehicle systems. Using these models to consolidate infrastructure, reduce redundancy, improve efficiencies, and improve business processes are worth pursuing. An effective TRCC can assist in this process.

Recommendations

❑ Establish a formalized Quality Assurance (QA) measurement program for crash data.

❑ Investigate the cause of the discrepancy in the number of crashes on the DHSMV and FDOT files and take corrective action as necessary.

❑ Use the results of the more formal QA program to collaboratively develop a more extensive set of data edits and a certification guide for electronic data capture.

❑ Promote development of a statewide data repository where crash and other data can be made easily accessible to users.

❑ Establish an ongoing training program specifically dedicated to improving crash data timeliness, completeness, accuracy, and consistency.

❑ Promote broad acceptance of electronic data capture and reporting.

❑ Explore ways to improve CMV involved crash reporting by examining the entire process for opportunities for improvement. Consider priority handling of CMV crash reports similar to that provided for fatals.

❑ Conduct an evaluation of data collected on the Long Form for conformance to MMUCC.

❑ Enforce data edits on the front end with all electronic data collection systems to reduce data errors.

2-B: Roadway Information Quality

Advisory Excerpt:

- *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.*

- *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.*

Status

Timeliness
Roadway inventory files are updated when roadways are re-inventoried in accordance with prescribed 3-year and 5-year inventory cycles. Roadway data pertaining to new construction are collected and updated within 60 days of notification of completion. For Florida Department of Transportation (FDOT) business uses the roadway files are timely.

Consistency
Data are usually comparable in content from year to year and by all accounts do not present a problem in analysis or evaluation efforts.

Completeness
The attention to re-inventory all state maintained roads on a periodic cycle assures a high level of completeness. However, the lack of data on the off-state system roads (approximately 107,500 miles) needs to be addressed.

Accuracy

All common features and characteristics (attribute data) in the roadway inventory files are required to be maintained within the accuracy standards prescribed for that attribute. The accuracy standards vary depending on what is being measured. For example, the dimensional accuracy (width or length) for geometrics is usually 1 foot, whereas positional accuracy for establishing a milepoint is usually 5.2 feet. The accuracy of roadway data is within the tolerance standards established for FDOT uses.

Accessibility

Access to FDOT files is provided internally to legitimate business users. Requests from outside agencies, especially non-government agencies, are thoroughly scrutinized before responding.

Data Integration

All state-maintained roadway files can be linked via the location referencing system. The Crash Analysis and Reporting System is an example of linkage of crash, road characteristics, traffic characteristics, and skid hazard data.

Recommendations

❑ Pursue the collection of roadway and traffic characteristics data on all public roads.

❑ Aid local agencies in obtaining the necessary roadway information for safety analysis and program development.

❑ Examine the FDOT policy for access to roadway and safety data with a view to allow access for legitimate business and traffic safety uses.

2-C: Vehicle Information Quality

Advisory Excerpt:

- ❑ *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.*

- ❑ *Completeness – The information should be complete in terms of the 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.*

- ❑ *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, within the parameters of confidentiality.*

- ❑ *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.*

Status

Timeliness
The registration data is updated real-time. When a transaction occurs in a field office, it is updated on the central database immediately. Temporary plates issued in a field office are updated immediately. Temporary registrations (plates) issued by dealers are not currently updated to the vehicle database. A pilot project is underway to update temporary plates issued by dealers immediately so that the information will be available to law enforcement. Stolen vehicle information is updated nightly.

Consistency
The file contains the data content recommended by the *Advisory* and required for AAMVAnet support.

Completeness
Odometer readings are captured when vehicles are titled and when duplicates are processed.

Accuracy

VIN software is used to enhance the accuracy of VINs. Also accuracy is enhanced by use of the various advanced program applications of the American Association of Motor Vehicle Administrators network services described in Section 1-C.

Accessibility

The file information is accessible to users in accordance with the terms of the required contracts for access and is available to other users consistent with the requirements of the Driver Privacy Protection Act. A highly integrated information inquiry system enables users in the justice community an impressive array of vehicle and other information. The system, DAVID, is discussed in Section 1-D, Driver Information.

Data Integration

The file is linked with the driver file and the crash file (and with the dealer file).

Recommendations

❑   None

2-D: Driver Information Quality

Advisory Excerpt:

- *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 which makes use of current technologies (e.g., bar codes, magnetic stripes).*

- *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, providing safeguards are in place to protect 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.*

Status

Timeliness

By law, courts are to report dispositions to the Division of Driver Licenses (DDL) within 10 days of adjudication, and all but one of the counties submits electronically. After the DDL receives a successful upload of the adjudications, they are updated to the driver history record the next business day. The dispositions are processed in batch for addition to the driver record. The driver license system then calculates the applicable suspension or revocation based on the disposition.

Consistency
Data content appears to meet the requirements the Problem Driver Pointer System, Commercial Driver License Information System, and other applications of AAMVAnet and the recommendations of the *Advisory*.

Completeness
The data are complete in all respects, especially in view of the complete citation tracking system in place.

Accuracy
Accuracy is high in view of the identification requirements published by the DDL and the use of the Social Security On-Line Verification process and the Systematic Alien Verification for Entitlements (SAVE) Program.

Accessibility
Courts and law enforcement now obtain driver histories electronically as detailed in Section 1-D, and the DDL will produce paper abstracts if requested by a court. The DDL records are self-authenticating.

Data Integration
The file is linked with the vehicle file and the crash file.

Recommendations

❑   None

Advisory Excerpt:

❑   *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.*

❑   *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 under its jurisdiction.*
      ➢ *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.*

Status

Timeliness

The County Courts are using case management applications to follow cases from the point of filing through prosecution to disposition. This has resulted in traffic cases being adjudicated more efficiently to include the reporting of convictions/dispositions to the Department of Highway Safety and Motor Vehicles (DHSMV).

Currently, 66 of the 67 courts are submitting all disposition information (convictions and dismissals) electronically through the Traffic Citation Accounting and Transmission System (TCATS) to DHSMV daily.

Consistency
There is a standardized citation form (HSMV 75901) used by law enforcement. It contains data elements to identify the type of violation, location, date and time, the enforcement agency, court of jurisdiction, and final disposition.

Completeness
An integrated centralized repository for citations, pending actions, and dispositions is maintained at the DHSMV. The Florida Highway Patrol (FHP), local law enforcement agencies, the Judiciary, and DHSMV have established internal controls and procedures tracking the complete "life cycle" of a traffic citation (from distribution to an officer, to its issuance to an offender, to its disposition by the court, and its placement on the driver history file).

Accuracy
The case management applications being used by the county courts and TCATS contain quality control procedures and edits to identify errors made by law enforcement officers and data entry personnel.

Accessibility
Information about statewide violations and convictions is accessible to all authorized users. It is possible for law enforcement, prosecutors, and court personnel to have complete information about a defendant's history regarding any other prior actions or cases that may be pending in another court's jurisdiction through the Comprehensive Case Information System (CCIS).

The DHSMV annually publishes the *Uniform Traffic Statistics – Violations and Dispositions-City, County, and State.* This report includes information about all "original" violations that were issued by law enforcement and the dispositions of those violations, including those that were reduced or changed. This report is made available on the Internet.

Data Integration
There are common identifiers such as the driver license number on the citation that could be used to link with other data sources. Locations are not recorded in a manner that allows linkage to other traffic records files.

Recommendation

❑   Insure that GPS coordinates are captured and included in the citation records as electronic citation technology is expanded.

2-F: Injury Surveillance Systems Information Quality

Advisory Excerpt:

❑ *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 heath 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.*

Status

Florida does not have a functional comprehensive statewide Injury Surveillance System although there are several key components with varying degrees of maturity and functionality within the state. These key components are: the Florida Department of Health (FDOH), Division of Emergency Medical Operations (DEMO) which provides regulatory oversight for the EMS and Trauma Systems; the FDOH Office of Vital Records which maintains mortality data; and the Florida Agency for Health Care Administration (FAHCA)which is the hospital discharge and Emergency Department data repository.

Timeliness

EMS
EMS providers are required to submit all pre-hospital patient care reports quarterly in an aggregate data format to the state data repository. There is a reporting timeline available on the DEMO website. It was reported that all EMS providers are compliant with the reporting requirements. There are monetary penalties levied against EMS providers that are not compliant with the reporting requirements.

Trauma
All designated Trauma Centers are required to submit trauma patient care data to the state data repository on a quarterly basis. A reporting timeline is available on the Trauma Registry website. All designated Trauma Centers are compliant with reporting requirements. Reporting the required trauma patient care data is an essential criterion for trauma designation.

Hospital Discharge
All acute care hospitals are required to submit UB-92 patient data to the state on a quarterly basis. All acute care hospitals are compliant with the reporting requirements. A reporting calendar is available on the FAHCA website.

Emergency Department
All Emergency Departments and Ambulatory Surgery Units are to report patient care data to the state on a quarterly basis and are compliant with the reporting requirements. A reporting calendar is available on the FAHCA website.

Mortality
Mortality data are submitted to the FDOH Office of Vital Records within two weeks of a person's death. All Funeral Directors, Coroners, Justices of the Peace, and the Medical Examiner are compliant with reporting requirements. Information was not available at the time of this assessment related to the timeliness of data submission.

Consistency and Accuracy

<u>EMS</u>
The State DEMO has not adopted a uniform run sheet. Data are submitted either electronically or on a paper form that must include all of the required data elements. Data are submitted in aggregate form, not patient level form. There is a published EMS data dictionary that is available on the DEMO website at
http://www.doh.state.fl.us/demo/EMS/Newsletter/NewsletterPDFs/approveddataset050306.pdf.

Currently there are 18 third party software products compatible with the state data reporting format that are being used by EMS providers. The State publishes the XML data format and submission requirements on the DEMO web site for these third party vendors. The State has already adopted 24 of the NEMSIS data elements and will be adopting additional data elements in the future with the development of the new Emergency Medical Services Tracking and Reporting System (EMSTARS).

The data are submitted using a paper form or by electronic data submission. It was reported that the collection of aggregate data and the acceptance of paper and electronic data are impacting the quality of the EMS data. There are edit checks and validation processes performed on the data that are submitted electronically to the state repository. Data quality feedback is provided to pre-hospital providers.

<u>Trauma</u>
The Florida Trauma Registry collects trauma patient care data electronically. The State Registry is designed to complement the National Trauma Registry of the American College of Surgeons (NTRACS). There is not a uniform trauma flow sheet. There is a published data dictionary and a list of data elements available on the Trauma Registry website
http://www.doh.state.fl.us/demo/Trauma/PDFs/ftr_manual_Dec05.pdf .

All patients that present to the hospital and meet the following criteria should be entered into the trauma center's registry and reported to the Florida Trauma Registry:

> A. All trauma alert patients presented to the hospital regardless of disposition (patients identified by the state trauma scorecard criteria in Rules 64E-2.017 and 64E-2.0175, Florida Administrative Code).

> B. All deaths from injury, including patients who are dead on arrival, those that died in the emergency department or trauma resuscitation, or in the hospital.

> C. Any patient admitted to the hospital for 24 hours or more, transferred to the hospital, or transferred from the hospital due to an injury diagnosis of 800-959.9 (excluding: 905-909.9; 910-924.9; and 930-939.9).

The data set includes ICD-9 E-Codes (Mechanism of Injury Codes), Abbreviated Injury Severity (AIS) Codes and Injury Severity Score (ISS). These assist in maintaining uniformity and

consistency in the reporting and evaluation of a trauma patient's injuries and probability for survival.

There are edit checks and validation processes performed on the data that are submitted electronically to the state repository. Data quality feedback is provided to the Trauma Centers.

Hospital Discharge
The hospital in-patient (discharge) data are submitted electronically to the state data repository. The Acute Care Hospitals and Short-term Psychiatric Inpatient facilities, Comprehensive Rehabilitation Inpatient facilities, and Long-term Psychiatric Hospitals are required to submit the standard Uniform Billing (UB-92) data format that is used to bill for their charges. These data include patients who spent at least 24 hours as an inpatient but do not include patients who were released from the emergency room. These data identify billed charges, not the actual payments received by the hospital. Data include demographic information, diagnoses (identified by ICD-9, International Classification of Disease codes), diagnostic and operative procedures, billed charges, length of hospital stay, and discharge destination. The ICD-9 system is used to code and classify morbidity (the rate at which an illness occurs) from inpatient records.

There is an online data submission tutorial available on the FAHCA website at http://ahca.myflorida.com/SCHS/apdunit.shtml. Data quality feedback is provided to the acute care hospitals and ambulatory surgery units.

Emergency Department
The Emergency Department data are submitted electronically to the State's web-based data collection system. The emergency department dataset contains 98 data fields including patient demographics, facility, payer, charges, procedures, and ICD-9 Codes. The dataset also includes three additional external cause of injury codes; patient reason for visit (ICD-9 Code); and an hour of arrival code. There is a published data dictionary and XML data schema on the FAHCA website at http://ahca.myflorida.com/SCHS/apdunit.shtml.

Mortality
Mortality data submitted to the FDOH Office of Vital Records include the demographic data of the individual: occupation, gender, age, date of birth, age at death, place of death, manner of death, state of residence, and cause of death (identified by ICD-10, International Classification of Disease codes). The ICD-10 system is used to code and classify mortality (the number of deaths) on death certificates.

Completeness

EMS
There is a process that tracks compliance with data reporting requirements and it was reported that 100 percent of the 262 EMS providers are in compliance. However due to the lack of constraints in aggregate data reporting there is not a process that tracks data accuracy or validity. There are penalties or punitive actions levied against the EMS providers not compliant with aggregate data reporting requirements.

Trauma

There is a process that tracks compliance with data reporting requirements or deficits in reporting to the state data repository. The reporting of trauma patient care data is an essential criterion for trauma designation. In addition, trauma designation and trauma funds may be withheld from those Trauma Centers that are not compliant with the state reporting requirements. Data are submitted to the state Trauma Registry electronically. It was reported that 100 percent of the 21 designated Trauma Centers are compliant.

Hospital Discharge

There is a process that tracks the compliance with the data reporting requirements. All 269 inpatient healthcare facilities including Acute Care Hospitals and Short-term Psychiatric Inpatient facilities, Comprehensive Rehabilitation Inpatient facilities, and Long-term Psychiatric Hospitals are compliant.

Emergency Department

There is a process that tracks the compliance with the state data reporting requirements. Emergency Department data are collected from all of the 593 Emergency Departments and ambulatory surgical centers, lithotripsy centers, cardiac catheterization laboratories, and short-term acute care hospitals. The level of compliance is unavailable because this is a new system.

Mortality

Mortality data are being submitted to the state data repository. Information related to the completeness of the data was not available at the time of this assessment.

Accessibility

Protected patient care data are released in compliance with state and national patient privacy and protection regulations. Patient identifiable data are removed from data released in statistical reports.

EMS/Trauma/Hospital Discharge/Emergency Department Data

EMS and Trauma data are available upon request (adhoc data reports). Trauma data are available internally to DOH staff or to contributing trauma care providers. At this time these data files are not readily being used for injury surveillance or traffic safety activities. The lack of patient level EMS data and a lack of knowledge concerning the value of trauma registry data have inhibited the use of this data for injury surveillance and traffic safety activities.

Hospital Discharge and Emergency Department data are available from the SCHS when 75 percent of the data are certified which is usually within several months after the close of the quarter. These data files are used by the FDOH Injury Prevention Program for data analysis and surveillance activities. There is a data use form and data catalog available for completion and submission to the FAHCA to purchase data. These data are provided electronically. A public data file is available upon request and contains a very limited number of variables that have the crucial patient information removed leaving it virtually unusable for statistical data analysis.

- Security Number
- Date of birth (converted to age)

- Admission date (reported as day of week of admission)
- Discharge date (reported as day of week of discharge)
- Principal procedure date (reported as number of days to procedures)

Mortality data are available by completing and submitting a Data Purchase and Use Agreement with an Institutional Review Board-approved research study protocol to Office of Vital Records.

Researchers may submit a request for a research data file that contains patient identifiable information to the appropriate bureaus for approval on a case-by-case basis.

The FDOH Office of Injury Prevention provides epidemiological and injury surveillance activities. Multiple data files (Hospital Discharge, Mortality, and Crash) are provided to the office for analysis and development of epidemiological studies related to injury surveillance and control, traffic safety, and injury prevention activities.

Linkage
Currently there are no data linking processes or activities that are ongoing in the State. The current status of essential data sources is a factor in the lack of data linking activities. Each of these essential data sources is in various stages of development, maturity, and functionality. Therefore it is not feasible at this time to support a multi-agency data linking project.

At this time the EMS, Trauma, Emergency Department, and Crash data systems are undergoing development. There needs to be a migration from paper data submission to electronic data submission that will provide consistent data formats, data quality, and timeliness of data submission and processing.

As these data systems become functional and mature they will provide comprehensive data files that can be used to drive policy and to assist the state legislators with development of traffic safety and injury prevention initiatives. The DEMO EMSTARS and Trauma Registry are considering the development of a healthcare data warehouse that will provide a comprehensive data source for authorized users. In addition the DOH Office of Injury Prevention provided information related to the traffic-related injury data warehouse concept and proposal that several physicians and researchers are working on in Gainesville, Florida. The project is called Traffic Related Injury Prevention Program (TRIPP). These concepts and project proposals could provide the platform for the development of a multi-agency data warehouse, with the guidance of a Traffic Records Coordinating Committee (TRCC), which could include data files (Crash, EMS, Trauma, Hospital Discharge, Emergency Department, Mortality, and Citation) that can be linked and analyzed for use by traffic safety and injury prevention initiatives and activities.

Recommendations

❑ Use one data format for the EMS run form. Discontinue accepting paper run data.

❑ Develop and implement a data validation process that will check the data for completion, and validate the data variables prior to appending to the EMS production data base.

❑	Continue to move forward with the EMSTARS project and electronic data submission process for EMS run reports.

❑	Provide incentives to the EMS providers for submission of the required data set.

❑	Develop and implement a data quality report for the state EMS and Trauma offices.

❑	Include in the EMSTARS data system an electronic data quality report that can be sent to the EMS providers and Trauma Centers upon processing their data submission.

❑	Consider using the healthcare data warehouse and the Transportation Related Injury Prevention Program (warehousing traffic related injury data) concepts as a model or platform for a statewide traffic records data warehouse with the support of the Traffic Records Coordinating Committee (TRCC).

❑	Assure that all the managers of the Injury Surveillance System components participate fully in the TRCC.

SECTION 3:
USES OF A TRAFFIC RECORD SYSTEM

The end purpose of a state's traffic records system is to establish a base of information and data that is available and useful to its customers, including operational personnel, program managers, analysts and researchers, policy makers, and the public. To be of optimal value to its customers, the system should provide for efficient flow of data to its users and be used in support of a wide range of activities. The traffic records system should support the needs of users at all levels of government (state & local), as well as the private sector and the public. The information demands from this wide range of professions and interests is driven by the need for operational data, as well as planning and evaluation information. Examples of uses are provided in the following sections.

3-A: Program Management and Evaluation

Advisory Excerpt: *Fiscal limitations make it imperative that existing resources (time, staff, funding) be used efficiently. The safety programs at all levels should be accountable for demonstrating the impact of their countermeasures. This places demands on the traffic records system for information to monitor progress and evaluate the impact of countermeasure programs (e.g., monitoring of construction zone crashes during a project, and changes in alcohol-related injuries as a result of an enforcement project).*

Status

The mission of the Governor's Representative for Highway Safety is to reduce the number and severity of traffic crashes on the State's roadways that result in deaths, injuries, and economic losses from property damage. Each year the office is required to review and update its goals and objectives to accomplish the mission. Strategies are developed and implemented as countermeasures to address identified traffic safety problems. These strategies become projects with performance measures that must be evaluated using traffic records data to study pre- and post-project conditions. Projects should be evaluated either administratively or for impact using traffic records data and other pertinent information.

The Florida Department of Transportation (FDOT) State Safety Office (SSO) has management analysts capable of providing data for problem identification, and for program management, monitoring, and evaluation. Statistical analysis is essentially limited to the use of historic data because the crash file is not timely.

While the SSO analysts possess the skills needed for data analysis, there is such a lag in the availability of crash data that the program managers rely heavily on the safety projects to obtain data—often from localities where the programs operate.

The SSO previously received and used more timely "HAC reports" from the Department of Highway Safety and Motor Vehicles (DHSMV), but they are no longer available. Also, information on fatal crashes now provided reportedly does not include some of the information that would be helpful to the SSO.

A project in FDOT District 7 has developed a GIS crash data management system to identify problem locations faster and more easily. The capability has not been extended beyond District 7 at this time.

Recommendations

❑   Provide basic data extraction and analysis tools for the entire user community.

❑   Create and publish a catalog of available highway safety reports and resources to enable all interests in highway safety to become aware of points of contact, plans for improvements, and information available.

3-B: Research and Program Development

Advisory Excerpt: *Data-driven planning decisions within the highway and traffic safety communities necessitates identification of trends and baseline measures. In order to identify safety problems and trends, the traffic records system should provide comparable data, over time, that can be easily linked and analyzed, and that data should be made available to a wide range of users (e.g., State Traffic Safety Offices for development of the safety plan, local police agencies for identification of enforcement zones, etc.).*

Status

The mission of the Florida's Department of Transportation (FDOT), State Safety Office (SSO) is to serve as the focal point for highway safety issues within the state. SSO provides leadership by developing, promoting, and coordinating programs; influencing public and private policy; and increasing public awareness about highway safety issues.

However, the SSO research analysts rely primarily on information from the crash file as their primary data source for highway safety planning, program development, and in particular to publish *Florida's Problem Identification.*

Florida's Traffic Crash Facts is a publication from the Department of Highway Safety and Motor Vehicles (DHSMV), Office of Management Research and Development (OMRD). Presently OMRD staff utilizes crash data to respond to a variety of requests ranging from the very simple to the complex.

There are other valuable data resources, such as citation and disposition information from DHSMV, available to the staffs in the SSO and OMRD. However, it appears that this data source is under utilized. This limits the range of traffic safety issues that might otherwise be included in the state's highway safety planning and program development processes.

Recommendations

- Expand the use of data sources other than the crash file (such as the citation and conviction data from the DHSMV) that can be used to identify a broad range of initiatives and policies relating to Florida's traffic safety problems.

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3-C: Policy Development

Advisory Excerpt: *Informed decision making to support highway and traffic safety policy decisions is only possible with timely, accurate, and accessible information. Traffic records systems data should also be available to promptly respond to legislative and executive requests.*

Status

The State Safety Office (SSO) is currently charged with conducting two major safety strategic planning efforts. These efforts are multi-agency and will have a profound effect on safety policy and decision-making at the state and local levels of government. The SSO will need to meet this challenge by providing the information and mechanisms for decision-making to the state safety stakeholders.

There are several levels of policy decisions. For program level decisions the standard reports produced by the Florida Department of Transportation are very useful. The challenge may be to provide information for the executive level policy decisions that affect safety. The standard reports may not be useful in making decisions on this policy level. Information requested for executive level policy decisions may require ad hoc reports and be interactive in order to address complex queries to generate meaningful information.

Recommendations

❑ Develop a method to receive input from policy level safety stakeholders, including legislators, about their highway safety data needs as part of the needs assessment step in the strategic plan for traffic records system improvements.

❑ Conduct an inventory of safety-related data sources for use by all safety stakeholders and in particular policy level officials.

3-D: Private Sector and Public Requests

Advisory Excerpt: *The traffic records system, through a combination of information sources, technical staff, and public records access policies, should be capable of producing scheduled and ad hoc reports. The media, advocacy groups, safety organizations, the general public, and internal (state and local) users have demands for regular reporting as well as for unforeseen ad hoc reports and access to data extracts. There should be a mechanism in place for establishing what data should be available to public and private sector users, within the laws protecting individual privacy and proprietary information.*

Status

The Department of Highway Safety and Motor Vehicles (DHSMV) responds to local, state, and national data requests. The DHSMV publishes an annual *Traffic Crash Facts* that is available for the years 1994 - 2004 on the DHSMV website. In addition the DHSMV publishes *Quarterly Reports* that provides an overview of the DHSMV activities and statistical reports. The last issue of this publication is July – September 2005. These reports are available on the DHSMV website at http://www.hsmv.state.fl.us/html/safety.html.

Also available on the DHSMV website are the following statistics and studies:

- Aggressive Driver Study
- Drivers License Facts and Figures
- Motor Vehicle Facts and Figures
- Distracted Drivers Report
- Annual Uniform Traffic Citation Statistics
- Long Range Plan 2006-2007
- School Bus Safety Report

It was reported during this assessment that data are available upon request to legislative representatives for use in preparing for upcoming legislative sessions. The crash data has been used to support legislative initiatives and traffic safety bills.

The Florida Highway Patrol website at http://www.fhp.state.fl.us/traffic/ hosts a map of Florida that displays up-to-date real time crash information that includes type of crash, time of dispatch, arrival time, county, and crash location. This information is updated every five minutes, and the public can select a particular county and troop within the state to obtain specific troop level reports in their area of the state.

The Florida Department of Transportation has a Safety Research and Projects Reports website at http://www.dot.state.fl.us/safety/ped_bike/ped_bike_reports.htm that hosts the following behavior and crash studies and user surveys:

- Testing Behavioral Hypotheses on Street Crossing: (why people cross where they do)
- Transportation Issues: Pedestrian Safety, (analysis of Florida pedestrian fatality rates)
- Statewide Survey on Bicycle and Pedestrian Facilities
- Bicycling and Walking Attitudes Survey for FDOT District 5

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- Bicycle and Pedestrian Travel: Exploration of Collision Exposure in Florida
- Interventions to Promote Pedestrian Safety at Urban Intersections
- Pedestrian Crashes on Five Orlando-Area Arterials (MS PowerPoint Presentation)
- Pedestrian Safety Engineering and Intelligent Transportation System-Based Countermeasures Program for Reduced Fatalities, Injuries, Conflicts, and Other Surrogate Measures

The SSO also answers private and public requests to a certain degree within the scope of the new section 409 ruling, and according to internal policies.

The Florida Department of Health (FDOH) Division of Emergency Medical Operations (DEMO) EMS website at http://clientdoh.doh.state.fl.us/IRM00prehospital/Repthome.asp hosts a Welcome to the Florida Pre-Hospital Report Generator provides cause of injury and site of injury reports (aggregate data). The DEMO Trauma Registry website at http://www.doh.state.fl.us/demo/trauma/forms.htm provides access to the Florida Trauma Annual Report that includes motor vehicle crash injury data and injury prevention activities that are provided at each of the 21 designated Trauma Centers. These activities include child passenger safety training, Shattered Dreams (teen impaired driver education and prevention program), Safe Kids, and Crash Dummies Larry and Vince (traffic safety education program).

The FDOH Office of Injury Prevention website at http://www.doh.state.fl.us/workforce/InjuryPrevention/index.html provides access to injury related data that includes motor vehicle crash related injuries and injury prevention activities in Florida. These data reports and resource information includes:

- How Injuries Affect Everyone
- Florida Incidence Data
- Florida Injury Prevention Activities (includes Florida's Bicycle Helmet Prevention Program)

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In addition, injury related data are available at the Florida
Community Health Assessment Resource Tool Set (CHARTS) website at
http://www.floridacharts.cm/charts/chart.aspx, FDOH's
comprehensive web-based health data portal.  FDOH Office of
Injury Prevention staff serves as content experts on the Injury &
Violence portion of CHARTS.
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Recommendations

❑ Provide a web-based data portal that provides de-identified aggregate data reports that can be accessed by the public.

❑ Promote the availability and accessibility of the healthcare (EMS, Trauma, Hospital Discharge, Emergency Department, Mortality, and Injury Prevention) data to traffic safety and injury prevention partners.

SECTION 4:
MANAGEMENT INITIATIVES

The development and management of safety programs should be a systematic process with the goal of reducing the number and severity of traffic crashes. This process should ensure that all opportunities to improve highway safety are identified, considered, and implemented. All implemented highway safety activities should be evaluated. The evaluation results should be used to improve and facilitate the selection and implementation of the most efficient and effective highway safety strategies and programs. This process can be achieved through the following initiatives.

4-A: Coordination

Advisory Excerpt: *There should be a statewide traffic records coordinating committee (STRCC) with representation of the interests from all levels of public and private sector traffic safety stakeholders, as well as the wide range of disciplines that have need for traffic safety information. This committee should be formed within state policy and legal guidelines and institutionalized and empowered with the responsibility (through formal agreements) to recommend policy on traffic records. The state should provide a mechanism to ensure support for the administration and continuance of the coordinating committee, as well as technical guidelines. The STRCC should be responsible for adopting requirements for file structure and data integration, assessing capabilities and resources, establishing goals for improving the traffic records system, evaluating the system, developing cooperation and support from stakeholders, and ensuring that high quality and timely data will be available for all users.*

Status

The leveraging of resources is one of the inherent benefits of having continuous communications between and among members of the traffic safety community. An active Traffic Records Coordinating Committee (TRCC) facilitates this effort.

Florida's TRCC was dissolved in 2002 when it was a subcommittee of the Safety Management System (SMS) steering committee. The committee did have an executive board consisting of policy makers from the involved state agencies as well as a working level. It should be noted that Florida's TRCC remained active for a couple of years even though the Federal mandate for SMS was repealed.

Any improvements to the state's traffic records system are dependent on multi-agency coordination. There are two inter-agency partnerships in existence that could be the catalyst for re-establishing an executive level of a TRCC. These are the *Emergency Medical Services (EMS) Advisory Council* and the *Safety Summit Committee.*

The *EMS Advisory Council* representation is statutorily mandated (§401.245 (2b)). The state-level traffic safety agencies identified are: the Department of Health; Department of Education; the Department of Management Services; the State Fire Marshal; the Department of Highway Safety and Motor Vehicles (DHSMV); the Department of Transportation (FDOT); and the Department of Community Affairs.

The *Safety Summit Initiative* is a project whose purpose is to establish public policy and inter-agency coordination to update Florida's Strategic Highway Safety Plan. The representatives on this committee include FDOT, DHSMV, Florida Highway Patrol (FHP), Metropolitan Planning Organization Advisory Council, Federal Highway Administration (FHWA), National Highway Traffic Safety Administration (NHTSA), and Operation Lifesavers.

However, both of these inter-agency partnerships exclude participants from the Florida Prosecuting Attorneys Association (FPAA), Office of the State Courts Administrator (OSCA), and the Florida Association of Court Clerks (FACC). With their inclusion, Florida would have the executive level TRCC who could establish policies, set strategic goals for project

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development, approve projects, authorize funding, and champion the cause for traffic records. This is critical if the State is to develop a comprehensive integrated traffic records system with the necessary data linkages between and among existing and proposed traffic records files.

Following the creation of the executive level TRCC, the State will need a technical, working level TRCC to include representation of the interests from all stakeholder agencies and to be charged with providing project direction, technical support, project implementation, and collaboration. These members should be the collectors, managers, and users of traffic records data from the private and public sector (federal, state, and local) organizations. The TRCC working level needs a chair capable of managing the implementation of the Traffic Records Strategic Plan as recommend in Section 4-B. TRCC administrative support also will be required which has historically been provided by state traffic safety offices.

A properly constituted TRCC provides for its members the opportunity to coordinate all traffic records projects and become informed about the component parts of and data sets within a traffic records system. The strategic implementation of the various components of the traffic records system will result in economies of scale through joint purchase power, eventual integration of new systems, and the cooperative development of data elements and data dictionaries.

Recommendations

❑   Create an executive level TRCC from the stakeholders to set policy and to provide oversight, support, resources, and direction to all ongoing traffic records activities within Florida.

❑   Formalize the TRCC by developing a charter, obtaining Memoranda of Understanding committing agency heads to participate on the executive TRCC, and generating letters of designation for the technical level TRCC members.

❑   Create vision, mission, and policy statements to guide the TRCC.

❑   Encourage someone from among the membership of the Executive Committee to champion traffic records.

❑   Designate a traffic records coordinator on the State Safety Office staff.

4-B: Strategic Planning

Advisory Excerpt: *The traffic records system should be operated in a fashion that supports the traffic safety planning process. The planning process should be driven by a traffic records system strategic plan which helps state and local data owners support the overall safety program needs within the state. This plan should address such activities as:*

❑   *A continuous review and assessment of the application of new technology in all phases of its data operations: collection, processing, retrieval, and analyses. The strategic plan should address the adoption and integration of new technology, as such change is feasible and desirable in improving the traffic records system.*

❑   *Promotion of local data systems that are responsive to the needs of local stakeholders.*

❑   *Identification and promotion of integration among state and local data systems to eliminate duplication of data and to help assure current, reliable information.*

❑   *Data integration to provide linked data between components of the traffic records system (e.g., Crash Outcome Data Evaluation System [CODES]).*

❑   *Coordination of the federal systems (e.g., FARS, NDR, CDLIS) with the state records systems.*

❑   *Recognition and incorporation, where feasible, of uniform data elements and definitions and design standards in accordance with national standards and guidelines (e.g., MMUCC, ANSI-D20.1, ANSI-D16.1, NGA, EMS Data Dictionary, etc.).*

❑   *Changing state and federal requirements.*

❑   *Capture of program baseline, performance, and evaluation data in response to changing safety program initiatives.*

❑   *Establishment and updating of countermeasure impacts (e.g., crash reduction factors used in project selection and evaluation).*

The strategic plan should be endorsed by, and continually updated through the activities of, the statewide traffic records coordinating committee.

Status

The recommendations from a Strategic Plan for Traffic Records System Improvements conducted in 1998 were:
       A) Improve the timeliness and accuracy of traffic crash data.
       B) Improve traffic crash data quality.
       C) Develop linkages and access to other databases.
       D) Promote the use of traffic records for program planning.

Target dates for action items were updated on an annual basis until the Traffic Records Coordinating Committee (TRCC) ceased to exist in 2002.

The Florida Department of Transportation (FDOT) is attempting to revive the TRCC and strategic planning process for traffic records in order to submit an application for a 408 grant. The impetus for this action is to meet the requirements of a NHTSA grant program to improve state traffic safety information systems under Section 2006 of the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (SAFETEA–LU).

SAFETEA-LU provides that a Strategic Plan for Traffic Records Improvement shall be: "(a) Approved by the State's TRCC; (b) address existing deficiencies in a State's highway safety data and traffic records system; (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." (Quoted remarks are from the 5729 Federal Register / Vol. 71, No. 22 / Thursday, February 2, 2006 / Notices)

The FDOT and its safety partners are engaged in a Strategic Highway Safety Plan under the direction of the State Safety Office (SSO).

This multi-agency strategic plan will provide all traffic safety agency stakeholders in Florida with a planning and coordination tool to allow better collaboration between the stakeholder agencies. The SSO is also taking the lead in initiating a strategic plan for traffic records improvements. The Director of the SSO chairing both efforts will assure coordination between both plans.

Recommendation

- Task the State Traffic Records Coordinating Committee with conducting a traffic records system strategic plan that helps state and local data owners support the overall safety program needs. This Strategic Plan should:
    - Specify the requirements for and from each component of the traffic records system.
    - Identify the goals for improvements for each of the traffic records system components.
    - Set priorities for each goal with a timeline for implementation.
    - Secure commitment to the goal implementation and the timeline.
    - Establish performance-based measures for each of the goals and the strategies developed to achieve the goal.
    - Develop a monitoring process to track progress for each goal and a mechanism to modify or replace goals as required.

4-C: Training and Staff Capabilities

Advisory Excerpt: *Throughout the data gathering, interpretation, and dissemination process, there is a need for training and technical support. A training needs analysis should be conducted for those highway safety professionals involved in program development, management, and evaluation. Training should be provided to fulfill the needs identified in this analysis. There should also be an ongoing outreach program for users of traffic safety program information to assure that all users are aware of what is available and how to use the information to fulfill their needs.*

Status

The State has not conducted a statewide data inventory and training needs assessment for the law enforcement agencies. This would provide valuable information related to the data collection methods, software products that are used, and the computer hardware in use by the local law enforcement agencies. There are agencies that have developed their own electronic crash data collection systems and are using third party software to collect crash data. The extent and variety of these systems is unknown. Due to the lack of the ability for the Department of Highway Safety and Motor Vehicles (DHSMV) to accept electronic data into the state data system, all law enforcement agencies submit a paper crash report.

Training has been provided to the Florida Highway Patrol (FHP) on the use of the electronic data collection system, *SmartRMS*. In addition there has been training related to the use of the Traffic and Criminal Software (TraCS) electronic data collection system to a number of local law enforcement agencies.

The Institute of Police Technology and Management (IPTM) worked in conjunction with DHSMV to develop a four hour training program for Florida officers. This is incorporated into the IPTM's "Traffic Homicide Investigation" course to train Florida officers in the correct completion of the traffic crash report form. This program has been presented 12 times over the last two years.

Basic training is provided at the law enforcement academies on the completion of the crash report and on crash investigation. In addition, there are POST training opportunities for law enforcement personnel related to crash investigation.

The Florida Department of Transportation (FDOT) is currently conducting training sessions in all of the FDOT district offices for the use of the crash data system and analysis techniques to assist staff and to provide technical assistance to end users of the system.

The Florida Department of Health Trauma Registry Program staff have completed Injury Severity Coding Training to assist them in the collection of accurate injury scores from the state's Trauma Centers and to assist in trauma and injury data analysis activities.

Recommendations

❑ Conduct a statewide data inventory and training needs assessment that identifies computers in use at the law enforcement agencies, their data collection process, software products being used, and the availability of Internet services.

❑ Develop a training process for those law enforcement agencies on the completion of the paper crash report form.

❑ Develop an electronic training medium to address the high frequency data errors and data quality problems.

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GLOSSARY OF TERMS AND ACRONYMS

AADT	Average Annual Daily Traffic
AAMVANet	American Association of Motor Vehicle Administrators Telecommunications Network
ADT	Average Daily Traffic
ANSI	American National Standards Institute
ANSI D16.1	Manual on Classification of Motor Vehicle Traffic Accidents
ANSI D20.1	Data Element Dictionary for Traffic Record Systems
BAC	Blood Alcohol Concentration
CCSRS	Comprehensive Computerized Safety Record-keeping System
CDC	Centers for Disease Control
CDLIS	Commercial Driver License Information System
CODES	Crash Outcome Data Evaluation System
ED	Emergency Department
EMS	Emergency Medical Services
FARS	Fatality Analysis Reporting System
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration
GIS	Geographic Information Systems
GPS	Global Positioning System
ICD-9-CM	International Classification of Diseases, Volume 9, Clinical Modification
ISS	Injury Surveillance Systems
MMUCC	Model Minimum Uniform Crash Criteria
NDR	National Driver Register
NGA	National Governors' Association
NHTSA	National Highway Traffic Safety Administration
NSC	National Safety Council
STRCC	Statewide Traffic Records Coordinating Committee
TEA-21	Transportation Equity Act for the 21st Century
TRB	Transportation Research Board
VIN	Vehicle Identification Number
VMT	Vehicle Miles Traveled

TEAM CREDENTIALS

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SUMMARY OF EXPERIENCE

Mr. Benac has over 34 years experience in transportation safety. Mr. Benac's transportation safety career began in the Traffic and Safety Division with the Michigan Department of Transportation where he conducted transportation safety research and was responsible for the development of safety systems. He was team leader in the development of the Michigan Dimensional Accident Surveillance System (MIDAS), Michigan Traffic Sign Inventory System (MTSIS), and Michigan Guardrail Information System. He was the Project Manager in developing MDOT's Safety Status System (SAFESTAT). Mr. Benac worked in the private sector where he was a member of a consultant team developing safety systems for the Ohio Department of Transportation and the Illinois Department of Transportation.

Mr. Benac worked as an instructor at Lansing Community College where he developed course material in traffic technology and taught traffic safety classes.

Mr. Benac is currently employed with the Michigan Department of Information Technology where he is the Project Manager reengineering Michigan's Traffic Crash Reporting System. The project received a ComputerWorld Honors award in 2004 and was recognized as one of five finalists in the Government and Nonprofit category.

EDUCATION

❑   Graduate of Ferris State University in Civil Technology 1970.

❑   Certificates from Michigan State University in Traffic Simulation Modeling 1985.

❑   Certificates from George Washington University in the Management of Information Technology Projects 1999-2001.

COMMUNITY

- President, Lake Victoria Property Owners Association 1981-1989.

- Community Board of Education from 1989 to 2005.

- Member of Volunteer Services, Great Lakes Region, International Red Cross 1991-Present

LESLIE NELSON-TAULLIE
Colorado State Patrol (CSP)
700 Kipling Street
Lakewood, Co 80215

Telephone Number: 303-239-4542
Fax Number: 303-239-4673
E-mail Address: Leslie.nelson@cdps.state.co.us

Title: Manager Grants and Analysis Unit

The Grants and Analysis Section provides technical guidance, information, and recommendations primarily to the Chief's Office of the Colorado State Patrol. The purpose is to:

- Secure and manage federal and state grants awards.
- Establish manpower and resource needs.
- Provide professional analysis on existing, pilot, and potential CSP programs in order to create efficiencies and establish sound performance metrics.
- Respond to requests for information from CSP members, governmental agencies, and the general public.
- Foster partnerships with critical internal and external stakeholders.

Experience

She is the Grants Administrator for the Colorado State Patrol and is responsible for advocating the CSP's position with the federal and state partners. She participates in project and contract negotiations with the oversight agencies. She represents the CSP on inter-agency initiates.

She has twenty-five years experience in the area of data collection, data management, and data analysis. Specific areas of expertise are crash data, citation/conviction data, and crime data.

Organizations

- Colorado State Traffic Records Committee (STRAC)

- Association of Transportation Safety Information Professionals (past Executive Board member)

- National Grants Management Association

LANGSTON A. (LANG) SPELL

1883 Tower Lakes Blvd.
Lake Wales, FL 33859-4807
E-mail: lspell@verizon.net

Independent Consultant

<u>Professional Experience</u>

Mr. Spell entered his professional career in traffic records systems and data exchange over 45 years ago. He is nationally recognized for his work in development of traffic records systems, especially interchange (NDR and CDL) of information amongst various users and the development and promulgation of data standards in information processing.

He served as a member of D16.1 committee. He developed the AAMVA Violations Exchange Code or "ANSI" code (predecessor of the AAMVAnet Code Dictionary or ACD which he also co-developed) while employed with AAMVA and later served as the Accident (Crash) Subcommittee Chairman for the ANSI D-20 Standard, A States Model Motorist Data Base, while employed with the National Highway Traffic Safety Administration.

While employed with NHTSA he created the original reporting forms and file structure for the Fatality Analysis File which was renamed in 1975 as the Fatal Accident Reporting System (FARS) and later renamed again, the Fatality Analysis Reporting System (FARS). He and his staff conducted the training for all of the original analysts.

As an independent consultant, he conducted the NHTSA Uniform Traffic Ticket Study to determine the extent and details of emerging Citation Tracking Systems. He conducted all aspects of the study including on-site State visits and assessments to determine the extent of control being exercised in citation issuance, processing of conviction information through the courts, and recording conviction dispositions in driver history files.

In the private sector, he developed numerous Crash Report forms, instruction manuals for crash reporting, data input procedures, all edits to assure data quality, and reporting and analysis procedures for problem identification. He also developed the EMS Run Report for Kentucky.

He designed the graphical user interface for the Highway Traffic Records Information System for the Virginia Department of Transportation (VDOT) and provided training in the use of the system to the district offices of VDOT.

He was involved in the design and developmental efforts for the Commercial Driver Licensing Information System (CDLIS) and its AAMVAnet environment and was a member of the AAMVAnet "Tiger Team" that made the assessments of selected states to become pilots and eventual founding states in the National Motor Vehicle Title Information System. His background, experience and interested cover the entire spectrum of traffic records systems.

History

1992 – "present"	Independent Consultant (now essentially retired)
1977 – 1992	Senior Traffic Records Analyst National ConServ, Inc. (but 1980 to 1983: Independent Consultant)
1974 – 1977	Vice President GENASYS (Systems Division) (now Keane, Inc.)
1968 – 1974	Chief, Information Systems, NHTSA, US Department of Transportation
1966 – 1968	Director of Data Systems for the AAMVA
1958 – 1966	Staff Specialist in MVRs (driver histories) for Retail Credit Co. (now Equifax) Atlanta, GA

Memberships in Professional Associations (former)

❑   Traffic Records Committee, Transportation Research Board

❑   American Nation Standards Institute, D-16, D-20, and X3L8 Committees

❑   Executive Board, Traffic Records Committee, National Safety Council

❑   Society of Automotive Engineers Committee on Standardization of Vehicle Identification Numbers

Education

Boston University .... S.T.B., 1956
Duke University .... A.B., 1953
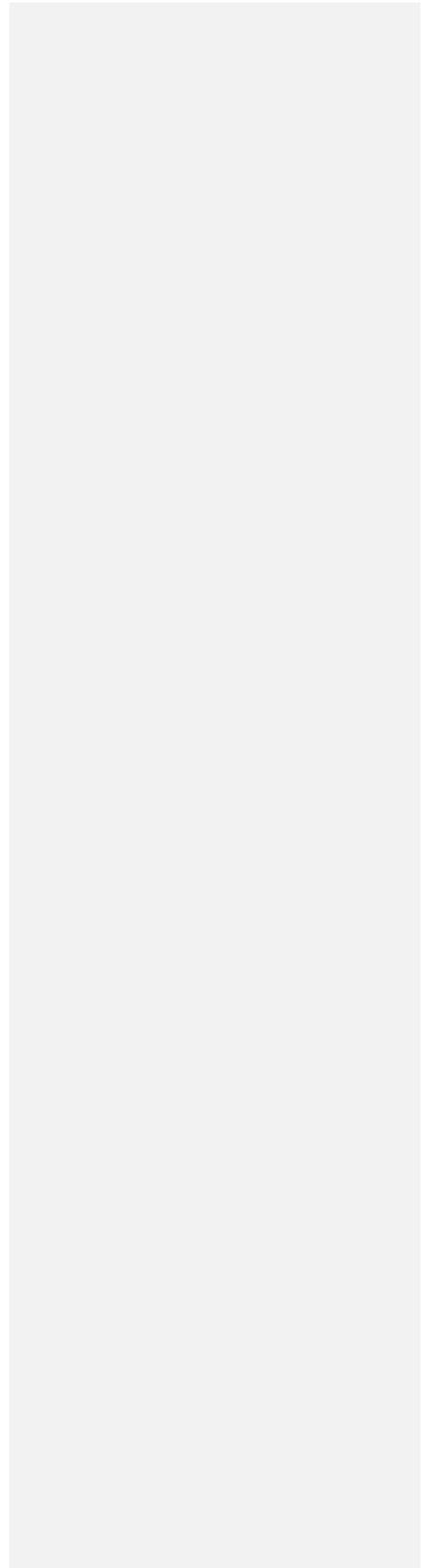
CAROL WRIGHT, R.N.

149 Lazy Lane
Red Rock, TX 78662
Tel. 830-839-4103 or 512-581-2900
E-mail: carol-sunshine@yahoo.com

<u>**Professional Experience**</u>

Current: EMS & Trauma Systems Consultant,
            In graduate school (Nurse Practitioner Program)
            Clinical Nursing (ER & Trauma) at Acute Care Facility
            Guest Lecturer

2000 – 2004   Texas Department of State Health Services   Austin, Texas
                      Injury Epidemiology & Surveillance
Program Administrator II   EMS/Trauma Registry
- Responsible for Grant resource and oversight
- Liaison to legislative staff advocacy groups
- Supervise registry staff
- Program Budget, schedules, travel coordination
- Development of new web-based EMS/Trauma Registry System (TRAC-IT)
  Review RFP, JAD/JRP collaboration
- Data schema analysis
- Development of EMS & Trauma Data Dictionaries
- Staff stakeholder and town hall meetings
- Facilitate EMS provider & trauma registry workgroup
- Staff support and liaison for Governor's EMS & Trauma Advisory Committee
- Resource for EMS/Trauma development and registry issues
- Clinical and technical resource for EMS/Trauma Systems Development

1997 – 2000   Texas Department of Health   Austin, Texas
                     Bureau of Emergency Management
Trauma Designation Specialist
- Survey Trauma Facilities Level 1 – Level 4
- Reviewed designation applications & forward recommendations to Bureau Chief
- Developed revised designation applications
- Developed Quality Improvement Process
- Developed Pediatric Categorization applications and categorization process
- Trained surveyors
- Staff support for Governors Advisory Council
- Liaison with Center For Rural Initiatives and EMS/Trauma Registry
- Presenter at Texas EMS Conference 1998 & 1999
- Developed Grant RFP, grant quarterly & annual reports

1995 - 1997   Memorial Hospital of Gonzales   Gonzales Texas
Trauma Coordinator/Nurse Educator/ ED Director
- Developed Trauma Program
- Developed Trauma Quality Improvement Program
- Developed Trauma Designation & ED policies and procedures
- Developed and taught orientation, advanced cardiac life support, trauma nurse core course prep, emergency nurse pediatric prep, oncology
- Developed and taught EKG course, dosage calculation course, arterial blood gas course
- Facilitated trauma administrative meetings
- Supervised staff
- Developed and presented statistical reports to hospital Medical Executive Committee and Hospital Board of Directors
- Resource and mentorship of Area "P" trauma coordinators

1994 – 1995   Smithville Regional Hospital   Smithville. Texas
Director Quality improvement/ Infection Control/ E.D.
- Supervised Staff
- Budget/Staffing/Staff Training
- Developed and presented statistical reports to hospital Medical Executive Committee and Hospital Board of Directors
- Developed Quality Improvement Program for hospital and three rural clinics
- Developed Infection Control Program for hospital and three rural clinics

1988 – 1994   Medical Center Hospital Odessa   Odessa, Texas
Assistant DON Skilled Nursing Facility/Patient Care Coordinator/ED nurse/ Charge nurse/ Critical Care nurse
- Started employment as an LVN and obtained RN
- Supervised staff
- Budget
- Trained nurses
- Developed and presented statistical reports
- Liaison to Administrator
- Facilitated executive meetings
- Critical and emergency patient care (ICU/CCU/ED)
- Oncology nursing

Education
Graduate School Nursing/Health Administration   currently enrolled
Odessa College Nursing Degree –ADN   Registered Nurse   1989
Certified Emergency Nurse

Current Education
Trauma Nurse Certification
Advance Life Support
Advance Trauma Life Support

Professional Affiliations
- ❑ Texas Trauma Coordinators Forum
- ❑ Emergency Nurses Association
- ❑ National Trauma Society
- ❑ Emergency Pediatric Nurse Association
- ❑ American Trauma Society
- ❑ Association of Transportation in Information Programs

Additional Information

Presenter and Lecturer:

- Annual Texas EMS Conference
- Bi National Traffic Records Conference
- SWT Suicide and Psychology Class
- Texas Trauma Coordinators Course
- Suicide Prevention Lecture "Let's Talk"
- CODES "A Collaborative Partnership"
- Trauma Designation Surveyor Course
- EMS & Trauma Data "Why Do I Send This Stuff"

JOHN J. ZOGBY, PRESIDENT

Transportation Safety Management Systems
1227 North High Street
Duncannon, PA 17020
Voice: (717) 834-5363
Email: jzogby@paonline.com

Summary of Experience

Mr. Zogby has over 40 years experience in highway safety engineering and management and motor vehicle and driver licensing administration.

Mr. Zogby's transportation career began in the Bureau of Traffic Engineering in the Pennsylvania Department of Highways, where he was responsible for statewide application of highway signs and markings. He was instrumental in developing the State's first automated accident record system in 1966. In the late 1960's, he helped initiate and was project director for the statewide safety improvement program and the State's in-depth accident investigation function.

Mr. Zogby worked in the private sector in traffic safety research for several years before returning to public service as the Director of the Bureau of Accident Analysis in the Pennsylvania Department of Transportation (PennDOT). He was appointed Deputy Secretary of Transportation for Safety Administration in February of 1979, a position he held for 13 years, until his retirement from public service in December 1991.

Since his retirement from State government, Mr. Zogby has been engaged as a consultant on management and policy issues for federal, State and local government agencies in the area of transportation safety and motor vehicle/driver licensing services.

Professional and Business Experience

Subcontract with GeoDecisions Consulting on a Safety Analysis Management System (SAMS) for the state of Mississippi.

Subcontract with iTRANS Consulting Inc. on NCHRP project 17-18 (05), Integrated Management Process to Reduce Highway Injuries and Fatalities Statewide for the Transportation Research Board.

Contract with the National Academy of Sciences (NAS) to provide AASHTO Strategic Highway Safety Plan - Case Studies (17-18(06)) for the Transportation Research Board.

Subcontractor with ISG, a systems integration consulting company, conducting a reengineering contract with the Pennsylvania Department of Transportation in the area of motor vehicle processes.

Subcontractor with the Pennsylvania State University to research the impact of an education provision in State law governing novice drivers.

Conducted a three-week course on safety management for the Ministry of Communications in the Kingdom of Saudi Arabia.

Subcontractor with a Moroccan Engineering firm to develop a national highway safety plan for the Country of Morocco.

Completed a study for the State of Mississippi, Department of Public Safety, to develop a Strategic Plan for Highway Safety Information.

Contracted by the Federal Highway Administration, Office of Motor Carrier Safety, to help in the final implementation phase of the Commercial Driver License (CDL) program.

Consulted with several States in assessing their Traffic Records capabilities to address highway safety program management needs. In addition, completed Traffic Records Assessments for three Indian Nations in Arizona.

Project director and principal instructor for a Federal Highway Administration (FHWA) contract to develop, implement, and instruct a training program for the Highway Safety Management System.

Professional Societies and National Committees

Member Institute of Transportation Engineers.

Member Emeritus of the Transportation Research Board (TRB) Committee on Transportation Safety Management.

Chair TRB task force on Safety Management status.

Member of the National Safety Council's Association of Transportation Safety Information Professionals.

Past Chair of the National Safety Council's Traffic Records Committee.

Past President of Region 1 of the American Association of Motor Vehicle Administrators.

Past President of MidAtlantic Section, Institute of Transportation Engineers.

Chaired the Governing Board of the International Registration Plan.

Chaired a subcommittee of the NGA Working Group on State Motor Carrier Taxation and Regulation.

Completed six-year tenure as Chair of the TRB committee on Planning and Administration for Transportation Safety.

Community

Chairman, Duncannon Borough Planning Commission

Executive Board, Perry County Economic Development Corporation

President, Duncannon Area Revitalization, Inc.

Board Member, Tri-County Regional Planning Commission

Task Force Member, Cumberland/Perry Counties Safety & Congestion Management Study

Pastoral Associate, St. Bernadette Church, Duncannon, PA

Education

B.S., Economics, Villanova University

MPA, Penn State University