



STATE OF KANSAS

TRAFFIC RECORDS ASSESSMENT

MARCH 21 – 25, 2005

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

During 2004 the Bureau of Traffic Safety (BOTS) of the Kansas Department of Transportation (KDOT) requested that the National Highway Traffic Safety Administration (NHTSA) facilitate a traffic records assessment. NHTSA proceeded to assemble a team of traffic records professionals representing the various disciplines involved in a state traffic records system. Concurrently the State 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 EMS and trauma data systems) conducted the assessment March 21 to March 25, 2005.

The scope of this traffic records assessment included all of the data systems comprising a traffic records system. The purpose of this assessment is to determine whether Kansas's 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 the attributes of the various traffic records system components and the support needed for Kansas's management of its highway safety programs.

The Bureau of Transportation Planning of KDOT is the official custodian of the State's crash file, the Kansas Accident Records System (KARS). The file contains records of crashes reported by law enforcement agencies following the State's reporting threshold: crashes involving a fatality, an injury or property damage of at least \$1,000 in the aggregate, a change this year from a \$500 reporting threshold. KARS has been able to produce annual crash statistics within 2 to 3 months of the end of the calendar year. The official file used until now has been the 2003 crash data. The 2004 file will become closed and official on or about April 1, 2005. The file is populated with data entered by the Kansas Correctional Industries (KCI) with extensive edits and a comprehensive designation of crash locations using the Kansas location reference system. That system meets the accuracy requirements for crashes on both the state road system and the off-state systems. Edits applied at KCI are stringent enough so that final edit failures applied at KDOT are infrequent. Edit failures and incomplete reports at any point are returned for correction.

A process for receiving crash data automated at the source has been established, the Electronic Accident Data Collection and Reporting (EADCR) application. Numerous agencies have begun using EADCR to generate reports, initially sending paper output from EADCR to KDOT. A small selected set of users are relaying electronic records to KDOT, and electronic input will be broadened as KDOT enables additional users to submit electronically. EADCR is a component extracted from the Kansas Highway Patrol (KHP) Automated Field Reporting System (AFRS). Thus, input from both KHP and a growing set of local agencies will become the dominant path for input to KARS. EADCR is offered to third party vendors of records managements systems to enable them to generate EADCR output. There is no charge for the software module. Migrating to input processes at crash sites is reserved for development in the future after the full deployment of the EADCR in its present mode.

At this point neither AFRS nor any other system sponsored at the state level includes a module for automating citation records for transmissions to courts.

BOTS and the file custodian bureau (Transportation Planning) both do an outstanding job in providing data and information to the highway safety community with data analyses, statistical summaries and published reports. BOTS is recognized as the principal source for highway safety information in the State.

The usefulness of the crash data fully meets the needs of KDOT but is not so usable by local agencies because of the location reference system being “KDOT-bound.” The lack of accommodating local location systems adversely affects other traffic records event data such as citations and EMS runs which operate outside of the KDOT location reference methods.

Currently there is no single statewide source of data on traffic citations and their subsequent dispositions to analyze the effectiveness of enforcement of the State’s traffic laws and to ensure the integrity of citation processing from distribution of citation forms to law enforcement agencies, to their issuance to offenders, and to their disposition by the courts. Consequently there is no citation tracking system as called for in the *Advisory*.

Driver records at present are incomplete, lacking conviction data that should be present in the files. It was stated in the interviews that some courts do not report as required by law. It was also reported that the Division of Motor Vehicles (DMV) in the Kansas Department of Revenue has failed to capture a portion of the DUI conviction information submitted by one major municipal court. That court also discovered that a portion of their DUI convictions were improperly handled by that court. Additionally, legislation was previously enacted to drop convictions more than 5 years old. Although subsequently rescinded, the records are deficient for lacking the convictions for serious offenses including DUIs. Finally, as stated above, the lack of a citation tracking system means that neither the DMV nor any other organization could know what is *not* sent to the DMV.

There is no statewide comprehensive Injury Surveillance data system.

The State has launched a Safe Driving Initiative with commitments from three cabinet level executives from KDOT, KHP, and the Kansas Department of Health and Environment. However, there is no Traffic Records Coordinating Committee (TRCC) as called for in the *Advisory*. The Safe Driving Initiative does not have the scope of executive level management and participation needed to complete the statewide comprehensive traffic records system as called for in the *Advisory*. Expansion should include representatives from driver records, the judicial system, and local enforcement and engineering.

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

MAJOR RECOMMENDATIONS

Roadway Data

Continue the development of a GIS platform to serve as the enterprise system for Kansas Department of Transportation (KDOT) roadway and safety databases. **(1-B)**

Encourage and provide resources for the electronic capture and transmission of data and the use of GPS devices for on-site data collection. **(1-B)**

Pursue a dialogue with local governments to provide crash location data that accommodates their need for street name designation along with street number or block identification. **(1-B)**

Crash Data

Resolve as soon as practical the existing disconnect between Automated Field Reporting System (AFRS) and Electronic Accident Data Collection and Reporting (EADCR) to allow XML files to be generated by AFRS for upload to Kansas Accident Records System (KARS). **(1-A)**

Investigate fully what other impediments exist that prevent reporting of BAC data in addition to those targeted in the BAC Data Improvement grant and develop a comprehensive plan for improving BAC reporting. **(1-A)**

Create a data repository to house data extracted from various traffic records components such as citation databases, EMS and Trauma databases, and driver and vehicle databases. Insure that each of these data extracts contain data variables that are linkable to other data sets within the repository. **(1-A)**

Driver & Vehicle Data

Correct the failure to post the convictions that have been reported as missing from court submissions. **(1-D)**

Establish processes to improve the response to courts and prosecutors for certified driver histories, and seek legislation if necessary to make electronic certified records acceptable thus enabling immediate responses. **(1-D)**

Coordinate with the courts and prosecutors to establish outputs which are more readable and useful than the certified records now being produced. **(1-D)**

EMS & Trauma Data

Establish an electronic pre-hospital (EMS) data collection and analysis system. **(1-F)**

Continue to seek funding opportunities to support the development and maintenance of an electronic pre-hospital data collection and analysis system. **(1-F)**

Continue collaboration and data sharing relationships between data owners within the traffic safety and injury prevention community. **(3-D)**

Seek opportunities to share traffic safety data with healthcare professionals involved in injury prevention activities and surveillance. **(3-D)**

Citation Data

Design and implement a centralized statewide citation tracking system containing information about a citation from “cradle to grave.” Each record in the system should contain information about all actions pertaining to that citation, from its issuance to an offender, to its disposition by the court, and its placement on the driver history file (as appropriate, e.g., upon a conviction). The “Full Court” application could be the foundation for this centralized statewide system. **(1-E)**

TRCC

Create a two-tiered Traffic Records Coordinating Committee (TRCC). Establish two levels of representation from each organization involved in the collection, management and use of data from each component of the traffic records system: an executive level capable of committing resources and a working level with knowledge of the operations, requirements and functionality of the components. **(4-A)**

Strategic Planning

Task the TRCC with oversight of the development of a Traffic Records Strategic Plan based on the present assessment findings. 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.
- Develop a monitoring process to track progress for each goal and a mechanism to modify or replace goals as required. **(4-B)**

ACKNOWLEDGMENTS

The Traffic Records Assessment Team would like to acknowledge and thank Terry Heidner, Director, Division of Planning and Development, Kansas Department of Transportation (KDOT), for his support and able assistance in making this assessment possible.

Also, the team would like to recognize the contributions of John Schneider, consultant to KDOT for his expert guidance, planning, logistical arrangements and support in making this assessment effort a success.

Kay Banks support during the preparation phase of this report was especially appreciated. The team wishes to recognize her patience, skills, cooperative spirit, and sense of humor.

The team would like to thank Clayton Hatch, team facilitator, for giving a national perspective to the assessment process and its goals. The team would also like to thank Joyce Jones, NHTSA Headquarters and Randy Bolin, NHTSA Region for their contributions.

The team would also like to thank the principal participants in the assessment for the time invested, the information they presented, and their candor in answering the many questions put forth by the team.

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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

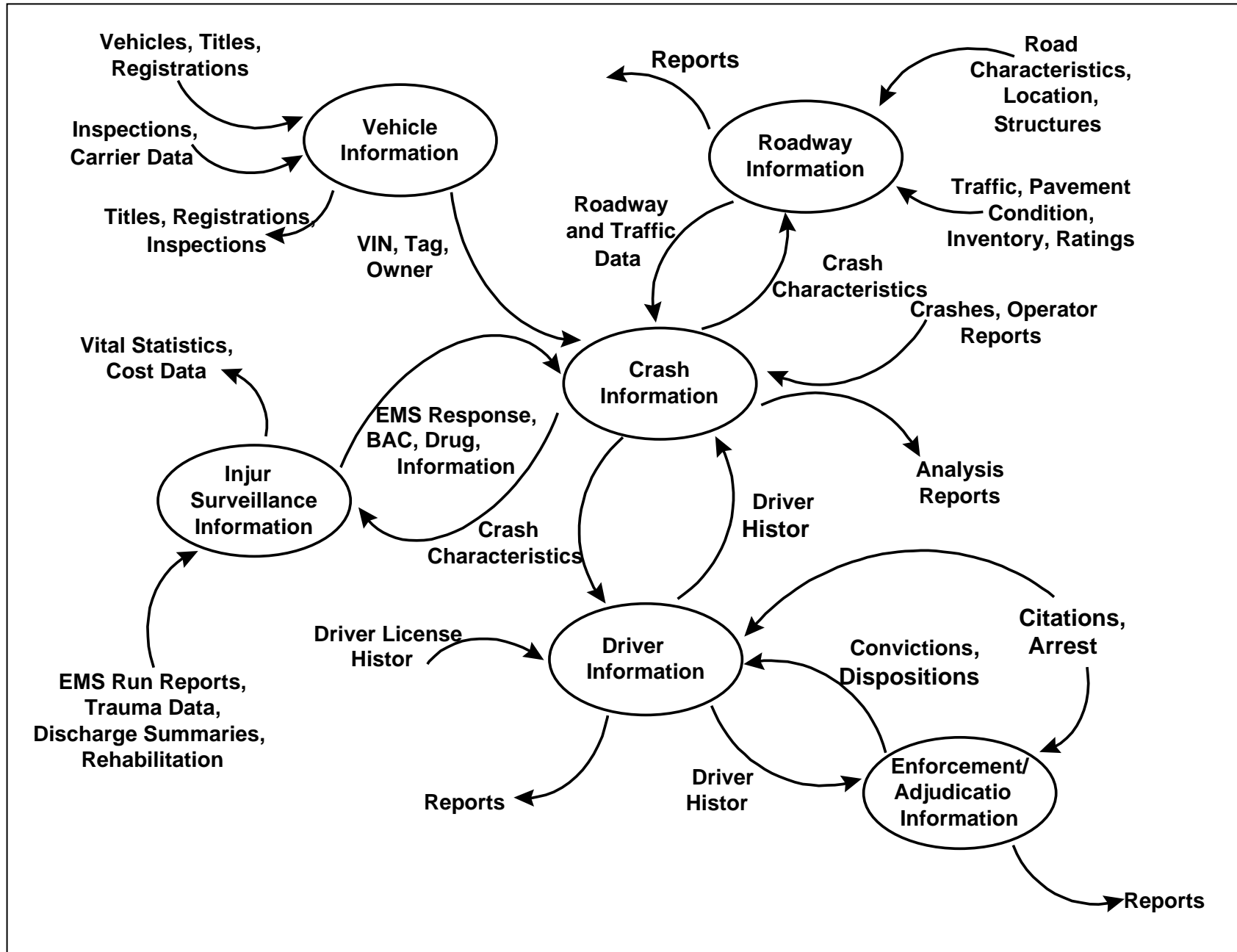


Table 1. Components of a Traffic Records System

COMPONENTS		EXAMPLES
Crash		<ul style="list-style-type: none"> • 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		<ul style="list-style-type: none"> • EMS response time for driver/pedestrian/pedacyclist • Hospital assessment of injury severity • Hospital length of stay and cost • Rehabilitation time and cost
Roadway		<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Type and configuration • VIN • Age/model year • Weight • Registration information/Plates • Defects • Owner information • Safety devices (type and condition)
	Commercial	<ul style="list-style-type: none"> • Carrier information • Hazardous materials/Placards • Inspection/Out of Service Records
Driver		<ul style="list-style-type: none"> • Age/DOB • Gender and Ethnicity • Experience, driver education • License status • Conviction history
Enforcement/Adjudication		<ul style="list-style-type: none"> • Citation tracking • Traffic case volume • Conviction • Sentencing • Case tracking

Section 1-A: Crash Information

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 official custodian for the crash file in Kansas is the Bureau of Transportation Planning, Division of Planning and Development, of the Kansas Department of Transportation (KDOT). All crashes that involve a fatality, an injury or property damage exceeding \$1,000 are required to be reported to KDOT on Motor Vehicle Accident Report, DOT Form No. 850, Revision 1-2005. Investigating agencies are required by statute to submit crash reports to KDOT within 10 days of completing a crash investigation. The records, about 80,000 per year, are maintained in the Kansas Accident Records System (KARS) in an ORACLE database.

As hard copies of the crash reports are received, those reports involving fatalities are separated out for copying and forwarding to the Fatality Analysis and Reporting System (FARS) analyst and those involving commercial vehicles are copied and forwarded to the Kansas Highway Patrol (KHP) for submission of data to Federal Motor Carrier Safety Administration's (FMCSA's) SAFETYNET system as discussed below. After an initial "eyeballing" of the reports to screen for obviously erroneously submitted reports, all reports are then sorted into four groupings: state maintained roadways in rural areas, state maintained roadways in cities, non-state roadways in rural areas and non-state roadways in cities. On a weekly basis the reports are boxed and sent to the Kansas Correctional Industries (KCI) for data entry. At KCI the reports are scanned into an imaging system at which time a bar code number is assigned to the image. KCI inmates apply exact location data, and key enter the reports using the KARS software. Rigorous validation routines are run to check for errors, and errors are corrected. The keyed data and image files are returned on a weekly basis to KDOT, where additional error checking is

performed as the data are processed to the operational crash file. The KDOT staff also runs a comparison between the reports entered on the crash file and those in the image file to verify that all reports have been processed.

This is a very impressive and thorough process. The State is to be commended for the outstanding work of both the KDOT managers of the crash data system and the manager of the KCI operation, a unique and obviously successful endeavor. The result is a highly accurate and reliable data system, the testament to which is the high praise and compliments from many of the users interviewed by the team during this assessment.

A few minor deficiencies were noted in some of the data content. Some of the variables are notably lacking, especially BAC data. The crash data system does provide for amended reports to be submitted after the initial report. However, preparation and submission of amended reports to add BAC data obtained by an officer after the initial report has been filed is rare. This lack of BAC data poses a very significant problem for the State not only in its ability to comply with the FARS reporting requirements, but also in its ability to analyze its alcohol-related crash problem. Kansas law does not require testing in fatal crashes; therefore there is no guaranteed method for obtaining BAC data. The law does allow for testing, and several of the large coroners' offices have a policy to test. However, some coroners refuse to draw blood or will not provide the results if they do, and some law enforcement agencies have policies forbidding the entry of BAC data on the crash reports because of their privacy concerns.

The FARS analyst is left with obtaining BAC data in a variety of ways, including sending requests to the reporting jurisdictions, contacting coroners, etc. Consequently, the FARS analyst is only able to obtain BAC data in about 40% of the fatal crashes. The State has received a grant to improve its BAC reporting, which involves providing more Preliminary Breath Test (PBT) equipment to law enforcement agencies, and educating and encouraging them to vigorously pursue testing under probable cause for suspected drivers and requesting voluntary tests for drivers who had not been drinking. Results of the effectiveness of this project are not yet available.

Commercial motor vehicle crashes are reported to the State on the Truck Bus Supplement, DOT Form 852. Those reports received from the KHP and the 26 local police and sheriffs departments who have received the Motor Carrier Safety Assistance Program (MCSAP) training are complete and accurate by state standards. Reports from other police agencies in the State for the most part are incomplete and have many errors. Kansas has received a FMCSA Crash Data Improvement Program (CDIP) grant to provide training for the rest of the State on reporting commercial motor vehicle crashes and is planning that process now.

As these commercial motor vehicle crash reports are received in the KDOT, they are copied and sent to the KHP. At the KHP several data elements on the Form 852 must be recoded to conform to the National Governors Association (NGA) truck and bus crash data elements. This became necessary because of an earlier decision in the State not to follow the NGA guidelines. The recoding is now required to make the data elements compliant with SafetyNet and the Motor Carrier Management Information System (MCMIS) guidelines. The State has plans to redesign

the crash report form and supplements to place them in compliance with all required guidelines and recommendations.

Seventy law enforcement agencies are currently using the KDOT Electronic Accident Data Collection and Reporting (EADCR) application for their production of the hard copy crash reports. Thirteen of them are pilot testing the electronic submission of the crash reports. EADCR allows a law enforcement agency to create data files from its records managements systems (RMS) in an XML format for submission to KDOT for entry into the KARS database. A key component of the EADCR application is a set of validation rules that users must follow to complete the crash forms properly. These validation rules and mandatory field rules for completing the crash reports are encapsulated in a Component Object Model (COM), a programming technique that allows complex functionality to be reused in various disparate systems.

The crash reports from the 13 pilot test agencies using EADCR have been used for testing the output produced and is close to matching the KDOT requirements. In addition, the KHP is using an electronic data collection system, the Automated Field Reporting System (AFRS), which is being modified to meet the validation requirements of EADCR. However, KHP has not yet met the XML requirements to send crash data to KDOT. Once resolved and once EADCR pilot testing is completed this spring, the crash reports from these 14 agencies will result in about 15% of all crash reports statewide being sent electronically to KDOT.

Further, there are currently twelve third party vendors that have crash data capture software also being used to electronically process data into local law enforcement agencies' RMSs. EADCR has already been successfully integrated with another vendor's software in a local law enforcement agency. Other law enforcement agencies have requested their software vendor to integrate the output from EADCR into their existing RMSs, thus using EADCR for their front-end processing and reporting to KDOT, while maintaining the functionality of their existing RMS to allow compilation of data and reports for their local users. KDOT has sent the necessary requirements as well as the validation rules (COM object) that need to be incorporated into the vendors' systems. KDOT is working with these vendors to insure the output generated can be electronically sent to KDOT.

There are other law enforcement agencies that are writing their own interfaces to send data to KDOT from their existing crash data systems, regardless of whether the agency uses field data capture software or uses a conventional data entry process from hard copy reports. KDOT has provided these agencies with the necessary requirements and validation rules to ensure the output is generated properly.

Overall the State's crash data system is a model business enterprise and is a very effective source of data for the State's safety program managers and other stakeholders. The Bureau of Traffic Safety (BOTS) uses the data in its Highway Safety Plan (HSP) development. The BOTS research analyst has direct access to the KARS file using an ORACLE query tool. Other users either obtain data from analysts in BOTS or from the KARS management staff directly. KDOT provides some counties with an ACCESS database (with redacted personal identifiers), has established a web site with crash statistics, provides hard copy reports on request and produces a

copy of the crash file to the engineering staff within KDOT. The KARS management plans to develop a web-based public query capability with pre-defined data elements to be queried on.

BOTS is not able to link crash data with data from other traffic records system files.

Users in general were very complimentary of the data and the excellent response to their data requests provided by KDOT.

Recommendations

- Resolve as soon as practical the existing disconnect between AFRS and EADCR to allow XML files to be generated by AFRS for upload to KARS.
- Investigate fully what other impediments exist that prevent reporting of BAC data in addition to those targeted in the BAC Data Improvement grant and develop a comprehensive plan for improving BAC reporting.
- Create a data repository to house data extracted from various traffic records components such as citation databases, EMS and Trauma databases, and driver and vehicle databases. Insure that each of these data extracts contain data variables that are linkable to other data sets within the repository.
- Continue plans to update the Commercial Motor Vehicle Crash supplement (Form 852) to bring it into compliance with NGA and MCMIS.
- Complete training to all law enforcement in the state on proper identification of commercial motor vehicle crashes and completion of the supplemental report.

Section 1-B: Roadway Information

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 Kansas Department of Transportation (KDOT) maintains a roadway information database (CANSYS) containing characteristics such as traffic, geometry, functional class, median barrier, roadside hardware, bridge, pavement and railroad crossing data. The database is used in the management of the 10,600 mile state road system. The database uses a location reference system (LRS) for the state system by county, route and log milepost within the county. On the non-state system (approximately 123,000 miles of roads) the LRS uses route, cross-route and offset distance from a reference point.

KDOT has Geographic Information System (GIS) capabilities and is currently developing a GIS that can eventually be used as the department enterprise system for all road and safety data. The GIS is part of an EXOR product that creates an Oracle relational database for the CANSYS. The GIS is used by the Oversize/Overweight Section for routing trucks. Global Positioning Satellite (GPS) devices were used by KDOT in obtaining latitude and longitude coordinates for over 58,000 roadway access points and 6,000 rail grade crossings.

KDOT has implemented an ITS project, the Advanced Traffic Management System in the Kansas City Metropolitan area in partnership with the Missouri Department of Transportation. This system makes use of 79 closed circuit cameras, 39 electronic message signs and 196 vehicle detection locations within the Kansas City area.

KDOT is able to locate crashes on the state highway system. Most local governments use crash data from their Records Management System because the state crash file, Kansas Accident Record System (KARS), data does not provide the local agencies with the accuracy and detail of location information needed for identifying crash locations on their streets and roads.

The CANSYS and KARS provide information for various highway safety uses. Among these are the Priority Formulas, which are used to select Major Modification (Interstate and Non-Interstate Roadways) and Priority Bridge highway improvement projects. The Priority Formulas look at several road attributes to evaluate roads and bridges. An attribute describes a specific deficiency of a roadway or bridge that can be corrected. The attributes evaluated include width of shoulders, number of severe curves and other geometric conditions that may create the potential for a crash.

In addition, the crash rate for a particular section of road is measured and used along with road and bridge condition deficiencies in the Priority Formulas to determine the overall need for an improvement project.

Other major safety initiatives undertaken by KDOT include the Federal Aid Surface Transportation Program (STP) and State Aid Safety Set Aside Programs. Crash data is a primary component in determining if a project is needed and the appropriate countermeasure. Ninety percent of the budget dollars for these programs are targeted to local communities. For the Federal Aid STP, local jurisdictions are responsible for providing the crash data to justify project inclusion in the State Transportation Improvement Plan (STIP). For the state system, the State Aid Program, the Bureau of Traffic Engineering prepares the safety analysis and justification for project approval.

Recommendations

- Continue the development of a GIS platform to serve as the enterprise system for KDOT roadway and safety databases.
- Encourage and provide resources for the electronic capture and transmission of data and the use of GPS devices for on-site data collection.
- Pursue a dialogue with local governments to provide crash location data that accommodates their need for street name designation along with street number or block identification.

Section 1-C: Vehicle Information

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 vehicle file is maintained by the Kansas Department of Revenue (KDOR), Division of Motor Vehicles (DMV) and contains registration and title records on just under 2.5 million vehicles. The DMV oversees the administration of motor vehicle registrations (which are issued by counties), issues motor vehicle and trailer titles and maintains vehicle title and registration records. Registrations for commercial motor vehicles are maintained by Motor Carrier Services, but the titles for commercial vehicles are integrated with the DMV file. The DMV also licenses and monitors Kansas vehicle dealers and issues temporary permits, including oversize/overweight permits. Registrations and title applications are done through the 105 counties, and title issuance is centralized.

The scope of information for vehicles meets the recommendations of the *Advisory* and is adequate for participation in the applications developed by the American Association of Motor Vehicle Administrators (AAMVA). Classifications are based on weight, use and vehicle configuration.

Odometer readings are captured at the time of initial registration and titling. The readings are not captured for registration renewals. They can be updated if a title holder obtains a new title, but it is not a requirement or customary practice.

R. L. Polk's VINA is used for converting portions of the descriptive information coded in the VIN and assuring VIN accuracy.

The vehicle file receives input each business day (overnight) including temporary registrations, and the transactions are placed in a Work In Progress (WIP) File and held until the paperwork is received—customarily in about a week. When it is received, the record is moved into a Current File. When all processing is completed, the record becomes part of the History File which is the permanent record. It is possible for records to remain in the WIP File for a lengthy time. If nothing is received in 3 years, the record is placed on the History File and a stop is put on the record so the vehicle cannot be titled or registered without proper current documentation being presented.

Salvage information is received from insurance companies and titles are branded as Salvaged for (*reason stated* such as fire, flood, etc.).

Kansas has indicated interest in becoming a National Motor Vehicle Title Information System (NMVTIS) state capable of performing all of the NMVTIS functions but does not expect to be able to do so without federal funding. There is also concern that NMVTIS may not continue to be available for lack of funding.

Records are flagged when vehicles are stolen if a report is provided by the owner with a police report attached; law enforcement normally is the source for stolen vehicle information.

Vehicle summaries are produced to analyze registration trends, and the summaries are provided to the Bureau of Traffic Safety for their use in normalizing crash data or also provides an ACCESS file annually to BOTS.

The FARS analyst queries the file regularly for vehicle characteristics information.

Queries from individuals about their own records and other sources (accessKansas, Experian and Carfax under contract) are processed within the constraints of the Driver Privacy Protection Act (DPPA). Form TR/DL 302 is provided to those requesting either vehicle or driver records.

The file is primarily used for maintaining the information necessary for the vehicle registration and title functions. It is not linked with the driver file. There are no modern technologies in use that enhance the capture of data in the field or link with any other files.

The data system for vehicles is antiquated, and a complete rewrite of the software is anticipated in the next 3 to 4 years. The current system is 20 years old, and it does not have the functionality to enable more timely processing of vehicle information

Recommendations

- Accelerate the development and implementation of a replacement vehicle information system.
- Provide for a means to enable a scan of the registration document or card to enable a crash report or citation to capture the VIN and ownership information as it appears on the KDOR files.

Section 1-D: Driver Information

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 driver file is maintained by the Kansas Department of Revenue (KDOR), Division of Motor Vehicles (DMV) and contains records on 2.1 million licensed drivers to support the functions of license issuance and driver control.

The file contains the information necessary to participate in the National Driver Register (NDR) and the Commercial Driver License Information System (CDLIS).

Records on learner and provisional licenses are maintained. Kansas does not have a graduated license law, but they maintain the Driver Education Form on image files.

Driver histories from previous states of licensure are included in the driver file, and they enter convictions for Kansas drivers convicted in other states. DMV noted no difficulties in managing conviction information from other states. Convictions from other states in either instance are recorded when the offense is equivalent to those in Kansas.

Convictions from all levels of courts are entered into the driver history. Convictions from all levels of courts are entered into the driver history. Most of the municipal courts submit convictions via *ftp*, the Internet File Transfer Protocol. Four provide minor convictions on diskettes. The DMV enters the information without delay. There is no process, however, for control to assure that all reportable convictions are submitted to the DMV (i.e., no Citation Tracking System) or to assure that the reports are in fact posted to the driver records

The DMV has authority to suspend licenses administratively for DUI offenses. There was no indication of failure to process withdrawals in this process.

A municipal court reported that it repeatedly obtains certified driver records that show one DUI, for example, when their own records contain multiple convictions for DUI. DUI records were “decayed” after 5 years prior to a law change in 2001. However, the court indicated that 1) DUIs in their records occurring after 2001 were not found on the certified driver records and 2) when the court offered to relay their older DUI convictions to be restored on the driver histories, the DMV declined acceptance of them. The court considers the driver record information obtained

through the law enforcement networks to be more complete, reliable and usable than those obtained from DMV.

The DMV has clarified its policy regarding the decayed records: “The 2001 Kansas Legislative Session did not require DMV to re-add prior DUI convictions onto driver’s records that had been previously purged. Nor did the Legislature make any statutory amendments requiring the DMV to do so. If the DMV records do not contain specific DUI conviction information, upon receipt of the conviction information, the DMV will add the DUI conviction requested by any court, provided the conviction was not affected by the statutory amendment. The DMV has not been contacted by any court, including the municipal court reporting in this assessment, of any failure by the DMV to record their DUI convictions occurring after 2001.”

Although the law, not DMV policy, required DMV to delete convictions older than five years, the fact is that records were thereby degraded. It is not now possible to determine the actual histories of prior DUI convictions for those records affected.

Finally, that court also routinely checks driver records to determine whether the convictions submitted by them appear on the driver histories. Their experience reported that 25% of the convictions they send are not contained on the DMV driver histories. After reviewing their processes, that court discovered that half of the non-recorded cases were handled improperly by the court itself. A mutually supportive effort on the part of the courts and the DMV will be required to assist in making the driver records complete, especially in absence of a citation tracking system designed to assure detection and correction of mishandled or misdirected convictions.

Courts are required to report convictions to the DMV; only those defined as moving violations are entered on the driver record. The original offense is not recorded (but could be viewed on the image file if necessary). However, an original offense may be a moving violation and the adjudicated offense a non-moving violation. That would not become an entry in the driver file. One interviewee reported that requests for certified records take 3 to 4 weeks. They are paper files compiled manually, and the records were considered hard to read and interpret.

Crash involvement is posted to the driver file. A single code reflects involvement in a crash with no implication of fault or indication of the severity of the crash.

The array of driver data elements appear to meet the recommendations of the *Advisory* and the functional requirements of AAMVA applications.

The driver file is not dynamically linked with the vehicle file. It is updated with notations of crash involvements through data downloaded from the KARS (Kansas Accident Records System). It is not generally accessible electronically for courts. Some courts are able to obtain electronic access to driver records through accessKansas if the court has an account. Within the constraints of the State’s Driver Privacy Protection Act (DPPA), the driver file serves authorized users.

The file is not used for statistical reports, but annual summaries and annual EXCEL files are provided to the Bureau of Traffic Safety for use in normalizing crash data.

Recommendations

- Correct the failure to post the convictions that have been reported as missing from court submissions.
- Establish processes to improve the response to courts and prosecutors for certified driver histories, and seek legislation if necessary to make electronic certified records acceptable thus enabling immediate responses.
- Coordinate with the courts and prosecutors to establish outputs which are more readable and useful than the certified records now being produced.
- Assure that the improvements in the driver file procedures and accesses are developed with regard to the legitimate needs and requirements of users outside of DMV, and make the improvements known to users.
- Create a sanitized file of all drivers to include their full histories at year end for use by research analysts, and maintain the programs for making such extract files when the need arises for access to year-to-date information.

Section 1-E: Enforcement/Adjudication Information

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

There is no statewide citation tracking system containing information about enforcement and adjudication of all citations issued by all enforcement agencies. This lack of information prevents the State from evaluating and determining the effectiveness of enforcement countermeasures. There are few procedures in place to account for citations from the point of issuance to their disposition and to posting on the driver history file.

Kansas does not require law enforcement officers to use a standardized citation form to document violations of state statutes. Each law enforcement agency is using its own form to collect information that is necessary to address local needs.

However, oversight for the content of the citation form is the responsibility of the Division of Motor Vehicles (DMV). State statute requires law enforcement agencies to submit their citation form to the DMV for approval. The information collected on the various citation forms meets the requirement of the *Advisory*.

The Office of Judicial Administration (OJA) provides administrative oversight for all state level courts within Kansas. Violations of Kansas's Traffic Code are adjudicated within district and municipal courts. There are 105 District Courts and approximately 450 Municipal Courts.

Most of the courts are using the "Full Court" case management application for following cases from the point of the filing through prosecution to disposition. Each of these individual court case management systems contains complete information about enforcement actions and dispositions that is useful in evaluating and determining the effectiveness of countermeasures locally only.

However, an integrated centralized repository for citations, pending actions and dispositions is unavailable. The lack of a centralized and networked court case management system makes it impossible for courts to have complete information about defendants regarding any other actions or cases that may be pending adjudication in another court's jurisdiction.

Some local law enforcement agencies have their own records management system to collect and maintain information on violations and convictions from citations issued by their officers. However, the Kansas Highway Patrol (KHP) does not maintain such information in its RMS.

The KHP uses the Automated Field Reporting System (AFRS) to collect traffic records information electronically on mobile data computers. The application collects information for crash reports, offense reports, tow reports and DUI arrest/administrative actions. Currently, the KHP has not included an electronic citation module in AFRS.

A statewide system that tracks the entire citation process as called for in the *Advisory* is unavailable in Kansas.

Recommendations

- Design and implement a centralized statewide citation tracking system containing information about a citation from “cradle to grave.” Each record in the system should contain information about all actions pertaining to that citation, from its issuance to an offender, to its disposition by the court, and its placement on the driver history file (as appropriate, e.g., upon a conviction). The “Full Court” application could be the foundation for this centralized statewide system.
- Design and implement an electronic citation module that contains the State prescribed data elements and has the flexibility to include additional data elements that meet local requirements.
- Integrate the “Full Court” and any other court case management systems in use in order to insure data sharing among the courts, DMV and other stakeholders.
- Mandate a uniform minimum set of data elements for electronic citations in anticipation of submitting information from the point of issuance to their disposition and to posting on the driver history file.

Section 1-F: Injury Surveillance System Information

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

Key components required for a Injury Surveillance System reside in multiple organizations: the Department of Health and Environment (DHE), the Board of Emergency Medical Services (BEMS) and the Kansas Hospital Association (KHA). However, even though key components are in place, there is no organized data collection and management system to provide a comprehensive statewide injury surveillance system.

The BEMS provides regulatory oversight for the State's pre-hospital services. Members of BEMS are appointed by the Governor and the Board includes legislators. There are 175 licensed EMS firms and over 11,000 pre-hospital providers (first responders, Emergency Medical Technicians (EMT) Basic, EMT Intermediate, EMT Defibrillator, Medical Intensive Care Technician (Paramedic)).

There is no central repository for EMS data. The EMS registry system is in the embryonic stage of development at this time. Each EMS firm is required by statute to report annual pre-hospital call volume at the time of their license renewal. This is a paper based process. Currently a comprehensive statistical representation of EMS in Kansas is not available and only a statistical sample can be used for assessing the state's EMS system resources and emergency transport patterns. The Trauma Program and Vital Statistics Program reside in the DHE.

Legislation charged Kansas' DHE to establish a statewide trauma system and data collection system for trauma patient care records. All acute care facilities are mandated to report trauma patient data (quarterly) to the state trauma registry system. The reporting criteria fall within ICD-9 Codes of 800.00 – 959.9. There are three Level I, American College of Surgeons verified trauma facilities and 117 hospitals that report data to the state repository. Over 28,000 trauma patient care records were submitted in 2003. DHE's Vital Statistics Program is the repository for trauma and mortality data.

Hospital in-patient data are collected and stored in a repository housed at the Kansas Hospital Association.

Recommendations

- Establish an electronic pre-hospital (EMS) data collection and analysis system.
- Develop data quality control procedures and processes within the pre-hospital data collection system.
- Continue to seek funding opportunities to support the development and maintenance of an electronic pre-hospital data collection and analysis system.
- Establish a functional comprehensive statewide injury surveillance system as defined in the *Advisory*.

Section 1-G: Other Information

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 Kansas Department of Transportation (KDOT) has initiated several GIS related activities to specify and display roadway data geospatially. The crash reporting system does not currently make use of GPS technology to identify crash locations but most managers and users indicated a desire to apply this location methodology especially for more accurate analysis of crash data by location. There is also some potential for use of GPS data as a linking variable in the integration of traffic safety files, such as comparing locations of crashes with arrests for traffic violations for selective enforcement. The current crash report contains blank fields for entry of latitude and longitude but agencies are not using GPS devices to record coordinates on their crash reports.

Safety Program Evaluation data.

The Bureau of Traffic Safety (BOTS) within KDOT conducts some evaluation, but only on small groups of activities, such as corridor safety projects.

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

Data for federal programs such as FARS and MCMIS are collected and reported as required.

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.

The BOTS obtains demographic data from the driver and vehicle records in the Department of Revenue (KDOR) in both summary form and individual record form in EXCEL files. The data are used to normalize crash data with driver and vehicle population data for determining over- and under-representation in certain groups and classes. Annual population statistics are also obtained from the state's Census Bureau.

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

Occupant protection usage surveys are conducted annually by the BOTS.

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

No information was discovered to indicate that such surveys or focus groups are conducted.

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

The BOTS does not use this type of data in its safety program planning.

Inventory data.

Information is provided on KDOT's web site about sources of data, although no formal dictionary or inventory of data sources and data variables has been published.

Performance data.

The KDOT has developed Priority Formulas to select certain modification projects. Under these formulas safety is measured by evaluating exposure to the risk of a crash, which is measured by looking at several attributes of the roadway, such as specific geometric conditions that may create the potential for a crash.

Cost data.

The KDOT traffic engineering unit uses benefit-to-cost ratios to approve projects. Cost data on a statewide basis are not available to evaluate the costs for the treatment of crash victims.

ITS data

KDOT is engaged in a joint ITS project with the Missouri Department of Transportation in the Kansas City area. There are a number of cameras, message signs, vehicle detection stations, and incident detection software. Messages can be sent upstream to warn travelers of traffic situations, to notify emergency crews of available lanes to use, etc.

Recommendation

- Conduct an inventory of data sources within the state and publish a data catalogue with appropriate data dictionaries.

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.

2-A: Crash Information Quality

- ❑ *Timeliness – The information should be available within a time frame to be currently meaningful for effective analysis of the state’s crash experience, preferably within 90 days of a crash.*
- ❑ *Consistency – The information should be consistent with nationally accepted and published guidelines and standards, for example:*
 - *Model Minimum Uniform Crash Criteria (MMUCC).*
 - *Manual on Classification of Motor Vehicle Traffic Accidents, 6th Edition, ANSI D16.1-1996.*
 - *Data Element Dictionary for Traffic Records Systems, ANSI D20.1, 1993.*
 - *EMS Data Dictionary (Uniform Pre-Hospital Emergency Medical Services Data Conference).*

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

Crash reports arrive at the Kansas Department of Transportation (KDOT) in various lengths of time from law enforcement agencies, some being received close to the required 10 days, others being held by an agency until a shipment is considered feasible. Once received at KDOT, crash reports are entered into the production file within one to two weeks. Year end data are generally available for statistical analysis and other reporting within a few months. Data for 2004 are expected to be available by April of this year.

Consistency

All crashes are reported on a uniform crash report. The crash report consists of three forms: Motor Vehicle Accident Report, DOT Form No. 850; Investigative - Fatality Report, DOT Form No. 851; and Truck - Bus Supplement, DOT Form 852. The Truck – Bus Supplement complies with the data set recommended by the National Governors’ Association (NGA) and subsequently adopted as the national standard by the Federal Motor Carrier Safety Administration (FMCSA).

The current crash report is mostly consistent with ANSI D16.1, and the most recent revision is estimated to be about 90% MMUCC compliant. Review of the report revealed that there may be some revisions and omissions of data titles and data choices such as accident class replacing first harmful event and the omission of some choices for first harmful event. However, the coding manual often refers to ANSI D16.1 and the data elements themselves closely resemble the MMUCC.

Completeness

The state crash file contains all crashes from all jurisdictions and the data in the file are available for statistical analysis. Most data fields on the crash report are completed, although certain fields are frequently omitted, most notably BAC data.

Accuracy

Crash reports are subjected to rigorous editing processes. Reports are initially scanned for obvious errors even before data entry. Obvious erroneous reports are pulled and returned to the reporting jurisdiction for correction. Additional editing is performed during data entry at the Kansas Correctional Industries where inmates perform the crash data entry functions. Final editing is done when the reports are entered into the production file upon return to the KDOT. Feedback on inaccurate reports is provided to the law enforcement agencies as needed. The results provide for an accurate database.

Accessibility

The BOTS has analytical expertise on staff who have direct access to the file using an ORACLE query tool. Other users either obtain data from analysts in BOTS or from the Kansas Accident Reporting System (KARS) management staff directly. However, there is no direct access to the data beyond BOTS and KDOT staff due to concerns about potential misuse of the data and access to records in a dynamic database. More than half of the law enforcement officers who responded to pre-assessment questionnaires reported that they have developed their own crash database which indicates a need for better or more direct access. Nonetheless, users in general were very complimentary of the data and the excellent response to their data requests provided by BOTS.

Data Integration

No linkage exists with other traffic records system databases outside of KDOT.

Recommendations

- ❑ Create a data repository to house data extracted from various traffic records components such as citation databases, EMS and Trauma databases, and driver and vehicle databases. Insure that each of these data extracts contain data variables that are linkable to other data sets within the repository.

- ❑ Expedite the planned improvements for increased collection of BAC data.

2-B: Roadway Information Quality

- ❑ *Timeliness – The information should be updated as required to produce valid analysis. This implies that changes on the roadway (e.g., construction, sign improvements) should be available for analysis as soon as the project is completed.*
- ❑ *Consistency – The same data elements should be collected over time and for various classes of roadways.*
- ❑ *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

Data users had no problem with retrieval of data from the Control Section Analysis System (CANSYS).

Consistency

Consistency is not an issue within the road features or traffic data files.

Completeness

Completeness is not an issue within the road features or traffic data files.

Accuracy

Accuracy is not an issue within the road features or traffic data files.

Accessibility

Accessibility is not an issue within the road features or traffic data files. However, dissemination of road features with crash data is restricted by department legal policy.

Data Integration

Roadway files are integrated for KDOT uses.

Recommendation

- Change the legal policy regarding the dissemination of road and crash data.

2-C: Vehicle Information Quality

- ❑ *Timeliness – The information should be updated at least annually.*
- ❑ *Consistency – The same data elements should be collected over time and they should be consistent with the data elements contained in the other components of the traffic records system.*
- ❑ *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 file is updated and maintained daily.

Consistency

The vehicle classifications do not match those of the crash report.

Completeness

The file appears to contain the data content recommended by the *Advisory* and required for AAMVA application support. The file also includes odometer readings.

Accuracy

R. L. Polk’s VINA is used to validate and enhance the accuracy of VINs.

Accessibility

The file information is accessible for authorized users and is available to other users, consistent with the requirements of the Driver Privacy Protection Act. It is queried by the FARS Analyst. Any query beyond retrieval of individual records and the routine summaries requires writing a program to obtain the desired information.

Data Integration

The file is not dynamically linked with the driver file.

Recommendations

None

2-D: Driver Information Quality

- ❑ *Timeliness – Routine license issuance information should be updated at least weekly. Adverse actions (license suspension, traffic conviction) should be posted daily.*
- ❑ *Consistency – Information maintained on the state's Driver File should be compatible for exchange with other driver-related systems such as the National Driver Register (NDR), the Commercial Driver License Information System (CDLIS), and other applications for interstate exchange of driver records, especially those facilitated via the American Association of Motor Vehicle Administrators Telecommunications Network (AAMVANet).*
- ❑ *Completeness – The information should be complete in terms of data elements (e.g., unique personal identifiers and descriptive data such as name, date of birth, gender) and complete in terms of all prior driving history, especially adverse actions received from other states either while licensed elsewhere or while driving in other states.*
- ❑ *Accuracy – The state should employ methods for collecting and maintaining driver information 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

The file is updated immediately with driver license issuances. Convictions submitted by *ftp* are updated to the drivers file that same night they are submitted. Convictions submitted by diskette are updated to the drivers file the same day of receipt of the diskette. Convictions submitted by paper are entered onto the drivers file within five business days. Paper abstracts are not currently backlogged.

Consistency

Data content appears to meet the requirements of the Problem Driver Pointer System, Commercial Driver License Information System (CDLIS), other AAMVA applications and the recommendations of the *Advisory*.

Completeness

The file contains all of the required data elements for drivers and includes convictions from previous states of record and convictions from other states for currently licensed Kansas drivers. The driver file contains conviction information submitted by the courts, but some DUI convictions submitted by one court were missing. Their concern led them to track whether their input was properly recorded, especially on DUI convictions, and they discovered that half of the records in question were improperly handled by the court itself. The finding raises a major concern about how much is missing from all courts for whatever reason they are missing.

The concern about DUI conviction omissions is critical because sanctions are based upon the recurrence of DUI convictions. The court in question began its tracking because they had become aware of treating a habitual DUI offender as a first offender when they discovered the extent of past DUI convictions in their own records after the erroneous adjudication was completed.

Accuracy

Accuracy of the file information recorded is not questioned, but the accuracy of overall content is unacceptable in light of the information above.

Accessibility

An MVR (driver license history record) is available and accessible for authorized users consistent with the requirements of the Driver Privacy Protection Act. A certified record for courts is produced manually and requires up to two weeks for a response.

Data Integration

Other than electronic dispositions received from some courts, and input from the crash data system, there is no integration with other data systems. The driver file is not dynamically linked with other traffic records system components.

Recommendation

- Implement the recommendations in Section 1-D of this report.

Section 2-E: Enforcement/Adjudication Information Quality

- ❑ *Timeliness - Information from an issued citation should be recorded on a statewide citation file as soon as the citation is filed in the court of jurisdiction. Information regarding the disposition of a citation should be entered on the citation file, as well as on the driver history record, immediately after adjudication by the courts.*
- ❑ *Consistency - All jurisdictions should use a uniform traffic citation form, and the information should be uniformly reported throughout all enforcement jurisdictions.*
- ❑ *Completeness - All citations issued should be recorded in a statewide citation file with all variables on the form completed including the violation type; the issuing enforcement agency; violation location; a cross reference to a crash report, if applicable; and BAC, where applicable, etc. All dispositions from all courts should be forwarded for entry on the driver history record.*
- ❑ *Accuracy - The state should employ quality control methods to ensure accurate and reliable information is reported on the citation form and updated on the citation and driver history files.*
- ❑ *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 majority of the courts have instituted the “Full Court” application for case management. This has resulted in traffic cases being adjudicated much more efficiently. However, it was reported that the courts are sending conviction information to the DMV monthly some on paper forms, others on diskette.

Consistency

The numerous and varied citation forms used by law enforcement generally contain data elements to identify the type of violation, location, date and time, the enforcement agency, court of jurisdiction, and final disposition. The current practice by enforcement agencies of developing their own forms prohibits the implementation of a single statewide citation tracking system.

Completeness

There is no statewide, centralized collection of information about all citations issued in the State and their dispositions.

Citations issued by law enforcement often do not include an indication of commercial vehicle involvement or that the driver held a Commercial Driver License (CDL) when applicable.

Accuracy

The “Full Court” court case management application used by the courts does contain quality control procedures and edits to detect errors made by law enforcement officers and data entry personnel. Although citation records do not exist in a central database, those residing in the individual courts are deemed to be fairly accurate.

Accessibility

Statewide information about violations and convictions is unavailable and not easily accessible because the data are located in so many different and separate databases throughout the district and municipal courts.

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. However, citation information is located in so many separate databases as to render any integration with other data systems impractical.

Recommendations

- Integrate the “Full Court” application and any other court case management systems in use in order to insure data sharing among the courts, DMV, and other stakeholders (see also Section 1-E.)
- Mandate a uniform minimum set of data elements for citations in anticipation of electronically submitting citation information from law enforcement to the courts and from the courts to DMV (see also Section 1-E.)

2-F: Injury Surveillance Systems Information Quality

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

Status

Timeliness

The trauma patient care data collection and analysis system resides in the Kansas Department of Health and Environment (DHE). Currently, there is no functional statewide pre-hospital (EMS) data collection and analysis system. However, trauma patient care data is being submitted quarterly to the DHE and includes several pre-hospital (EMS) data elements. The State has adopted the Digital Innovation, Inc. Collector Trauma Registry application as the state electronic data platform and supplies all acute care hospitals with the Collector Trauma Registry Software. It was reported that a pristine data file is ready for analysis within approximately 60 days after the year end database closure.

Consistency, Completeness and Accuracy

The State's adoption of Collector Trauma Registry software application provides consistency in the data submitted to the state repository. The software's edit checks and data validation processes assist in the completeness and accuracy of the data submitted to the state repository. In addition, the data are reviewed for completeness and accuracy at DHE and an annual data completeness report is posted on the DHE web site. Training and technical assistance are provided by the vendor as a condition of the state contract. There is a uniform state trauma dataset and data dictionary that is available to users as a resource to aid in consistent statewide data submission.

A minimal set of pre-hospital data elements is included in the trauma data submitted to the state repository. This provides the only electronic pre-hospital patient data. As stated previously the inclusion of data provides consistency in the data submitted to the state, even if it is limited in scope. The Kansas Board of Emergency Medical Services plans to adopt the new version of the National Emergency Medical Services Information System's (NEMSIS) data set as the foundation for their planned electronic data collection and analysis system. This will assist with consistency in data format and data submission. The pre-hospital data collection and analysis system is in the early stages of planning at the time of this assessment.

There is no pre-hospital patient care data collection system or process that represents all pre-hospital transports. The only pre-hospital patient care data collected are the minimal number of data elements collected at the acute care hospitals and submitted to the state.

Information related to the hospital in-patient data submission requirements and collection activities was unavailable at the time of this assessment. Hospital in-patient data are collected and stored in a repository housed at the Kansas Hospital Association.

Accessibility

There is intradepartmental accessibility within DHE and the trauma patient care data and mortality data are available electronically to the DHE Injury Program for analysis.

Only aggregate data reports are available to outside agencies because of federal and state confidentiality and privacy laws and regulations.

Linkage

Currently, the trauma patient care repository is not linked to any other traffic records system component including other medical data.

Recommendations

- Develop an electronic pre-hospital data collection and analysis system (see Section 1-F.)
- Create a pre-hospital data dictionary that will assist with the submission of quality data (see Section 1-F.)
- Seek funding sources to support and maintain the pre-hospital data collection and analysis (see Section 1-F.)
- Develop and promote data sharing partnerships.

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

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 Bureau of Traffic Safety (BOTS) in the Division of Planning and Development in the Kansas Department of Transportation (KDOT) which administers the Governor's Highway Safety Program, is to reduce the number and severity of traffic crashes on Kansas roadways that result in deaths, injuries and economic losses. Each year the office is required to review and update its goals and objectives to accomplish the mission and to submit its Highway Safety Plan. 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 are being evaluated administratively but infrequently for impact using traffic records data and other pertinent information. There are multiple reasons for this: assignment to other priorities, difficulties in accessing the data, lack of current ability to apply additional statistical analyses, and lack of a comprehensive, statewide traffic records system.

The BOTS performs all of the functions for managing and evaluating the safety projects using the data from the Kansas Accident Records System (KARS), summary data from the vehicle and driver files, and census data. Those functions range from problem identification, selection of countermeasures, identification of projects, initiation of them with baseline data, and specifications of performance measures to achieve the goals and objectives of the projects undertaken. KARS would be even more useful if the location references meaningful to counties and cities were added to the file to facilitate their processes for locating crashes.

A recently formed Safe Driving Initiative has the commitment of 3 cabinet level executives from KDOT, the Kansas Highway Patrol, and the Kansas Department of Health and Environment to address the problem of a 20% higher than the national average fatality rate. This coalition is a progressive step in improving the attack upon the highway safety problem, and could provide the foundation for a Traffic Records Coordinating Committee.

Kansas BOTS has a research analyst who uses the ORACLE query tools to obtain virtually any array of information possible from KARS and the normalizing elements. The Bureau of Transportation Planning, custodians of KARS, has the same capability for responding to requests for information from KARS. Together, they provide extraordinary responsiveness to requests for information and for data extracts that enable other analysts to address data and information needs.

KDOT provides an array of information for public use on its web sites and by direct response to inquiries. The information is updated with notifications of the updates announced.

BOTS is the point of contact to request research information and reports for the public and other agencies.

Recommendations

- Use the data repository recommended in Section 1-A for analytic needs.
- Provide data extracts from the data repository for localities.
- Provide report generation and ad hoc reporting tools for those users who do not have high level statistical expertise in house.
- Train users (e.g., State agencies other than KDOT and public sector stakeholders) in valid program impact evaluation techniques.

3-B: Research and Program Development

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 Kansas Department of Transportation (KDOT), Bureau of Traffic Safety (BOTS) and the Geometric and Accident Data Unit have excellent research and analytical capabilities on staff. However, the research analysts rely primarily on information from the crash file as their data source for highway safety planning, program development and in particular the publication of *Kansas's Problem Identification* and *Kansas Traffic Accident Facts*. Other data sources include seat belt usage surveys, federal census data, motor vehicle registrations, and number of licensed drivers. Data from other traffic records files (citation/conviction file, criminal justice data, injury surveillance data, etc.) are generally unavailable.

Presently KDOT staff responds to a variety of requests ranging from the very simple to the complex. It is unfortunate that the lack of access to other traffic records files does not permit these skills to be used to their full potential. In turn, this limits the range of traffic safety issues that might otherwise be included in the state's highway safety planning and program development process.

Recommendation

- ❑ Expand and improve access to data sources including citation and conviction data from the judicial branch and patient care data from the Kansas Department of Health and Environment that can be used to establish a broad range of initiatives and policies relating to Kansas's traffic safety problems.

3-C: Policy Development

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

Highway safety is a fundamental priority in Kansas and is evidenced by the recent Safe Driving Initiative of the Secretary of Transportation, Secretary of Health and Environment and the Superintendent of the Kansas Highway Patrol who have joined forces to address highway safety issues. Together, they hope to raise awareness across the state about the number of fatalities and injuries happening on Kansas roadways and the emotional and financial toll they take on Kansas citizens.

This important policy direction will need to be supported by the ability of these three agencies to identify safety issues and problems and develop programs and countermeasures to address them.

The request for this traffic records assessment is an indication by the Bureau of Traffic Safety that information is paramount in setting policy for highway safety. It also acknowledges that the highway safety community encompasses stakeholders over and above the three agencies mentioned and correspondingly requires attention to information system development and maintenance by all stakeholders.

Recommendation

- Build upon the Safe Driving Initiative by assembling and supporting with adequate resources a statewide Traffic Records Coordinating Committee addressed in Section 4-A of this report.

3-D: Private Sector and Public Requests

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

Kansas Department of Transportation's (KDOT) Bureau of Transportation Planning (BTP) is the official state repository of crash data. The crash database is readily available to the Bureau of Traffic Safety through an ORACLE Query Builder tool or in a .csv file format.

Crash data requests are processed through KDOT's Bureau of Transportation Planning and Bureau of Traffic Safety. Currently, the Bureau of Transportation Planning has three analysts and one programmer that respond to internal and external data requests. The Bureau of Traffic Safety currently has one data analyst to respond to internal and external data requests.

The Bureau of Transportation Planning will provide the complete database with the exception of personal identifiable data elements to external data users upon request. Requests for hardcopy crash reports are routed through KDOT's legal department before the reply is released to the public.

KDOT has data available for the public on its KDOT website. There is a plan for a predetermined semi-queriable data report format to be developed and to be made available to the public. This interactive data report could provide an avenue for increased awareness of traffic safety issues within the state.

Recommendations

- Develop an online query tool for public access to the analytic files.
- Continue collaboration and data sharing relationships between data owners within the traffic safety and injury prevention community.
- Seek opportunities to share traffic safety data with healthcare professionals involved in injury prevention activities and surveillance.

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

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

There is no Traffic Records Coordinating Committee (TRCC) at the present time to provide the type of oversight, support and guidance necessary to achieve a fully integrated statewide traffic records system.

Recently, the Secretary of Transportation, Secretary of Health and Environment and the Superintendent from the Kansas Highway Patrol have begun a statewide initiative that focuses on the problem of motor vehicle crashes, particularly fatalities, in Kansas. The *Kansas Safe Driving Initiative* is a project whose purpose is to establish public policy and inter-agency coordination in reducing fatal traffic crashes. A total of five community meetings and several media events are planned. It is an opportunity for the policy makers to meet with members of a community for the purpose of making its citizens aware of Kansas's leading causes of fatal traffic crashes. The expected outcome of this initiative is the creation of a citizens task force whose purpose will be to assess Kansas's traffic safety problem and recommend legislative changes.

Any improvements to the state's traffic records system are dependent on multi-agency coordination. The inter-agency partnership deriving from this *Kansas Safe Driving Initiative* could be the catalyst for establishing an executive level of a TRCC. Although most state-level traffic safety agencies participate, representation at the executive level is currently lacking from Kansas Department of Revenue and the Judiciary. With their inclusion, Kansas would have the executive level traffic records coordinating committee who could establish policies, set strategic goals for project 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 record 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 strategic direction, technical support, project implementation and collaboration. These members should be the collectors, managers and users of traffic records data from private and public sector organizations. The TRCC working level needs a chair with the capability to implement the Traffic Records Strategic Plan as recommend in Section 4-B.

TRCC administrative support will be required which has historically been provided by state traffic safety offices.

Recommendations

- ❑ Create a two-tiered Traffic Records Coordinating Committee (TRCC). Establish two levels of representation from each organization involved in the collection, management and use of data from each component of the traffic records system: an executive level capable of committing resources and a working level with knowledge of the operations, requirements and functionality of the components.
- ❑ Create vision, mission and policy statements to guide the TRCC.
- ❑ Designate a traffic records coordinator who has a diverse set of skills including negotiation and collaboration to provide leadership to the TRCC.

4-B: Strategic Planning

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

Many highway safety information initiatives are currently underway in Kansas and others are being planned that will require tight coordination and oversight. The coordination of these initiatives to assure they meet highway safety objectives and are in concert with the state's corporate objectives will need to be strategically managed. The development of a strategic plan that considers all the initiatives underway and those being planned in addition to emerging technologies is a critical tool in achieving successful results especially in light of the many issues presented in this assessment.

The Kansas Department of Transportation has an opportunity as the state's highway safety leader to develop a traffic records strategic plan building on the foundation of their past accomplishments and the findings of current and past assessments. Broad representation across the state's safety agencies will need to be involved. Recently the Departments of Health and Environment and the Kansas Highway Patrol have joined with KDOT in a safety awareness campaign. The Department of Revenue and the Office of Judicial Administration should be persuaded to join in this effort. They should be included as full members of the Traffic Records Coordinating Committee (TRCC), recommended in Section 4-A, assuring coordination and oversight of the initiatives they are and will be developing.

Additionally the many safety information programs administered by local governments and especially those who must be considered partners in providing the data for the traffic records systems and are instrumental in the success of the initiatives now underway must be included.

Recommendation

- ❑ Task the TRCC with oversight of the development of a Traffic Records Strategic Plan based on the present assessment findings. 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.
 - 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

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 Kansas Department of Transportation (KDOT) completed a training assessment that evaluated the needs of the Kansas State Patrol and other multi-agency partners. The assessment provided information related to data collection processes, data completeness and data accuracy for utilization in their respective systems. In addition, this assessment assisted in the development of an electronic crash data collection system that can interface with existing third party software applications. Testing of the new electronic crash data system is currently ongoing with local and state law enforcement agencies.

The KDOT staff has exceptional analytical and data processing skills. In addition, they exhibited skills in collaboration, negotiation and building data submission and sharing partnerships.

In 2004 KDOT provided training sessions related to the completion and submission of the new electronic crash record to 70 law enforcement agencies. In addition, the Kansas Law Enforcement Training Center (KLETC) is incorporating the new electronic crash data reporting system into their training curriculum. KLETC has installed the new electronic data collection application on 13 computers in the training center.

Recommendations

- Continue to conduct training sessions for the local and state law enforcement agencies.
- Continue to collaborate with law enforcement representatives to establish an educational component that will assist them in the consistent and uniform documentation of crash information and victim injuries.

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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 21 st Century
TRB	Transportation Research Board
VIN	Vehicle Identification Number
VMT	Vehicle Miles Traveled

TEAM CREDENTIALS

LARRY C. HOLESTINE, MAJOR (Retired)

P.O. Box 11770
College Station, TX 77842-1770
(979) 696-3400
(970) 696-3404 fax
E-mail: lholestine@data-nexus.com

Director of Public Safety Services
Data Nexus, Inc.

PROFESSIONAL EXPERIENCE

- Director of Public Safety Services, Data Nexus, Inc.
- Law Enforcement Liaison, NHTSA Region VIII
- Commander, District III Colorado State Patrol, Retired
- Coordinator/Instructor, Colorado Law Enforcement Training Academy and Colorado State Patrol Academy
- Instructor, Colorado Institute of Law Enforcement Training, Colorado State University
- Law Enforcement Experience - 30 years

ORGANIZATIONS/AFFILIATIONS

- Member, Transportation Research Board, National Academy of Sciences, Law Enforcement Committee
- Chair, Association of Transportation Safety Information Professionals, National Safety Council
- Member, ANSI D-16 Committee on Motor Vehicle Accident Classification
- Member, MMUCC Committee on Motor Vehicle Accident Crash Criteria
- Steering Committee and Chair of Law Enforcement Section, Colorado Safety Management System
- Member, Colorado State Traffic Records Advisory Committee
- Member, National Agenda Committee for Highway Information Systems

- ❑ USDOT, NHTSA, Traffic Records Assessment Team Member, Iowa, Nebraska, Louisiana, Kansas, Arizona, South Carolina, New Mexico, Wisconsin, North Dakota, Idaho, Connecticut, Illinois, Oregon, Delaware, New Jersey, Mississippi, Montana, Tennessee, Kentucky, Massachusetts, San Carlos Indian Nation, and the Menominee Indian Nation.

- ❑ USDOT, NHTSA, Impaired Driving Assessment Team Member, Vermont and Nevada.

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 initiatives.

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)

LANGSTON A. (LANG) SPELL

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

Independent Consultant

Professional Experience

Mr. Spell entered his professional career in traffic records systems and data exchange 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 developed the AAMVA* Violations Exchange Code or "ANSI" code 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. He was involved in the design and developmental efforts for the Commercial Driver Licensing Information System (CDLIS) and its AAMVAnet environment.

*Served as a member of D16.1 committee

History

1992 – present	Consultant
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 <u>AAMVA</u>
1958 – 1966	Staff Specialist in MVR for Retail Credit Co. (now Equifax) Atlanta, GA

Memberships in Professional Associations

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

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

Professional Experience

Current: EMS & Trauma Systems Consultant,
In graduate school (Nurse Practitioner Program)
Clinical Nursing 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

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.

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