



COMMONWEALTH OF KENTUCKY

TRAFFIC RECORDS ASSESSMENT

March 12 – 16, 2007

Technical Assessment Team

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NOTES AND DISCLAIMERS

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.

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.

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EXECUTIVE SUMMARY

In fall of 2006 the Kentucky Department of Transportation Safety and the Kentucky Traffic Records Advisory Committee (KTRAC) requested a traffic records assessment. Following the request, a five person team of traffic records professionals was chosen with each team member knowledgeable of one or more of the major components of a state traffic records system. As assessment team member selection was initiated, the Kentucky Department of Transportation staff began the complex task of coordinating and completing the necessary logistical and administrative steps to prepare for the onsite assessment.

The five professional team members were selected based on their knowledge and expertise in crash investigation, crash records management, traffic engineering, driver and vehicle services, traffic enforcement/adjudication, and injury surveillance system information systems. The team was assisted in completing the assessment by an administrative assistant who has extensive knowledge of and experience in data processing. The traffic records assessment was conducted March 12 – 16, 2007 in Louisville, Kentucky.

The scope of the traffic records assessment included a complete and thorough review of each of the six components that comprise a state traffic records system. The purpose of the assessment was to determine the extent that the Commonwealth of Kentucky's traffic records system supports management needs to identify the Commonwealth's traffic safety problems, to manage implemented countermeasure activities, and to evaluate the effectiveness of those countermeasures implemented to reduce and eliminate fatal, injury and property damage traffic crashes. What follows is a summary of the attributes of the various traffic records system components and their use in supporting the Commonwealth's management of its highway safety programs.

Crash Information

The official crash file for the Commonwealth is operated and maintained by the Kentucky State Police (KSP). The reporting threshold for motor vehicle traffic crashes are those crashes involving death or injury or property damage in excess of \$500. Currently, 80% of the crash reports submitted to KSP are submitted electronically via E-CRASH, and a major emphasis of the KSP is to move toward 100% electronic submission of crash reports within the next two years. The Commonwealth is to be commended on the timeliness of its crash data file as crash file data are available for analyses by early March each calendar year. This is exceptional. Most states require 6 – 9 months from the close of the previous calendar year before they can make their crash data available for analytical purposes.

The major deficiency of crash file data is crash location. It is hoped that with the development and implementation of new crash location technologies, this problem can be remedied. Any technology that is pursued for correctly determining crash location should also allow for crash location data to auto-populate to the appropriate crash location data fields.

Another problem that should be addressed concern procedures that allow crash investigation officers to access both driver and vehicle data and to auto-populate these data to the appropriate data fields.

Roadway Information

There are over 80,000 miles of public roadways in the Commonwealth of Kentucky of which 27,511 miles are considered to be part of the state highway system. The other 53,000 miles are considered the responsibility of municipal and county jurisdictions and private ownership. The official roadway data files are operated and maintained by the Kentucky Transportation Cabinet, Division of Planning. Important files included in the highway inventory system are: roadway geometry, annual average daily traffic, roadway alignment, intersections information, interchange and ramp information, signal and beacons, bridge information, pavement type, and critical rate factors for all crashes (fatal, injury and property damage only crashes). Use of data from the state inventory file is extensive. Uses of the file include determining roadway adequacy ratings, roadway safety corridors, candidate roads for lane departure resurfacing projects and roadway locations for guardrail and median cable barriers. Data from this file are also used in the development of the Six Year Highway Improvement Plan. It should be noted that while centerline, road names and latitude/longitude data are maintained for all local roads in the inventory file, other highway asset data for local roads are not included other than the functional class of the road and the pavement type of the road unless that local road is functionally classified arterial or collector. Locally maintained roads that are functionally classified arterial or collector do have other inventory items collected and maintained similar to the state route inventory. There is, however, one key element missing from the Commonwealth's highway inventory. This is a sign inventory. It is planned within the next several years to purchase a video van that will allow for the collection of both roadway and sign inventory data. Kentucky does collect and maintain a roadway inventory of road characteristic assets on all state maintained roads and on all roads functionally classified higher than local roads that are locally owned by agencies other than the state.

Vehicle Information

The Division of Motor Vehicle Licensing (DMVL) within the Kentucky Transportation Cabinet is responsible for maintaining and operating the motor vehicle licensing system. There are approximately four million registered vehicles in Kentucky. License plates are currently issued for a five year period and vehicle titles and registrations can be obtained at various county locations. Vehicle registrations can also be renewed online. Salvage vehicle titles are branded and brands for foreign titles are carried forward on the vehicle title. Odometer data are collected at the time of title transfer for all vehicles, and before a title is issued, a check is completed with the National Crime Information Center (NCIC) to determine if the vehicle is listed as stolen.

Vehicle data is maintained in the Automated Vehicle Information System (AVIS). Unfortunately, AVIS is a legacy system and has a number of limitations that need to be addressed in the near term to improve the overall system efficiency.

Law enforcement has real-time access to all vehicle record information and data. However, this access does not provide for auto-population of vehicle data into crash or citation reports. The

ability to auto-populate vehicle data into the appropriate report(s) would substantially improve officer efficiency and reduce the potential for error.

Driver Information

The Kentucky Division of Driver Licensing (DDL), located in the Kentucky Transportation Cabinet, is responsible for maintaining and operating the data file for both private and commercial driver licenses as well as for maintaining data for state identification cards. The driver license record includes legal name, proof of physical residence, date of birth, social security number, gender, and a unique driver's number. Biometric data are obtained in the form of facial recognition. Fingerprint biometric data are also collected for all Commercial Driver License (CDL) Hazardous Materials applicants.

There are approximately 3.9 million driver records in the DDL system of which about 3.4 million licenses are considered active. However, only about 3 million of the 3.4 million licenses are considered to be a valid driver's licenses. Licenses are issued for a four year period except in the case of legal alien residents where the license expiration date is the same as the "end of stay" date.

The conviction records of new driver license applicants are not transferred to the applicant's new Commonwealth license record with the exception of CDL license holders. For CDL license holders prior state convictions do transfer to the CDL.

Convictions for traffic offenses are provided by the courts to DDL within 2 - 3 days following a conviction. In the instance of CDL license holders, the conviction indicates whether the violation(s) occurred in conjunction with the use of a commercial or non-commercial vehicle. Convictions for out-of-state violations are included on the Kentucky driver record upon notification by the state where the conviction occurred and after review of the out-of-state conviction by the DDL. Convictions for driving offenses are retained on the driver record for only five years. This includes *all* convictions including those involving DUI and other serious offenses. All crash involvements by a Kentucky driver are posted to the driver's record, and this information also is included on the driver's record for five years.

The computer system used by the DDL is a legacy system. It is becoming increasingly difficult to maintain this system, and like any system of this age, it has serious limitations. Consideration should be given to replacement of the DDL system.

Law enforcement has real-time access to all driver license information and data. This access, however, does not provide for auto-population of driver license data into crash or citation reports.

Enforcement/Adjudication Information

The Kentucky State Police (KSP) is responsible for printing and distribution of all hardcopy citations as well as for assigning all E-Citation numbers. All citations, either E-Citations or hard copy, must be delivered to the appropriate court within two days of being issued. For E-Citations, the citation can be provided to the appropriate court electronically. In the case of a hardcopy citation, however, the citation must be delivered to the court in person.

All cases must be adjudicated within 90 days of the traffic offense. Instances where the 90 day limit is exceeded require justification to the Kentucky Supreme Court. Conviction information is forwarded to the Driver Licensing Division (DDL) electronically and is posted to the driver license file nightly.

There seems to be limited or no quality control measures concerning audit of citations issued. There also seems to be little effort to ascertain case disposition outcomes. Determining case disposition outcomes allows a law enforcement agency to determine the efficiency and effectiveness of its personnel in issuing citations for charges that are upheld and sustained by the courts.

The potential for the E-Citation program and the collection of citation and other law enforcement data is substantial. The major factors that seem to constrain this effort are limited resources to purchase the hardware required by law enforcement to implement E-Citation. Use of E-Citation technology can greatly enhance and improve the productive of law enforcement personnel. It can also reduce the time and labor required to manually to enter these data into the appropriate data files. Another benefit of E-Citation technology is the reduction of errors both in data collection and data entry.

Injury Surveillance System Information

The Commonwealth of Kentucky has no functioning, integrated, comprehensive, coordinated statewide Injury Surveillance System (ISS). There are several reasons for this. Neither EMS nor Emergency Department data are collected, and Trauma Registry data are collected only on a limited basis. Coroner/Medical Examiner records are not centralized. Some use is made of Vital Statistics death records and CODES data for highway safety purposes, and apparently a CODES analysis was very important in the passage of a primary safety belt bill in 2006.

It should be noted that ISS information is one of the most powerful tools that traffic safety advocates can use in developing effective traffic and highway safety programs. ISS information has also proved to be a highly effective means of persuading legislators to both fund and support important traffic safety initiatives. The Commonwealth should move toward developing a functioning, integrated and comprehensive ISS over the near term. This should have a very high priority.

MAJOR RECOMMENDATIONS

Major recommendations are “bolded” in each individual section.

- Expand access to CRASH data and online query tools (Web Portal). Support differential levels of access so that everyone uses the same dataset, but with adequate controls on access to protected data fields (personal identifiers).
- Produce and publish electronically the data tables for the annual *Traffic Collision Facts* report as soon as possible after the creation of the year-end data extract. Include a notice of “preliminary data” if necessary. Also, if necessary, restrict access to the preliminary data to key users such as law enforcement agencies and program managers in the Governor’s Highway Safety Program.
- Develop a formal data quality measurement process for CRASH data and publish the results along with other CRASH meta-data on the KSP website.
- Using the Traffic Safety Data Service, conduct crash data availability awareness and basic data analysis training for city and county traffic safety and roadway personnel.
- Develop a training module for mapping location technology and provide training to all Kentucky law enforcement personnel regarding its correct use.
- Provide for additional staff that can be used to more accurately determine and assign crash locations.
- Market Traffic Records to all potential users and partners and produce a Traffic Safety Information Resource Guide analogous to the *KCHFS’ Public Health Data Resource Guide* (2005) that is based upon a detailed system inventory of the core data systems as well as other sources of data such as surveys and normalizing data.
- Encourage the Commonwealth of Kentucky to continue to expedite the modernization/replacement of the AVIS system to meet the increasing demands for system accuracy, security, and data generation.
- Encourage the Commonwealth of Kentucky to modernize/update the DDL computer system to meet the increasing demands for accuracy, security, and data generation.
- Consider transferring the driver’s license issuance responsibility to the DDL.
- Retain traffic conviction history on the state driver’s record beyond five years.
- Monitor DUI treatment programs to ensure they meet sentencing requirements.

- Obtain the resources that will allow the full, statewide implementation of the E-Citation program.
- Allow the prosecutors of each court access to the CourtNet database whether or not a conviction occurred in the county of the current violation.
- Utilize the Truck/Bus Collision Training provided by FMCSA rather than spend additional funds on a new training presentation.
- Conduct an EMS and Injury Surveillance System Assessment and coordinate this assessment with KIPRC/CHFS ICIPC planning activities.
- Fund the collection and integration of emergency department data into the Commonwealth Injury Surveillance System as a top traffic records priority.
- Document the policies and procedures of the KTRAC, including the problem identification and project selection decision-making processes, document specific responses to the 2002 and 2007 Traffic Records Assessments, require applicants to provide project histories and funding sources, and establish communications requirements among all KTRAC members and subcommittee members. Incorporate these policies and procedures into Memoranda of Understanding that clearly identify the responsibilities of KTRAC members.
- Take advantage of the transition of the Governor's Highway Safety Program to a higher organizational level within the Department of Transportation Safety to fill new behavioral safety program positions with individuals with epidemiological and/or behavioral analysis and behavioral program subject matter expertise.

ACKNOWLEDGMENTS

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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 the recommendations might best be achieved based on the experience of team members and on the 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 does not 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 or state systems. What matters is whether the data are available to users in a form they can use and that these data are of sufficient quality to support the 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 data 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

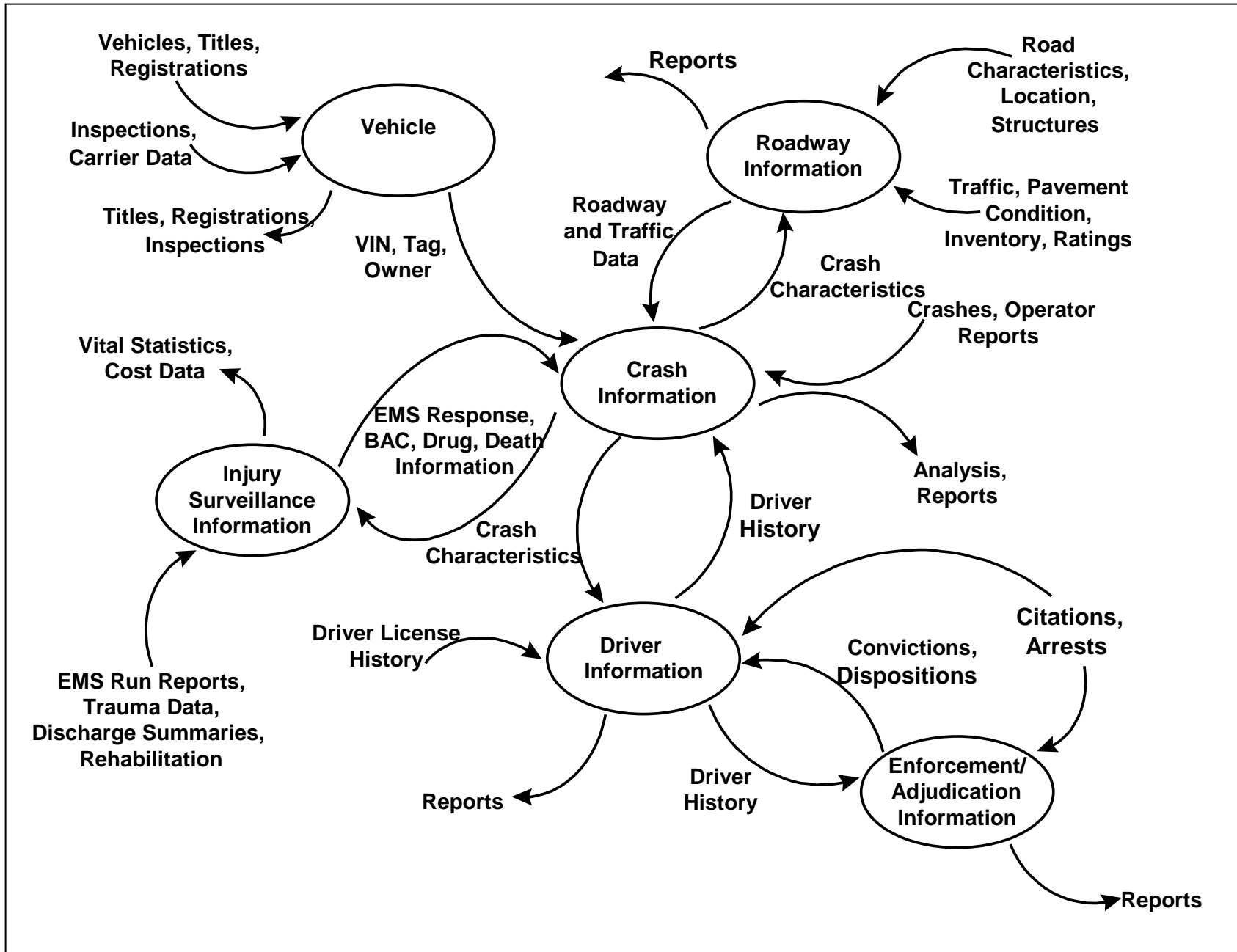


Table 1. Components of a Traffic Records System

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 Commonwealth of Kentucky has approximately 130,000 reportable crashes annually (128,685 in 2005), costing the state an estimated \$6.3 billion in economic and quality of life losses. Crash information plays a central role supporting decision makers' efforts to identify problems, design countermeasures, and evaluate the effectiveness of the programs to improve highway traffic safety.

The Crash Component in Kentucky is a modern, state-of-the-art relational database system programmed in Visual Basic 6. This statewide system – Collision Report Analysis for Safer Highways (CRASH) - is maintained by the Kentucky State Police (KSP) and forms the original core of the Kentucky Operations (KYOPS) suite of law enforcement/public safety data.

The information in CRASH is based on data collected using the Kentucky Uniform Police Traffic Collision Report (KSP 74) by law enforcement officers as required under Commonwealth law (KRS 189.635). This standard report form exists in two versions – one is a paper form last revised in 2000. The other is an electronic version that is used in the statewide electronic field data collection software (E-CRASH) provided free of charge to all law enforcement agencies in the state. Approximately 20% of crashes are reported using the paper form, and the remaining 80% are reported electronically via E-CRASH. The electronic form has undergone some slight revisions since 2000 and, as a result, no longer exactly matches the paper form. These revisions are considered minor, however. A set of more extensive revisions have been suggested by the CRASH subcommittee of the Kentucky Traffic Records Advisory Committee (KTRAC), but

these are being deferred until the state moves to 100% electronic reporting because of the high costs associated with issuing a revised paper form. The KSP makes the final decision on all crash report form revisions and is responsible for distributing the revised form and/or updated E-CRASH software.

The KSP 74 and the CRASH system include data elements sufficient to document the time, location environment, and characteristics (sequence of events, rollover, etc.) of a crash. For the past three years, in addition to on-street and nearest cross-street data, officers have been required to report the latitude/longitude coordinates for each crash. To facilitate location data collection, the Kentucky Transportation Cabinet (KYTC) provided GPS receivers to every law enforcement officer in the state. These are stand-alone units that display the latitude and longitude on a screen. Officers are then required to enter latitude/longitude information onto the paper or electronic crash report form. There is no auto-complete feature for E-CRASH users to copy the GPS coordinates into the report without having to type the information.

A 2004 evaluation by the Kentucky Transportation Center (KTC) of the University of Kentucky showed that location identification on state-maintained roadways using GPS was somewhat more accurate than when the officers used route names and milepoints. However, accuracy was still judged to be less than desired as only 58% of crashes were accurately located even when GPS coordinates were collected. The accuracy problems stemmed from a variety of factors, only some of which can be addressed through additional training.

Persistent concerns over accuracy of location data have prompted the KSP to initiate a contract to further enhance location data collection through use of an onscreen map on which the officer can select the crash location. KTC developed a stand-alone application (Map-Click) that demonstrates the kind of functionality that KSP is planning to add to KYOPS via a separate vendor. The Map-Click software provides the officer with an onscreen map with some limited zoom capabilities (streets are represented by centerlines on the map – lanes or other dimensional geometry are not displayed). The officer can select a location by clicking on the map and a screen pops up to display a valid set of GPS coordinates along with the street name, and for state-maintained roadways, the route number, mile point, and other associated data.

Map-Click uses a base map maintained by the Planning Division of the Department of Highways in the KYTC. An informal agreement between the Planning staff and KSP is in place to ensure that the base map is kept up to date on an annual basis with monthly updates throughout the year. Unfortunately, due to Planning Division staffing cuts, the KTC has expressed some reluctance to commit to continue supplying KSP with updates in the long term. KSP has received a grant through the Section 408 program to develop a program that will function like Map-Click and have the ability to share data with other KYOPS programs, including E-CRASH. It was reported that Map-Click could potentially fill this need but KSP has determined that new software is needed.

Data in the CRASH system are linked to roadway attribute data in the roadway inventory system maintained by KYTC. Primarily, this linkage supports analysis for the state-maintained roadways only – accounting for roughly 1/3 of roadways in the state. Links to Driver and

Vehicle information are completed using a batch process and are one-way only. That is, while officers have access to driver and vehicle information, this link does not permit auto population of KYOPS forms. Officers using laptops equipped with 2D barcode readers can scan driver license information directly into KYOPS forms.

The CRASH system does include data elements sufficient to document the consequences of crashes (fatalities, injuries, property damage, and violations charged). However, Kentucky statute bars officers from issuing crash-related citations except in certain circumstances (DUI, failure to show proof of insurance, driving without a valid license). In most other cases, unless the officer personally witnessed the violation, a citation cannot be written. As a result, there are relatively few violations recorded in the CRASH database.

In addition to providing information on a particular crash, the CRASH data system supports analysis of crashes in general and crashes within specific categories defined by: person characteristics (e.g., age and 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.).

Analyses are conducted by staff in KSP, DOTS, and KTC. An annual *Traffic Collision Facts* report is produced by KTC and published by the KSP. The most recent report available is based on 2005 data. The 2006 report is expected to be ready in Summer/Fall of 2007. Other analyses completed using the CRASH data include a series of standard reports in support of problem identification for the Governors Highway Safety Program (GHSP) and other organizations, as well as ad-hoc reports produced in response to data requests from a variety of users in the public and private sectors.

In addition to these reporting capabilities, law enforcement agencies have access to query tools provided by the KSP. Program managers within the GHSP reported that they do not have query capability into the CRASH database. Program managers also lack access to other Traffic Records datasets. They rely on data analysts at DOTS and KSP, or use the Collision Facts report.

Data extracts from the CRASH database are available to authorized users. KSP maintains two versions of the CRASH database. The full version includes personal identifiers, and access to this version is restricted to only those agencies with legal authority to access these data. These users are able to conduct analyses and view CRASH data via the KSP Web-Portal.

A restricted number of these users (KSP staff and local law enforcement agency CRASH Administrators) also have access to the CRASH database through a "thick client" application that allows only authorized, select users to alter the data while other users have query access only. A redacted version of the dataset, from which personal identifiers have been removed, is made available to any user upon request and approval. Some users, such as the DOTS and the Department of Vehicle Regulation (DVR) are provided with extracts on a routine basis. KSP does not provide reporting tools for users of the redacted dataset.

Recommendations

- Implement the crash location accuracy improvement recommendations similar to those from the 2004 KTC report *Evaluation of the Accuracy of GPS as a Method of Locating Traffic Collisions*.
- Develop interfaces between KYOPS and the Driver License and Vehicle Registration databases to support auto population of forms.
- **Provide for additional staff that can be used to more accurately determine and assign crash locations.**
- **Expand access to CRASH data and online query tools (Web Portal). Support differential levels of access so that everyone uses the same dataset, but with adequate controls on access to protected data fields (personal identifiers).**
- Re-evaluate the decision to program a new system that functions like Map-Click. If Map-Click can serve the current needs of law enforcement agencies at a lower cost, develop links between that application and KYOPS.
- Plan for future development of a more robust and integrated map-enabled application in KYOPS that complies with statewide Geographic Information System (GIS) standards and is compatible with statewide GIS applications as those are developed.
- Continue to invest in the future development of KYOPS.

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 Kentucky Transportation System consists of a total of over 80,000 miles of public roadways with 27,511 of these miles being part of the state highway system. Municipal and county jurisdictions have responsibility for the remaining 53,000 miles. The Kentucky Transportation Cabinet is responsible for the roads on the state highway system, and the KYTC Division of Planning maintains the highway inventory system for roads of state jurisdiction. Significant files in the system include:

- Roadway Geometry (number of lanes, lane width, shoulder width etc.)
- Annual Average Daily Traffic (AADT) data
- Roadway Alignment
- Intersection Inventory
- Interchange and Ramp information
- Signals and Beacons
- Bridge Information
- Pavement type
- Critical Rate Factors for all crashes and Fatal and Injury crashes

One key element is currently missing from the state's highway inventory. There is no sign inventory. The Kentucky legislature has approved funding for a video logging van; however, the purchase of the video van has been postponed to the next fiscal year. The proposed vehicle will provide another means to update roadway inventory and collect sign inventory data. A newly developed program called Sign Click can be used in conjunction with video logged sign information to complete the sign inventory process.

Roadway information contained in the state highway inventory is used extensively. Roadway and crash files can be linked, and these files in conjunction with others are used for the following applications:

- Adequacy Rating
- Safety Corridors
- Lane Departure Resurfacing

- Median cable barrier location identifiers
- Guardrail
- Six Year Highway Improvement Plan

The Division of Traffic Operations also utilizes inventory and highway asset data in the development of Hazard Elimination System (HES) programs and the Highway Safety Improvement Program (HSIP).

Centerline, road names, and latitude/longitude data are maintained on local roads. However, for local roads other highway asset data except for the assigned functional classification and pavement type are not included in Kentucky's highway inventory unless the local road is functionally classified arterial or collector. If a local road is functionally classified arterial or collector, similar road inventory data are collected as is collected on the state-owned routes within the state.

The Commonwealth's traditional Location Reference System (LRS) is based on County Route and Mile Post (CRMP).

In the 1990's a statewide Geographic Information System (GIS) system was developed. Beginning in 2000, the GIS system was complemented by the statewide implementation of a Global Positioning System (GPS). Boosted by a \$1 million dollar grant provided by the Federal Highway Administration for the purchase of GPS units for law enforcement, the GPS system promised high hopes for improved crash location completeness and accuracy. However, the Kentucky GPS crash location system has remained hobbled to some degree by location accuracy issues. An analysis conducted by KTC in 2004 found the GPS system locating 58% of all crashes within 500 feet of the actual crash location. This was slightly better than the 53% accuracy within 500 feet for the traditional county, route, and milepost system.

This year, the KTC and Kentucky State Police are developing map based crash location tools. The Map-Click system was developed by the KTC as an offshoot of Sign Click, an experimental sign inventory collection system. The parallel KSP map tool is being programmed for statewide roll-out for January 1, 2008. Statewide law enforcement training on the use of the selected mapping tool will be critical for improved crash location accuracy.

Local road databases contain only road names and centerline, latitude and longitude data. Very few cities and only 15 of Kentucky's 120 counties have professionally trained traffic engineers on staff. As a result, these local systems are dependent on the Transportation Cabinet's 12 district offices, the 15 Area Development Districts and the Transportation Center's Safety Circuit Rider for the analysis and identification of high crash, high severity roads in their respective jurisdictions. Led by the Safety Circuit Rider, a systematic approach is used to identify the counties and respective roads within these counties most in need of roadway safety improvement and improvement counter measures. The engagement of local stakeholders in problem road identification and countermeasure selection is essential to the success of these efforts.

Recommendations

- Expedite the implementation and completion of a statewide sign inventory and roadway video logging inventory program.
- Enhance crash location accuracy by providing statewide law enforcement training regarding the use of the selected mapping tool technology prior to program implementation.
- **Using the Traffic Safety Data Service, conduct crash data availability awareness and basic data analysis training for city and county traffic safety and roadway personnel.**

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 Division of Motor Vehicle Licensing (DMVL) within the Kentucky Transportation Cabinet has the overall responsibility for the motor vehicle licensing system. With the exception of those commercial motor vehicles registered under the International Registration Plan (IRP), the actual issuance of motor vehicle titles and registrations is conducted by the County Clerks.

There are approximately 4 million registered vehicles in Kentucky. License plate series are currently used for a five year period before a new series design is issued. Vehicle titles and registrations are issued at county locations and registrations may be renewed online.

Kentucky vehicle titles are bar codes for pertinent information. Title and registration Vehicle Identification Numbers (VIN) are verified electronically. In addition, special reports are generated to extract information from the VIN. Salvage vehicle titles are branded and brands from foreign titles are carried forwarded. The National Crime Information Center (NCIC) is checked against stolen vehicle information before approval.

Commercial vehicles are classified by use and weight. Non-commercial vehicles are not classified by weight, configuration, or use. Odometer information is collected at the time of title transfer for all vehicles and at the time of inspection for some special vehicle types (e.g., buses).

Vehicle insurance information is maintained on the vehicle registration system. Insurance companies send electronic notification of vehicle insurance to the DMVL. Whether the vehicle has a valid insurance policy in effect is noted on the vehicle registration file. Registration information accessed by law enforcement indicates insurance status. If no insurance is indicated or if the individual changes companies, a verification of insurance status is automatically requested every day for 45 days before the system flags the registration as not insured.

Commercial vehicle data is maintained in the Automated Vehicle Information System (AVIS). The Division of Motor Carriers has read-only access to AVIS for programs such as International Fuel Tax Association (IFTA), IRP, U-drive-it, and Fuel tax permits.

Annual reports are produced for commercial vehicle weight classifications, for registration totals by county, and a three-year state and county registration history. Additional reports can be generated upon request. The assessment interviews did not reveal any apparent current interest to use vehicle registration information to normalize data to determine over-representation of vehicle types in crashes.

Law enforcement has real-time access to the motor vehicle record via their in-car mobile computer system or they may request this information from the dispatcher. There is not yet a link to automatically populate citation or crash reports from the motor vehicle record.

The vehicle registration information system is updated daily. The activity for the day is updated using a batch process.

The AVIS system was created prior to the driver record system and utilizes an older language format. The system has many limitations.

Recommendations

- **Encourage the Commonwealth of Kentucky to continue to expedite the modernization/replacement of the AVIS system to meet the increasing demands for system accuracy, security, and data generation.**
- Expand annual vehicle data reporting information to include registered vehicle data by plate type, by vehicle type, by vehicle configuration, and by county. Provide access to this information on the agency's website.

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 Kentucky Division of Driver Licensing (DDL) is located in the Kentucky Transportation Cabinet. The Division is responsible for the driver's license, commercial driver's license (CDL) and the state identification card. In addition, the Division oversees the Graduated License Program (GLP), the Medical Review Board, and the Kentucky State Traffic School (STS).

The driver file contains approximately 3.9 million records in the DDL system of which approximately 3.4 million are considered active. Of the 3.4 million only about 3 million have a current valid license.

These records contain legal name, proof of physical residence, date of birth, social security number, gender, and a unique driver's number. Biometric information, in the form of facial recognition software technology, is captured with the digital photo. In addition, fingerprint information is collected from CDL Hazardous Materials applicants. The DDL driver record system can be accessed using the individual's driver's license number or social security number.

New license applicants are tested by the Kentucky State Police (KSP) and the actual license is issued over the counter by the Circuit Court Clerk in the Commonwealth's 120 counties, with multiple sites in some counties, and in the 12 DDL field offices. Licenses are issued for a 4 year period. In the case of legal alien residents, the expiration date matches the "end of stay" date. About 800,000 new and renewal licenses are issued annually.

New applicants' conviction records from prior state of residence do not transfer to their new Kentucky license record. The exception is CDL license holders for whom prior convictions do transfer to the CDL license. Traffic violation convictions in the Commonwealth of Kentucky are electronically transmitted to the DDL within 2 to 3 days of the case disposition. Convictions are added to the violator's record within one day of the receipt of the electronic record. Convictions are retained on the record for a maximum of five years. CDL violations convictions remain on the record for a longer period based upon federal CDL requirements. The traffic offense violation conviction indicates whether a violation occurred in a commercial or a non-commercial vehicle.

Convictions for out-of-state violations are added to the Kentucky driver record upon notification from the other state and DDL review.

A Kentucky driver record is created for non-residents and unlicensed residents convicted of serious traffic offenses.

The DDL verifies all new and renewal license applicants against the National Problem Driver Pointer System to verify that a driver license applicant's license privilege is not in a revoked or suspended status in another jurisdiction. Kentucky DDL data meets the conditions established by the National Driver Register (NDR), the Commercial Driver License Information System (CDLIS), and the American Association of Motor Vehicle Administrator's Telecommunications Network (AAMVANet).

If an individual satisfactorily completes the Kentucky State Driving School or a high school based driver education course, it is noted on the record. If a motorcyclist applicant presents a rider course completion card, this too is noted on the driver record.

All crash involvement by Kentucky drivers is posted on the driver record file. This information is electronically transferred from the Kentucky Crash file. The crash remains on the individual driver record for a period of five years. As previously noted, a citation cannot be issued in conjunction with a vehicle crash except for DUI, no proof of insurance, or operating without a valid license.

The cost of a four year regular operator's license is \$20.00. The DDL receives approximately half of the fee, with a small fee to the Circuit Court Clerk and the remainder going to the road fund.

The DDL publishes annual state driver license and fact summaries by license type. They do not produce a similar report at the county level. DDL officials do respond to requests for driver license data.

REAL-ID: Whether the federal requirement for states to develop this standard system continues, the DDL is making considerable progress toward personal identification validation. The DDL officials believe that the Commonwealth of Kentucky has made more progress than 90 percent of the other states in complying with the REAL-ID requirements.

The computer system used by the DDL was created in the early 1980's and, while providing satisfactory service, needs to be modernized. The system was written in COBOL language and it is expensive to make the constant changes that are necessary in today's data environment.

Recommendations

- **Encourage the Commonwealth of Kentucky to modernize/update the DDL computer system to meet the increasing demands for accuracy, security, and data generation.**

- **Expand the Annual DDL reporting to include county specific information and provide website access.**
- **Consider transferring the driver's license issuance responsibility to the DDL.**
- **Retain traffic conviction history on the state driver's record beyond five years.**

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

Kentucky has two court systems that are important to traffic records. They are the District Court and the Circuit Court. The 120 clerks of the circuit courts oversee documentation of trial court activities in each of Kentucky's counties. The clerk of the circuit court also serves as the clerk of the district court for that county. Clerks are elected for a six-year term. Circuit clerk offices vary in size from one clerk and one deputy clerk to 300 or more deputy clerks and administrative staff. The clerks of the trial courts keep a docket for each original action filed in that court and assign each such action a consecutive file number. All papers filed with the clerk are marked with the file number and noted chronologically in the docket on the page or pages of the docket assigned to the action. These notations show the nature of each paper filed or issued and the substance of each order or judgment. This process is maintained and secured in both paper and electronic records for the nearly one million actions filed in Kentucky courts each year. In fiscal year 2004, the circuit court clerks' offices collectively processed \$260,368,280 in fines, fees, costs and other monies.

District Court

The District Court has limited jurisdiction, which means it hears only certain types of cases. Ninety percent of all Kentuckians involved in court proceedings appear before District Court. Juvenile matters, city and county ordinances, misdemeanors, traffic offenses, probate of wills, felony preliminary hearings, small claims, and civil cases involving \$4,000 or less are all heard in District Court, as well as voluntary and involuntary mental commitments and cases relating to domestic violence and abuse. There are 116 district judges in sixty judicial districts in Kentucky. If a district has a large population and a heavy caseload, the district may consist of only one county but have several judges. In less populated areas, a district may encompass more than one county, but have only one judge who travels among the district's counties to hear cases. In fiscal year 2004, the District Court recorded 829,957 cases filed and 818,827 cases disposed.

Circuit Court

The Circuit Court is the court of general jurisdiction over cases involving capital offenses, felonies, land disputes, contested probates of wills, and general civil litigation in disputes involving more than \$4,000. Circuit courts have the power to issue injunctions, writs of prohibition, writs of mandamus and hear appeals from district courts and administrative agencies.

As a division of Circuit Court with general jurisdiction, the family court division of Circuit Court further retains primary jurisdiction in cases involving dissolution of marriage; child custody; visitation; maintenance and support; equitable distribution of property in dissolution cases; adoption; and, termination of parental rights. In addition to general jurisdiction of Circuit Court, the family court division of Circuit Court, concurrent with the District Court, has jurisdiction over proceedings involving domestic violence and abuse; the Uniform Act on Paternity and the Uniform Interstate Family Support Act; dependency, neglect, and abuse; and, juvenile status offenses.

Currently, there are 95 circuit judges in 57 judicial circuits and 34 circuit family court judges. One judge may serve more than one county within a circuit. Some circuits contain only one county but have several judges, depending on population and caseload. Circuit judges serve eight-year terms. During fiscal year 2004, the Circuit Court recorded 103,192 cases filed and 103,801 disposed. In FY 2004, the Circuit Family Court recorded 53,825 cases filed and 50,598 cases disposed.

There are two independent programs of interest to traffic records. They are the Diversion Program and the Drug Court.

Diversion Program

The Department of Pretrial Services operates the Misdemeanor Diversion Program. By resolving minor offenses outside of court, the court system can reduce the number of cases on its dockets and keep its resources for more serious cases. The Diversion Program attempts to meet the individual needs of the offender while maintaining the confidence of the victim and the court.

Drug Court

The Drug Court coordinates the efforts of the judiciary, prosecution, defense bar, probation, law enforcement, mental health, social services and treatment communities to intervene and break the cycle of substance abuse, addiction and crime. There is a section on the Kentucky.org web site that states, "Today there is irrefutable evidence that the Drug Court is achieving what it set out to do - substantially reduce drug use and criminal behavior in drug-addicted offenders." The Drug Court operates 53 programs in 77 Kentucky counties and has graduated more than 1,300 participants since the program began in 1996. The program is giving individuals the opportunity to lead productive, drug-free lives.

The Kentucky Supreme Court through the Administrative Office of the Courts (AOC) has oversight over all courts. AOC was established in 1976. It serves as staff for the Commonwealth's Chief Justice of the Supreme Court. The AOC consists of the Director's Office and fifteen departments, many of which consist of one or more divisions. According to the state constitution, the AOC performs various duties under the supervision of its administrative director including:

Acts as fiscal agent of the Court of Justice. Its staff prepares the budget draft biannually and administers the judicial budget. The Kentucky unified court system is funded by state appropriations. Generally, the Court of Justice budget represents just over two percent (2%) of the total state general funds appropriated for each biennium. The Court of Justice budget is used to pay all expenses of the state court system including salaries of elected officials and non-elected personnel, travel expenses, facilities and office supplies and equipment. All revenues collected by the Court of Justice are deposited into the state treasury for general fund disbursement. Certain fees, however, are earmarked for distribution to specific funds.

Maintains data processing systems for the purpose of publishing statistical reports, evaluating special projects and operating case management systems.

Disperses and maintains supplies and equipment for the entire court system, administers local court facilities programs and provides support for regional administration of trial courts, boards and commissions.

Administers the personnel policies and payroll of the Court of Justice.

Oversees the state pretrial and juvenile services programs.

Supervises the State Law Library.

Provides educational programs for judges, court clerks, and support staff.

Prepares, publishes and prints manuals, forms, stationery, and other materials.

Two other sections of the AOC are the Division of Case Management and Division of Research and Statistics.

Division of Case Management

The purpose of the Division of Case Management is to provide prompt, accurate and reliable technical assistance and support to Circuit Court Clerks relating to management of court records and financial transactions. The Department of Court Services' Division of Case Management provides services to Circuit Court Clerks relating to the organization, maintenance, retrieval, disposition and disposal of court records. Field Representatives provide on-site, individual and group training to deputy clerks as new technology becomes available and is implemented in the case management systems of the Court of Justice. Field Representatives currently are assigned a

15 county area, but frequently travel statewide to deliver services and conduct routine field visits. Evaluating performance and assessing individual training needs is also an integral part of the responsibilities assigned to this position.

Division of Research and Statistics

The statistics unit has as its primary responsibility the collection; analysis and dissemination of judicial case load information for the Court of Justice. A major function of this section is devoted to the accurate handling and reporting of circuit and district case load activity as it is reported by the circuit clerk's offices. In addition, the statistics section is responsible for processing written requests received from the public and/or private sector.

Court Structure

The 120 clerks of the circuit courts oversee documentation of trial court activities in each of Kentucky's counties. The clerk of the circuit court also serves as the clerk of the district court for that county. Clerks are elected for a six-year term. Circuit clerk offices vary in size from one clerk and one deputy clerk to 300 or more deputy clerks and administrative staff. The clerks of the trial courts keep a docket for each original action filed in that court and assign each such action a consecutive file number. All papers filed with the clerk are marked with the file number and noted chronologically in the docket on the page or pages of the docket assigned to the action. These notations show the nature of each paper filed or issued and the substance of each order or judgment. This process is maintained and secured in both paper and electronic records for the nearly one million actions filed in Kentucky courts each year. In fiscal year 2004, the circuit court clerks' offices collectively processed \$260,368,280 in fines, fees, costs and other monies.

A few methods of getting information on the web are:

Kentucky Court Records On-line - This site was designed to assist the general public in finding their upcoming cases

CourtNet-KBA –(Kentucky Court Records Online - KBA) - This site was designed to assist attorneys in good standing with the Kentucky Bar Association to practice within the courts of the Commonwealth. This site allows authorized attorneys to view client cases that are pending in the Kentucky trial courts.

CourtNet-The Court of Justice designed this site for the limited use of Kentucky Criminal Justice professionals. Authorized personnel can check on the status of cases they have taken before the courts, monitor court appearances, bail conditions and compliance with court orders.

The District Courts adjudicate misdemeanor cases while the Circuit Courts adjudicate felony cases. The system allows the KBA to serve as a central repository for conviction information for law enforcement and the prosecutors. Citation information is transmitted to the KBA electronically from each Circuit court. It is first transmitted from the law enforcement agency to the AOC database. It is then sent to the Circuit court for assignment of a case number and then returned to the KBA. If the agency does not use E-citation, a hard copy of the citation must be delivered to the court where the data are entered by the clerk into the KBA file.

Each prosecutor's office has access to the KBA file and can get a person's driving record prior to arraignment. However, the only way the person's driver record will be available is if the person has a conviction in the county in which the current charge is filed. Access to court records from other counties within the state is denied if there was no prior conviction in the current county. No explanation was provided for this limitation. If no convictions are on file, a request must be made through the Pretrial Services. It may take as long as two weeks to get the record.

The case management process for all traffic citations is the same. It is unlawful for a Driving Under the Influence (DUI) charge to be reduced if the defendant tested above a .08 BAC. However, no such limitation exists for anyone that refuses an alcohol test. Madison and Harden counties are currently participating in a "Gold Standard" pilot program involving DUI offenders. The purpose of the program is to track a case from the time of arrest through the final disposition of the case to include any treatment that might be required by the court.

When a citation is entered into the Courtnet system it is not automatically transferred into the Gold Standard database. Rather data from the hard copy must be entered separately to the pilot project data base. This duplicates clerical effort and increases the potential for error.

No pre-sentence assessment is completed for DUI offenders. When attendance to a DUI treatment program is ordered as part of the sentence each person attends a standardized, video-based Alcohol Drug Education (ADE) program. The program is not tailored to individual offenders. This assumes that a single method of treatment will be effective for everyone arrested and convicted of a DUI offense. Further, while the treatment program is mandated by the state, the treatment sessions are conducted by private vendors. This allows for a variety of ways of administering the program. The treatment programs are not monitored or evaluated.

No notification is sent to the court regarding successful completion of the treatment program; and the court is notified only if the person failed to complete the program. Once the person begins the treatment, the case is closed at the court level.

Deferred prosecution is not an option for DUI; although it is acceptable for other minor misdemeanors. The number of cases that can be deferred ranges from 1-3 cases in a lifetime depending on the court. The court can only use previous DUI convictions for enhancement for 5 years.

The interview process revealed that DUI convictions are intended to remain on a person's criminal history indefinitely with no means to have the record expunged. However, judges may enter a conviction in such a way that the rule may be circumvented.

The Kentucky State Police (KSP) prints and distributes all hardcopy citations and assigns all E-citation numbers. There is no audit completed on the numbering system (i.e., there is no citation audit system). Some agencies do not use the E-Citation program because of limited resources.

Electronic citations are forwarded to the appropriate court electronically and the clerk uses the data to establish the case folder. There is no need for a hard copy of the citation to be delivered to the court by the officer when the citation data has been submitted electronically. The officer needs to submit the citation data to the court within two days. Hard copy citations must be delivered to the court in person within the same two-day limit.

All cases must be adjudicated within 90 days of the date of the violation. The rare cases that exceed the 90 day limit must be justified to the Supreme Court. The disposition case record is forwarded to the Division of Driver Licensing (DDL) electronically. Submissions to DDL are made nightly in a batch file.

The interview process did not reveal a thorough quality control of the citations issued to and by their officers by any agency. One agency kept no records as to what happened to the citation once it was issued to the officer. One agency did report that it conducted random quality control inspections of officers' citations.

None of the agencies interviewed attempted to ascertain the disposition of cases on a regular basis. Unless the violation was a DUI or something other than a minor misdemeanor, no attempt was made to establish the disposition. When a paper citation is voided, all five copies of a paper citation are needed and a supervisor must approve the action. For E-Citations, once they are issued, the case must be dismissed in court and the charge must be re-filed using the next sequential number from that officer's list of numbers.

Local agencies have just begun using the E-Citation program. Funding limits the agencies participating in the program.

Recommendations

- Establish a "user-friendly" online access process to the AOC database with full query capabilities to prosecutors.
- Explore adding capabilities to Courtnet to eliminate the need for a separate DUI tracking system.
- **Monitor DUI treatment programs to ensure they meet sentencing requirements.**

- Establish a way to evaluate the effectiveness of treatment programs.
- **Obtain the resources that will allow the full, statewide implementation of the E-Citation program.**

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

ISS System Overview – Authority/Organization/Management/Funding

The Commonwealth of Kentucky has no functioning, integrated, comprehensive and coordinated statewide Injury Surveillance System (ISS). Injury surveillance refers to the systematic collection, analysis and interpretation of data about injuries, together with dissemination of the resulting information to current and potential users. No single agency has the responsibility or authority to direct the development and coordination of the disparate subsystems of an injury surveillance system into a coherent whole.

In 2005, the Kentucky Cabinet for Health and Family Services (CHFS) Kentucky Department for Public Health (DPH) Data Users' Workgroup published a *Public Health Data Resource Guide*, an outstanding publication describing the nature, quality and access to health-related survey data, surveillance systems and registries that may be used for public health decision-making, research and program monitoring, assessment and evaluation. This document describes the portion of the Center for Disease Control's (CDC) 11 Injury Surveillance System Components available in Kentucky.

In 2007, population-based data are available only for hospital discharge and vital statistics death records. EMS data, Emergency Department Data, Coroner/Medical Examiner Data are not collected centrally. The Commonwealth has no Trauma Registry, although registries exist for brain and spinal cord injuries.

Some regional and local injury surveillance systems are known to exist, but the state has not instituted a survey of their location and characteristics. The Barren River District Health Department is a notable example of a regional public health system with a fine injury surveillance system.

Enhanced 9-1-1 is in place throughout the Commonwealth and emergency dispatch is by voice. The Kentucky Board of EMS is responsible for the Commonwealth's Public Safety Answering Points and has indicated concern about Health Insurance Portability and Accountability Act (HIPAA) compliance with voice dispatch.

Kentucky Cabinet for Health & Family Services (CHFS). Leadership for public health is vested in the Kentucky Cabinet for Health & Family Services (CHFS). Within the CHFS, the Department for Public Health (KDPH) Division of Epidemiology and Health Planning contains two units responsible for health data; the Surveillance and Health Data Branch and the Vital Statistics Branch.

KDPH produces and administers the state health plan, *Healthy Kentuckians 2010*, which includes chapters addressing Injury/Violence Prevention, Education and Community-Based Programs, Public Health Infrastructure and Health Communication, all of which overlap with highway safety planning and are heavily data-driven.

The CHFS Health Policy Development Branch was tasked with administering a committee to "... advise the cabinet on technical matters including proper interpretation of the data and the manner in which it should be published and disseminated ..." (KRS 216.2923(e)). During the 2005 legislative session, KRS 216.2923 was amended to broaden the mission and scope of the advisory committee beyond hospital discharge data collection, analysis, and dissemination. The committee consists of Commissioners from health care-related state departments, (Public Health, Mental Health and Mental Retardation Services, Medicaid, Insurance) health care provider groups (physicians, hospitals, non-physician providers), health insurers, employers, and consumers appointed by the Cabinet Secretary to advise on the collection, analysis, and distribution of consumer-oriented information related to the health care system.

Kentucky Injury Prevention and Research Center: The KDPH designated the Kentucky Injury Prevention and Research Center (KIPRC), a partnership between the Kentucky Department for Public Health (KDPH) and the University of Kentucky's College of Public Health that combines academic investigation with practical public health initiatives, as the agency responsible for developing a state injury surveillance system. KDPH funds KIPRC administration, but cooperative agreements with federal agencies, primarily the Centers for Disease Control and Prevention and the National Highway Traffic Safety Administration (NHTSA), fund the majority of its activity.

KIPRC cultivates a collaborative approach to problem solving to reduce injury through education, policy initiatives, public health programming, surveillance, risk factor analysis, direct interventions, and evaluation. In addition to extensive ongoing research initiatives, KIPRC practices injury prevention in many “Safe Communities.”

In 2002, KIPRC produced a *Core Commonwealth Injury Surveillance and Program Development Plan*, following State and Territorial Injury Prevention Directors Association (STIPDA) recommendations, but the project was not funded.

In 2005, Kentucky received a Centers for Disease Control and Prevention (CDC) Integrated Core Injury Prevention and Control Program (ICIPC) grant. Funding will continue through July 2010. KIPRC and KDPH lead grant activities, beginning with development of an *Integrated State Plan for Injury Prevention and Control* by 2007. Next, they will develop the infrastructure and resources required to implement and monitor the plan.

ICIPC activities underway by the Kentucky Injury Community Planning Group (ICPG) of about 30 public and private sector IPC stakeholders and ICIPC project staff include:

- Develop an inventory of injury prevention data sources, programs, projects, and resources.
- Develop, implement, promote, and monitor a state plan for injury prevention and control.
- Advocate and market for sustainable resources for injury prevention and control through a series of annual meetings with high-level IPC stakeholders.

The *2010 Strategic Plan for Developing Core Capacity for Injury Prevention and Control in Kentucky* will address five functional areas considered to be critical to the success of state efforts to prevent and control injuries by:

1. Collecting, analyzing, and disseminating injury data
2. Building a solid Commonwealth infrastructure for injury prevention
3. Designing, implementing, and evaluating interventions
4. Providing technical support and training
5. Studying issues that affect public policy

Concurrently with the ICPG activities, ICIPC project staff are developing and implementing an information system to track injuries using existing state data sources and are creating an IPC resource clearinghouse. The objective is to improve coordination of IPC programs and resources, and to foster collaboration where appropriate.

Highway Safety coordination with Public Health Injury Surveillance: The Governor’s Executive Committee on Highway Safety members include the Commissioner of the Department of Public Health, the Executive Director of the Kentucky Board of EMS and the Director of the University KIPRC. The *2006 Strategic Highway Safety Plan* (SHSP) produced under the leadership of this group did not include an Injury Prevention and Control emphasis area. The SHSP Emphasis Areas included few health care, public health, emergency response or community-based

strategies or activities, and did not refer to the public health plans and goals for motor vehicle injury reduction and data system improvements.

The *FY 2007 Highway Safety Performance Plan* produced by the Governor's Highway Safety Program is predominantly roadway or corridor-based, but does include a few community-based public health strategies, some coordinated with public health activities.

The *2006 Traffic Records Strategic Plan* produced by the Kentucky Traffic Records Advisory Committee (KTRAC) included an EMS and Injury Surveillance Subcommittee chaired by a KIPRC injury researcher. The sub-committee identified the collection of Emergency Department data as a priority for funding, which however was not funded.

Injury Surveillance System Components

Pre-hospital/Ambulance Run/EMS Data

EMS Delivery System: In 2002, an estimated 500,000 to 700,000 transports occurred within the Commonwealth. In 2007, there are 231 transport services, down from 254 in 2002. Of the 231 services, 165 provide Advanced Life Support (ALS) and 80 provide Basic Life Support (BLS) level of care. ALS services cover 80% of the population and are present in all but 9 counties. Fourteen air transport services with 30 helicopters often transport motor vehicle collision victims to out of state trauma centers.

Ninety-one percent of Kentucky ambulance services are paid; 41.6% are third service, 23.4% are fire-based and 26% are private paid services. Of the volunteer services, 2.6% are volunteer fire-based and 6.5% are volunteer EMS-based. The Kentucky Cabinet of Health & Family Services issues a Certificate of Need for additional EMS coverage areas, and the Kentucky Board of Emergency Medical Services (KBEMS) then certifies the applicant service.

EMS services are staffed with nearly 15,000 providers, including 1,097 First Responders, 10,990 EMT-B's and 2,237 EMT-P's. Responsibility for ambulance inspections is bifurcate; four KBEMS inspectors examine the cargo area and its contents including medical equipment; Kentucky Transportation Cabinet vehicle inspectors examine the vehicle.

Authorizing Legislation/Lead Agency: By Executive Order, the Kentucky Board of EMS was separated from the Kentucky Cabinet of Health & Family Service as an independent lead agency and regulatory entity that reports directly to the Governor. In 2000, the Board was moved to the Finance Cabinet and in July 2006 it was once again moved to the quasi-government Kentucky Technical College for budget purposes. KRS 311 authorized KBEMS to certify and license EMS providers, certify EMS medical directors and EMS instructors and institutions and establish continuing education requirements, as well as inspection and certification of all Public Safety Answering Points (PSAPs). The Board promulgates its own regulations. The Board consists of EMS Providers and physicians, and supports paid positions including ambulance inspectors and a data manager from a surcharge on EMS run fees. The Executive Director of KBEMS is a

member of the Governor's Executive Committee on Highway Safety and of the Traffic Records Advisory Committee.

Data System: Under KRS 311(1), the KBEMS is charged with developing and implementing a statewide EMS data collection system. Until an electronic EMS data collection system is in place, KBEMS mandates the use of the paper *Commonwealth of Kentucky Emergency Medical Services Ambulance Run Report*, EMS-8A (9/98). The EMS-8A collects the 81 data elements of the NHTSA Uniform Prehospital Data set (1995). Paper reports sent in to the central repository are not entered into a database, nor are they evaluated.

The Traffic Collision Report contains data fields for information regarding EMS response, but the data are rarely captured and the fields are no longer mandatory.

KBEMS recently purchased Graco System software using Health Resources and Services Administration (HRSA) Trauma Planning and Implementation grant funds, and will pilot test the new KEMSIS ambulance run data system with five providers during 2007. The KEMSIS software collects and stores EMS licensing, certification, training and ambulance run records. The Graco System runs on a Sequel server database; local data can be entered into the local records management system and then sent to the repository at KBEMS.

After the pilot phase, the KBEMS hopes to have one-time funds for a bulk purchase of a state software license and 1300 - 1500 tablet computers at reduced cost. The KEMSIS project cannot be completed until providers are equipped and trained. No project timeline has been established because this portion of the project is completely dependent upon the availability of funding.

KEMSIS ambulance run information meets National Emergency Medical Services Information System (NEMSIS) Gold and Silver standards, and the software accepts third parties' data transmissions. The software contains 400-500 edit checks. Seamless system updates may be made to all providers at one time. The National Trauma Registry (NTR) software format is compatible with NEMSIS.

Emergency Department Visits

Of the 126 hospitals operating within the Commonwealth, 91 percent have 24-hour physician coverage of the Emergency Department (ED). Some hospitals maintain their own databases of ED visits, but there is no centralized collection of these records. Based upon 2002 national data, there were an estimated 1.5 million ED visits in 2002 in Kentucky, and about 500,000 of these were injury related and about 60,000 were motor vehicle related.

A database could be developed using the same technical infrastructure as for the hospital discharge records and at a reduced cost per processing. The data elements would, like the HDD, follow UB-92 billing data collection standards and conventions. The data elements collected will be determined based upon the requirements of reports using these data, and the highway safety analysts would like collection of e-codes in the ED.

The Kentucky Hospital Association is extremely interested in adding these data to their performance monitoring information. The addition of approximately 60,000 highway safety records could be programmed and underway easily and rapidly by the Kentucky Hospital Association (KHA) Hospital Discharge Data vendor at a small addition to the HDD data collection cost. These 60,000 annual non-fatal injury records are a rich source of information about successful highway safety intervention strategies and are highly desired by safety analysts.

Hospital Discharge Data (HDD)

Authorizing Legislation/Lead Agency: KRS 216.2929 requires an annual report to be produced by the CHFS to assist consumers to make informed health care decisions. The Health Policy Development subprogram provides for the collection of healthcare cost and quality data from providers, hospitals, and health facilities through data submitted on the uniform health insurance claim form (UB-92).

Care Delivery System: In 2007, 126 hospitals are operating within the Commonwealth. Thirty of these are Critical Access Hospitals, small rural providers with 24/7 emergency department coverage. Only six communities contain more than one hospital, and these are not distributed evenly across the state.

Data System: The Hospital Discharge Data (HDD) collection system is funded and administered by the Kentucky Hospital Association (KHA) and the Kentucky Department for Public Health. Data processing is performed by a third-party vendor, CompData. The final close date for second quarter data is September 15. Estimated inpatient volume for July 1, 2004 through June 30, 2005 is 657,367 records. The data are derived from the uniform health insurance claim form (UB-92) and currently collect two e-codes (cause of injury) codes per case. A third e-code will be added later this year. However, not all hospitals comply reliably with the collection of the e-code data now. The interviewees felt that increased compliance with reporting injury data would require a regulatory change.

Public Use Data Sets: Kentucky's inpatient hospitalization and ambulatory surgery data are available for purchase by not-for-profit entities and the general public as electronic files, each containing a calendar year of data. Records have been purged of personal identifiers in compliance with the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and purchasers are required to sign an agreement prohibiting the sale or transmittal of raw data to other users or the linking of data to other data sets. Data are also provided free of charge on request for approved research projects at Kentucky universities, schools of public health, and local health departments. Recipients of these data sets must also sign a users' agreement prior to receiving data.

Public use data sets have also been made available to authorized users within the Kentucky Department for Public Health. These data sets differ slightly from the for-purchase/research data sets, in that, age groups specific to certain programs have been added, and the Area Development District in which a hospital is located is included in the Facility Translation Table.

Vital Statistics- Death Records

Authorizing Legislation/ Lead Agency: The Kentucky Cabinet for Health & Family Services/Department for Public Health/Epidemiology and KDPH Health Planning/Vital Statistics Branch collect and maintain vital records.

The interview process indicated that the data contained in death records is not particularly useful for highway safety analysis. Death certificate information is relatively sparse and adds little to what is already found in the crash file.

Coroner/ Medical Examiner Records

Authorizing Legislation/Lead Agency; KRS. Chapter 72 authorizes the Kentucky State Medical Examiners' Office in the Justice and Public Safety Cabinet.

Kentucky has a mixed (coroner and medical examiner) Death Investigation System including elected County Coroner, State Medical Examiner, a forensic pathologist employed by or contracted with the State Justice Cabinet, and a District Medical Examiner.

A coroner's case is defined as one in which the Coroner has reasonable cause for believing that the death of a human being within the county was caused by homicide, violence, suicide, an accident, drugs, poison, motor vehicle, train, fire, explosion, drowning, illegal abortion, or unusual circumstances.

Access to the records of the Office of the Medical Examiner is limited by the Kentucky Revised Statutes. Petition may be made to the Justice Cabinet for individual case information. If a death investigation is still open (on-going) the autopsy report and all related records may remain confidential until the investigation and all related legal proceedings are concluded.

The interview process revealed that a web-based coroner/medical examiner data system was created for the National Violent Death Reporting System, and Kentucky coroners and medical examiners were trained in its use. While the system is limited to violent deaths at this time, it may potentially be expanded to include data on motor vehicle crash deaths that could be of value to highway safety researchers.

Trauma Registry

Authorizing Legislation/Lead Agency: On at least two occasions, Trauma System legislation has been introduced with strong support from the health care community and the Kentucky Hospital Association as well as a strong support group that may include law enforcement. However, the most recent bill died in committee March 2007, probably because of high-cost issues related to system development and no earmarked funding.

Kentucky is one of only 14 states that do not have a system that provides an organized method for routing critically injured people to the closest appropriate trauma center. The American

College of Emergency Physicians estimates the death rate from unintentional injury is 50 percent higher in rural areas of Kentucky than in cities, at least in part because of the long distance people have to travel to get trauma care.

Only three Level I centers lie within the Commonwealth. The University of Kentucky Hospital trauma program and the University of Louisville Hospital are American College of Surgeons accredited Level I Trauma Centers and Kosair Children's Hospital is a Level I ACS accredited Pediatric Trauma Center. Trover Health System's Emergency Department in Madisonville is an ACS Level III trauma center. A number of hospitals could qualify as level III and IV using less expensive state accreditation that would still bring them into the data system. The interview process revealed that many critically injured Kentucky residents are transferred to out-of-state trauma centers via the Interstate system and the many air medical transport providers.

An important component of every trauma system is a trauma registry that is used to determine the effectiveness of the trauma system protocols and operation. A Trauma Registry pulls select data from components of a comprehensive injury surveillance system. Some hospitals, including the trauma centers, may have home-grown systems that are more or less comprehensive. The Kentucky Injury Prevention and Research Center (KIPRC) developed a Trauma Registry system that can draw data from computerized death certificate and hospital discharge databases, but this registry is used only by the trauma centers and may cease due to lack of funds. Without a mandate, a comprehensive statewide system and registry will not be possible.

Central Nervous System Injuries (CNSI) -Traumatic Brain Injury (TBI)/Spinal Cord Injury (SCI)/Acquired Brain Injury (ABI) Registries

Authorizing Legislation/Lead Agency: The Traumatic Brain Injury Trust Fund Board's purpose is to track cases of traumatic brain injury, spinal cord injury, and acquired brain injury as defined by the Centers for Disease Control and Prevention (CDC) and the Kentucky Revised Statutes (KRS 211.470).

Data System: This project is funded by the TBI Board, but managed by KIPRC. TBI, SCI and ABI cases are taken from three sources: Inpatient hospitalizations for CNSI are ascertained using the Kentucky Hospital Discharge Database (HDD) and the Kentucky State Trauma Registry Database. Fatalities are obtained from the National Center for Health Statistics' annual Multiple Cause of Death (MCOB) files.

Recent Publications and Accomplishments: The sixth annual CNSI report, which will summarize injuries that occurred in 2003, was scheduled for publication in July 2006. In 2005 data were compiled and analyzed to show Kentucky's ranking as one of the highest states in the U.S. for death rate due to ATV-related injuries.

CODES Linked Hospital Discharge and Motor Vehicle Crash Data

Kentucky's Crash Outcome Data Evaluation System (CODES) project has been funded by the National Highway Safety Administration (NHTSA) since 1997. The Kentucky CODES project links the state motor vehicle traffic crash report databases to administratively unrelated databases containing medical and economic information pertaining to persons involved in crashes. The CODES project received Section 402 funding for two years and produced Safe Communities and management reports.

KSP provides custom extracts from the CRASH database (minus names and addresses) to the Kentucky CODES project and this is linked with the state inpatient hospital discharge database (HDD) on software provided by NHTSA. This linked database enables researchers to discover relationships between crash characteristics and injury outcomes for persons hospitalized as a result of motor vehicle crashes, and to assess the inpatient acute care charges associated with their treatment.

Publications and Accomplishments: Report on crash outcomes by county, 2000-2001, Fact sheet series on selected topics identified from the 2000 CODES Management Report plus state highway safety strategic plans. 2004 CODES Management Report Common field Definitions - <http://www.kiprc.uky.edu/projects/CODES/>

In October 2005, in partnership with the Kentucky Transportation Center and the Kentucky Transportation Cabinet, the report, *Economic Costs of Low Safety Belt Usage in Kentucky*, presented evidence for the role of a primary safety belt law in saving lives and reducing direct medical costs to Medicaid. Kentucky's legislature passed a primary safety belt bill in the 2006 General Assembly.

In March, 2006 a CODES fact sheet on outcomes of crashes due to collisions with fixed objects was published. In April 2006, a presentation on the Economic Costs of Low Safety Belt Usage in Kentucky was delivered at the Kentucky Lifesavers Conference.

Behavioral Risk Factors Surveillance System/Youth Behavior Risk Survey/College Risk Behavior Survey

These nationally established telephone and classroom self-reported knowledge/attitude/behavior surveys are described in the CHFS/KDPH2005 *Public Health Data Resource Guide*.

Insurance Data

Authorizing Legislation/Lead Agency: Kentucky Environmental and Public Protection Cabinet/Office of Insurance

The Kentucky Office of Insurance has an insurance claim database for accounts related to Continuing Education Providers, KCTCS Proctors, State Agencies, etc. No information was

provided to the Assessment Team about the potential for these data to be included in a Kentucky injury surveillance system.

Recommendations

- **Conduct an EMS and Injury Surveillance System Assessment and coordinate this assessment with KIPRC/CHFS ICIPC planning activities.**
- Review and document the Commonwealth injury prevention and control decision-making structure; identify overlaps with the Traffic Records decision-making structure.
- **Fund the collection and integration of emergency department data into the Commonwealth Injury Surveillance System as a top traffic records priority.**
- Designate a single lead agency that is responsible for oversight of the functions of a Commonwealth Trauma System, and incorporate the functions of the Board of Emergency Medical into the Trauma System.
- Collaborate with the KBEMS in the development of the EMS Run Data System. Assist with the purchase of a state software license and a bulk purchase of tablet computers for ambulance providers.
- Investigate regionalizing Trauma System and EMS delivery into the Area Development Districts.
- The Governor's Highway Safety Program and/or KTRAC should develop a joint proposal with KIPRC for the next CODES Data Network 5-year cooperative agreement cycle.

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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

The Kentucky Transportation Cabinet has a fully developed GIS system which includes approximately 27,000 miles of roads on the state system and another 53,000 miles of local roads. Originally developed in the mid 1990's by the Kentucky Transportation Center for the state-maintained system and expanded to all public roads in 1999, GIS was then complemented by a GPS system. Implemented in 2000, the current GPS system, which like GIS, is on all public roads, will be replaced with a more robust, flexible and accurate Location Reference System (LRS) known as Map-Click. Map-Click was developed by the University of Kentucky Transportation Center for the Kentucky Transportation Cabinet. It was conceived originally as offshoot of an electronic sign inventory system known as Sign Click which was under development at the time. Map-Click is slated for statewide implementation beginning January 1, 2008. One obstacle to that implementation is the current inability of the cities of Paducah, Owensboro, Henderson, to participate in Map-Click. The purchase and installation of Mobile Data Computers (MDC) is the primary barrier for these local departments. Concerns regarding the accuracy of current GPS crash locations were expressed by several interviewees. These individuals also suggested that law enforcement training directed to improving crash location accuracy would be beneficial. When implemented, the Map-Click system promises 2-4 meter accuracy.

Insurance data

Kentucky requires drivers to insure motor vehicles and provide proof of that insurance (at least 30 days coverage is required). Insurance data is included in the vehicle's record, but it can require up to 45 days for the record of insurance (or cancellation) to appear on the vehicle record.

Safety Program Evaluation data

Both the state Highway Safety Plan and the Strategic Highway Safety Plan (known as *Kentucky's Road Map for Safer Highways*) are data driven. Each plan utilizes a variety of performance measures and most goals are stated in terms of numerically measurable outcomes. More formal evaluations are also conducted. The Kentucky Transportation Center and the Kentucky Injury Prevention Research Center recently completed *Economic Cost of Low Safety Belt Usage in Crashes in Kentucky*. Requested by the Kentucky legislature prior to passage and enactment of a primary seat belt law in 2006, the study found that Kentucky's new belt law will save at least 70 lives annually.

Data specifically required by state or Federal programs

Kentucky's Roadmap for Safer Highways, the state SHSP, is data driven with each of 10 identified emphasis areas using multiple performance data measures. Most key goals are stated in measurable, empirical terms as well. The plan was approved by the Governor on September 28, 2006 and will serve as a blueprint for transportation safety initiatives from now until 2010.

Demographic data

Demographic data was utilized in the recent development of *Kentucky's Roadmap for Safer Highways*, the state SHSP plan. The Commonwealth's 402 Highway Safety Plan does not make significant use of demographic data at this time, however, the establishment of the Transportation Safety Data Service is expanding the availability and use of safety data.

Behavioral data

Kentucky's occupant protection usage surveys are well developed and fully utilized. In addition to the annual statewide seat belt use survey, which contains over 200 observation sites, the state has developed countywide seat belt surveys for all 120 Kentucky counties. These countywide surveys consist of a total of 609 observation sites. Beyond seat belt surveys, behavioral data are not well developed or utilized. (See Section 1F)

Attitude/perception/knowledge data

The University of Kentucky Transportation Center, as part of the state's overall seat belt usage improvement effort, conducts an annual public attitude perception/knowledge survey immediately after the state's seat belt mobilization effort in May. These surveys measure public awareness of recent seat belt information campaigns and enforcement efforts as well as public views about seat belt use.

Economic loss data

Summary cost data are published in the annual *Traffic Collision Facts* report. With the exception of the KTC/KIPRC study on the cost of unbelted victims in crashes, this type of data is not currently used by the Governor's Highway Safety Program nor is it incorporated into any analyses of behavioral highway safety programs or their impact effectiveness. One impediment to the use of these data is the lack of direct access to crash and related data by the Highway Safety Program staff.

Inventory data

The state currently does not have a comprehensive inventory of highway safety data information resources. There is, however, a public health data resource guide.

Cost data

Cost data are used for cost benefit analyses and to assist in ranking roadway projects for highway safety improvement funds. Cost data are not extensively used by the GHSP and injury cost data are not readily available because of the absence of an organized, coordinated injury surveillance system.

Recommendations

- Implement law enforcement training to improve the accuracy of crash locations.
- Increase use of economic, cost and related crash data by providing direct, on-line access to crash and other safety data by highway safety program managers and staff.
- Promote statewide implementation of Map-Click by assisting remaining non-electronic crash reporting agencies with the transfer to electronic reporting.
- Designate a single lead agency that is responsible for oversight of the functions of a Commonwealth Trauma System, and incorporate the functions of the Board of Emergency Medical into the Trauma System.
- Develop a comprehensive traffic records resource inventory, modeled after the *Public Health Data Resource Guide*.

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

The CRASH data are considered timely if law enforcement agencies meet the legal requirement to complete and submit their crash reports within 10 days of the crash. A recent analysis shows that the average number of days between the crash and the availability of data on the CRASH system is slightly less than 10 days. The average is slightly higher for crash reports that are submitted on paper versus those submitted electronically using E-CRASH, but the average for

either type of submission is still under the 10 day requirement. The crash data manager reported that when the CRASH system was initiated, reporting delays were much shorter (in the range of 2-3 days on average), but that agencies have decided over time that satisfying the 10-day legal requirement is sufficient.

The timeliness in completing an official end-of-year “close out” file is better than for most states. The KSP creates a snapshot of the year-end data in early March each year. This file is used for several purposes including completing analyses that make up the annual *Traffic Collision Facts* report. Although the CRASH system data are supplied to the analysts at KTC in March, the annual report is generally not available until much later in the year – sometimes as late as September. The reason given for the delay – that Annual Average Daily Traffic (AADT) volume data needed for calculating crash rates is not available until much later in the year – is a concern because the vast majority of analyses in the *Traffic Collision Facts* report do not include crash rates. In fact, judging from the 2005 report, publication of *Traffic Collision Facts* as delayed several months waiting for data for only one table in the report.

Consistency

The CRASH system manager reported that old versions of the paper crash report form are still in use by some agencies. The paper crash form has not been changed since the 2000 revision. The form represented in the E-CRASH software has, however, undergone some slight revisions over the past seven years. As a result, there are some inconsistencies between the paper and the electronic versions of the crash report form. These inconsistencies were, though, described as “minor.” Of a more pressing concern is a perceived backlog of wanted form revisions. Because of the high cost of implementing a new paper form, and the plan to move to 100% electronic reporting in the near term (the current goal is that by 1/1/2008 there will 100% electronic crash reporting), the KSP is reluctant to make changes to the existing paper form. As a consequence, large-scale changes to the crash report are not going to be implemented until the Commonwealth achieves 100% electronic reporting.

Some inconsistencies were also noted among officers and agencies in the reporting of location and commercial vehicle information. These are addressed more fully in the section on *accuracy* below. The inconsistencies arise, in both cases, from a lack of training on how to collect the correct crash data. In particular, inappropriate use of GPS units (or simply making up the coordinates) has resulted in inconsistencies in location data collection. An example of the types of inconsistencies seen in the data could result from officers not knowing where (at which point in the crash sequence) to collect coordinate data. The inconsistency in commercial motor vehicle information collection is fundamentally a training issue and is a result of the crash investigation officer not knowing what data to record in documenting the motor carrier information.

A third type of inconsistency was reportedly experienced by officers and supervisors in law enforcement agencies using E-CRASH. The system that officers and supervisors use to complete and review electronic crash reports has a slightly different set of edit checks than those used in the final acceptance process for adding the data into the CRASH database. At least two large agencies’ supervisors have had reports returned to them as a result of failed edit checks during the final automated review at KSP when the report had previously passed all the edit checks that

run in E-CRASH and in the supervisory review process. It is not clear what the source of this inconsistency is – whether the reason for the report rejections was a recently added edit at KSP that had yet to be updated in the user-accessible portions of the system or if some other process was at work.

The final inconsistency noted during the interviews is that the number of fatal crashes involving commercial motor vehicles (CMVs) differs depending on whether the count is developed from the CRASH database, the Fatality Analysis Reporting System (FARS), or the Motor Carrier Management Information System (MCMIS) database. The differences arise because of slight differences in the case selection rules used to define a CMV and/or a reportable crash. The problem is that the Federal Motor Carrier Safety Administration (FMCSA) bases their rating of data accuracy on the match between FARS and MCMIS. A method of ensuring the match between all three sources – CRASH, FARS, and MCMIS – is needed.

Completeness

The CRASH system data are judged by the KSP data managers to be complete – they have concluded that virtually all reportable crashes are captured in the system. Past examples of incomplete reporting (such as one agency that decided to use a tow-away minimum reporting threshold instead of the \$500 damage threshold mandated by law) have been addressed by KSP as KSP becomes aware of such problems. However, the kinds of comparative Quality Control analyses that might be used to detect major changes in agencies' reporting patterns are not done frequently throughout the year. As a result, it must be concluded that it is possible for under-reporting to go undetected at least until year-end data are made available to KTC. Whether this is actually the case is not unknown. The Kentucky Crash system lacks the kind of standard Quality Control measurements that would answer this question.

Completeness of data collection on individual crash report forms has, however, improved dramatically as use of the E-CRASH software has increased. With paper reports, the blanks and missing data on the form are not caught until the end of data entry at KSP at which point it is unlikely that the officer will be able to collect the missing data. With E-CRASH, the report cannot be submitted as completed until the officer has completed a valid entry in every required field on the form.

Accuracy

The CRASH system and E-CRASH system incorporate approximately 1500 business edits designed to eliminate common errors in crash reporting. For crashes written using the E-CRASH software, the information is checked three separate times before being added to the official CRASH database: once when the officer completes the form; again when the supervisor reviews the data; and one final time as part of the process for adding the information to the CRASH database. As mentioned earlier under Consistency, there are some concerns that the three sets of edit checks may not be exactly the same, and that this situation has resulted in some confusion when a report passes all the E-CRASH and supervisory edit checks, but then fails on the final pass before entry into the CRASH database. Data from crashes reported on the paper form are only checked once (prior to being added to the CRASH database).

The large number of edit checks puts Kentucky in the forefront of state crash data management practices. Unfortunately, the state still lacks a comprehensive data quality measurement and reporting system. It is clear from the meta-data supplied as part of this assessment, and that included in the 2006 Section 408 grant request, that the capability to produce data quality metrics exists. What is lacking is a process by which the metrics are produced and published on a frequent basis. Users represented by the KTRAC members, for example, have not been provided with data quality metrics measuring the crash (or other traffic records system components), except on a one-time basis as part of the development of the 408 grant request in 2006. In addition, such meta-data are not available online or in any of the reports published using the CRASH data. The fact that overall quality, when measured, is quite high does not excuse the state from producing the measures so that users know (and appreciate) the quality of the data they are using.

The issue of location data accuracy has been raised several times throughout this report. In the CRASH system, the use of GPS receivers and mandatory collection of location coordinates (latitude/longitude) has improved accuracy somewhat, but has also been named as a new source of inaccuracy. The Map-Click application developed by KTC represents one way to address the problem. The KSP has decided to pursue a similar solution using software developed by a vendor. There is some concern that Map-Click may not really be *the* best solution for law enforcement use since it does not allow the officer to zoom in to a graphic depiction of the street network showing number of lanes or other geometric features. Thus crash “placement” using Map-Click is not as precise as some data users would like. This type of application does represent a good solution to the problems encountered with officers’ use of the GPS units, however, and so it is at least viewed as a good tool and one that, perhaps, can be improved upon. There are further concerns with current implementations of map-based solutions of any type that they should be compliant and compatible with whatever statewide standards and software are developed. It appears that those standards are not yet available and so development of any high-cost mapping solution may be premature.

Accessibility

Access to CRASH system data has improved only slightly in the past five years (the time since the last Traffic Records Assessment). The 2002 Assessment Report included a recommendation to make the redacted CRASH data available to users via the KSP website. This has been partially accomplished. Anyone who requests it can obtain a data extract, but the data are still not available for download. In addition, users of the redacted data are not provided with any tools that would enable them to perform analyses on their own. The DOTS website (www.highwaysafety.ky.gov) includes a limited data table selection feature, but has no real ad-hoc query capability. Further, the Kentucky CODES project is not provided with access to the full CRASH dataset.

Users authorized to access the full dataset (including personal identifiers) can run essentially unlimited queries on the data. Note that this includes the ability to query meta-data elements that could be used to measure the timeliness, accuracy and completeness of the data, meaning that the system could provide a quality control measurement function as well as a data analysis function.

Unfortunately, the CRASH system itself does not offer the same sorts of analytic tools for access by users who are not authorized to use the full dataset. Users of redacted data (from which personal identifiers have been removed) must find their own means of performing analyses. The CRASH data manager indicated that access to a similar analytic tool to that provided for the users of the full file is desirable, but not likely to be implemented in the near future. There are too many conflicting priorities for upgrades to the KYOPS suite.

Data Integration

Data integration between CRASH data and other components of the traffic records system shows a mixed level of success and sophistication. CRASH data are well-integrated with roadway inventory data, especially for state-maintained roadway locations – much of the linkage is completely automated and there is good bidirectional communication between the KSP and DOTS systems. There is only rudimentary, one-way data sharing between the CRASH and driver or vehicle databases. In these cases, the data integration possibilities are limited by the fact that these two systems are legacy mainframe databases that would require extensive programming to support links that would also share data from driver or vehicle files back to the CRASH database. Some linkage between CRASH and sources of Injury Surveillance System (ISS) data have been accomplished through the CODES project; however, the sources of ISS data in Kentucky are limited (Emergency Department, EMS and trauma registry data are lacking) and so it is difficult to judge these linkages as much more than a proof of concept.

Recommendations

- **Produce and publish electronically the data tables for the annual *Traffic Collision Facts* report as soon as possible after the creation of the year-end data extract. Include a notice of “preliminary data” if necessary. Also, if necessary, restrict access to the preliminary data to key users such as law enforcement agencies and program managers in the Governor’s Highway Safety Program.**
- Review and increase compliance with MMUCC guidelines once the transition to 100% electronic reporting of crashes has been implemented.
- **Develop a formal data quality measurement process for CRASH data and publish the results along with other CRASH meta-data on the KSP website.**
- Ensure that E-CRASH, Supervisory Review, and CRASH edit check processes are synchronized and consistent.
- Develop a data element that can be used as a “flag” in CRASH and FARS to indicate that the crash meets the reporting requirements for MCMIS.
- Re-evaluate the decision to program a new system that functions like Map-Click. If Map-Click can serve the current needs of law enforcement agencies at a lower cost, develop links between that application and KYOPS.

- Plan for future development of a more robust and integrated map-enabled application in KYOPS that complies with statewide GIS standards and is compatible with statewide GIS applications as those are developed.
- **Expand access to CRASH data and online query tools (Web Portal). Support differential levels of access so that everyone is using the same dataset, but with adequate controls on access to protected data fields (personal identifiers).**

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

The Kentucky Highway Information system was revised a few years ago. The data are very timely with roadway alignment updated frequently and data from new roads usually added within a matter of weeks. At a bare minimum, roadway data are updated annually. HPMS data are the last piece of information required to complete the annual report on traffic collisions. The interview process suggested that if the HPMS data could be provided earlier in the year (March or April), the annual report on traffic collisions could be released 2 – 3 months earlier than is presently the case. The dilemma, unfortunately, is that the preparation of HPMS data is very resource and time intensive and the actual required date by FHWA of when HPMS data are due is June of each year. This, then, may not be an issue so much of timeliness, but rather one where other constraints and considerations must be factored in for the most efficient operation of the system.

Consistency

The biggest challenge or obstacle in the area of consistency is inconsistency in location of crashes, and in some cases, the subsequent capture of that crash data. In Jefferson County, the number of located crashes dropped significantly for a few years because crashes with no route

and milepost information (GPS reading only) were not being recorded on the state maintained system. The new mapping tools scheduled for implementation in 2008 should improve location consistency.

Completeness

Roadway data for the 53,000 miles of local roads which represents nearly 2/3 of Kentucky's total road mileage do not contain all of the assets or attributes contained on the state roadway system. For local roads, information is often limited to centerline information, latitude/longitude coordinates and route name, functional system and pavement type unless the local roads are functionally classified arterial or collector. GIS information does exist for all public roads. The absence of sign and video roadway inventories leaves these key information areas very incomplete.

Accuracy

Crash location using GPS technology, which began in 2000, has not been nearly as accurate as was anticipated. A study conducted by KTC in 2004 entitled *Evaluation of the Accuracy of GPS as a Method of Locating Traffic Collisions* found that, for 100 recorded locations (all selected randomly), GPS units were correct 58% of the time, traditional county route and milepost data 53% of the time. For this study any reading within 500 feet of the actual crash location was defined as "correct." The newly developed Map-Click location system promises more accurate locations. However concerns were expressed regarding the need for officer training and information prior to the initiation of mapping tools.

Accessibility

It was suggested by some of the persons interviewed that only a relatively small number of users within the Transportation Cabinet and a few researchers at KTC have full access to roadway data. Further, it was indicated that access outside of Cabinet headquarters is limited and consists mainly of data extracts provided to Area Development Districts, cities and counties. Others, however, suggested that full query access and download capability to all roadway data is available. It is not clear what the case is and actions might be considered to address the questions of who is allowed access, what data can be accessed, and what if any restrictions apply.

Data Integration

Roadway data within the Highway Information System (HIS) are integrated. HIS and CRASH data integration is impacted in some instances by the poor quality of location data. HIS data are not integrated with other traffic record files.

Recommendations

- Review the feasibility of providing HPMS data earlier than June each year.
- Expedite the purchase of video logging equipment and the subsequent video logging of sign and roadway information statewide.

- **Develop a training module for mapping location technology and provide training to all Kentucky law enforcement personnel regarding its correct use.**
- Review access to the HIS data to specifically address who is allowed access, what data can be accessed, and what if any restrictions apply.

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

Vehicle title and registration information, with the exception of the International Registration Plan (IRP) commercial carriers, are processed at the county level. The IRP is administered by the Division of Motor Carriers of the Department of Vehicle Regulation (DVR). The vehicle files are batched and updated daily.

The insurance status of a registered vehicle is maintained on the vehicle record and insurance company verification is determined. If a negative status persists for 45 days, the Division of Motor Vehicle Licensing (DMVL) flags the vehicle registration as canceled.

The state’s four million registered vehicles are required to be renewed annually. Vehicle license plates are issued to a vehicle for up to five years.

No annual report of DMVL vehicle data is produced. However, requests for data are acknowledged and provided. Summaries are produced regarding the state’s vehicle fleet.

Consistency

Vehicle title and registration data elements are consistent year to year and are also consistent with other data elements contained in other components of the traffic records system. The fields of data collected and maintained are traditionally utilized in problem identification, analysis, and evaluation.

Completeness

Vehicle identification numbers (VIN) are verified and special reports are extracted when owners declare the vehicle is being used as commercial or non-commercial. One hundred percent of the records are complete with the owner's name and address. Temporary registrations issued by a licensed vehicle dealer are good for 30 days but are not entered on the vehicle information system. Stolen vehicle information is updated on the system 24/7.

Accuracy

Vehicle titles with salvage brands are maintained and noted on the vehicle record file. Vehicle odometer readings are captured on the vehicle title when ownership is transferred, or for some vehicles, when the vehicle is inspected. Data audits are conducted on critical data elements but the percentage of errors is not available. The percentage of VINs successfully validated is 85%.

Accessibility

Vehicle information is downloaded to law enforcement daily. Many law enforcement agencies have mobile data terminals that can quickly access vehicle information. While bar codes are not used on vehicle registrations, Kentucky began placing bar codes on vehicle titles in January 2007. Statistical reports are available upon request.

Data Integration

Vehicle data cannot be linked to crash data or other data files. Currently, the state is unable to normalize crash experience with respect to vehicle type. The DMVL's commercial vehicle information is maintained on AVIS and the Division of Motor Carriers utilizes it for programs such as IFTA, IRP, U-drive-it, and Fuel tax permits.

Recommendations

- Establish a DMVL annual vehicle data report and post the report on the DMVL website.
- Require licensed vehicle dealers to report all 30 day temporary registration information when the vehicle is sold to a customer.
- Continue to pursue and modernize the vehicle information system which is over 25 years old.

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

Driver license issuance (new and renewal) information is collected at the 120 counties (140 total locations), batched and uploaded online to the driver record file each day. Conviction information is forwarded to DDL from the court two to three days after disposition of a case. After receipt by DDL, the conviction is posted to the driver record the following day. Crash data is electronically updated on the driver record.

Consistency

Information on the Kentucky driver record file of its 3.9 million licensed drivers is consistent and compatible with driver file systems in other states. The Commonwealth is a member of the

Driver's License Compact (DLC), the Non-resident Violator's Compact (NRVC), and utilizes the Problem Driver Pointer System. Kentucky is an active participant in the American Association of Motor Vehicle Administrator's Association (AAMVA). All violations, except speeding, of Kentucky drivers in other states are added to the driver history when that information is forwarded to the Commonwealth.

Completeness

Information on the driver record file appears to be complete and consistent with other state's driver record information and the file contains those important and critical data elements for identification of violation conviction information. The fact that individuals that move to Kentucky from another state with a prior driver violation history are able to start their Kentucky record with a 'clean' slate is a shortcoming. This is even true if the violations are serious (DUI, Motor Vehicle Homicide, etc.). The only exceptions are CDL licensees, or if there is an active suspension or revocation in effect in a prior jurisdiction. For non-resident drivers who are guilty of serious traffic offenses such as DUI or driving without a license, a non-resident driver record is created.

Accuracy

The state uses a Social Security On-Line Verification (SSOLV) system and the Secure Alien Verification system for Entitlements (SAVE) to verify driver verification and legal citizen status. The DDL reported that data audits of court transferred critical data elements revealed a 20% estimated error rate. Active efforts are underway to identify and eliminate duplicate driver records.

Accessibility

Driver data is used to produce the annual Kentucky State Police's (KSP) *Traffic Collision Facts*. Many state agencies have 'read-only' access to the driver license record system and law enforcement agencies receive nightly updates. KSP posts have access to the driver records image data base. Bar codes are contained on issued driver licenses and law enforcement can utilize readers to populate reports, citations, etc.

Data Integration

Driver files are integrated and linked to crash information, conviction reports, and vital records. Driver license numbers and social security numbers are the primary linkage elements. The driver's license uses a biometric identifier with facial recognition that is integrated into the photo.

Recommendations

- **Consider transferring the driver's license issuance responsibility to the DDL.**
- Generate a DDL data report with state and county specific information and make this information available on the DVR website.

- Improve the accuracy of the data from the court conviction information with better data entry training for court personnel.
- **Encourage the Commonwealth of Kentucky to modernize/update the DDL computer system to meet the increasing demands for accuracy, security, and data generation.**

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.*

Timeliness

Overall timeliness is a strong area of the enforcement/adjudication system. If the E-Citation program is used, citation data is delivered to the courts within 24 hours. Even in those cases where an agency uses a citation hard copy, the issued citation is provided to the court within two days. After the data are entered into the court's database and transmitted to the Courtnet the data are available for use by authorized court personnel. The data are transmitted to the AOC Courtnet database in almost real time after the case has been adjudicated. On a nightly basis, the conviction information is sent to the Division of Drivers Licensing for posting to the defendant's driving record. The AOC has recently begun checking the Courtnet file every 30 minutes in an attempt to keep the file as current as possible. However, since law enforcement agencies do not

follow up on the disposition of all cases, there is no way of knowing how quickly cases are adjudicated.

Consistency

All of the agencies in Kentucky use the same citation whether it is a paper copy or in electronic format. The Kentucky State Police provides the citations to all law enforcement agencies. Agencies using the E-Citation program are less likely to make errors on the citations because of program software edit checks. Hard copy citation data entry is completed by clerks at the court. In addition to clerk data entry errors, another source of error was found to be the lack of legibility of written information provided by the officer. The problem of officer writing legibility is not usually discerned until after the citation is already delivered to the court and any opportunity to remedy or ameliorate this circumstance is considerable diminished.

Because the clerks of courts are under the direction of the Administrator of Courts, all cases are processed the same way with the same software program. Also, since there are only eight trainers that are used by the AOC, the clerks receive consistent training.

Completeness

Agencies using the E-Citation program are relatively assured of entering complete information on the citation as a result of edit checks built into the software. Agencies using paper copies may still omit some information on the citation. Errors aren't discovered until the court clerk attempts to enter the data. If the E-Citation program had the ability to scan registration information along with driver's license information and auto-populate the corresponding fields on the citation, it would improve completeness and accuracy.

Accuracy

As with completeness, when the E-Citation is used, built in edit checks assure accuracy. However, when the citations are paper copy, the accuracy of the data may be compromised, although, there was no indication that the accuracy of the citation was an issue. The only unique error that was brought out by the interviews was a single incident of a duplicate number appearing with the use of the E-Citation program. That issue was being addressed at the time of the assessment.

Accessibility

This is one of the system's strongest assets. With the use of CourtNet database provided by AOC, along with KYOPS from the KSP, citation data is made available in a very timely manner and is accessible by a large number of users. Law enforcement has access to both files and it is possible for law enforcement to determine whether a person stopped has cases pending. Access to these files also allows law enforcement agencies to run reports pertinent to the agency. Law enforcement can query all the data available on the citation in a variety of report formats. The court prosecutors have access to the court's data, but this is limited in some areas.

Data Integration

With the use of E-Citation, all citation data is sent to the court in a timely manner from a large number of agencies. If all agencies used E-Citation, the database could be even more useful. All

law enforcement agencies have access to the citation data as well as the court dispositions. Because all of the courts are using the same software program and reporting the data to the same database, law enforcement has access to information from all the courts. There is no crash data included in the database because citations are not issued for crashes except for specific violations. Citations can only be issued when there is a crash for DUI, no insurance, or a revoked/suspended license.

Recommendations

- Provide resources necessary to give all law enforcement agencies the ability to use E-Citation.
- **Allow the prosecutors of each court access to the CourtNet database whether or not a conviction occurred in the county of the current violation.**
- Research and pursue a change in the restriction of not being able to issue citations for traffic violations as a result of a crash investigation.
- Encourage law enforcement to track the disposition of those cases filed by their respective agency.

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

Ambulance run data, ED Data, and Coroner Data are not available for integration into a comprehensive system. Hospital Discharge data are provided by July for the prior calendar year. TBI data are available 18 months after the calendar year of collection. Trauma Registry data are reported at least annually. Vital records may be delayed by as much as two years.

Consistency

Ambulance run data are entered on a standard paper form that uses the NHTSA 1995 data elements. The new electronic form is NEMESIS compliant at the Gold and Silver levels. Hospital discharge data are collected using HCFA's UB-92 claim form and completed using ICD-9-CM codes. Trauma Registry entries vary in inclusion criteria across facilities.

Completeness

Ambulance run data, ED Data, and Coroner Data are not available for integration into a comprehensive system. The state mandates Hospital Discharge Data to be provided to the state and compliance rate is greater than 99%. No report of data completeness by field was provided although the respondents noted that E-codes were entered only about 80% of the time. TBI data do not capture individuals treated in out-of-state hospitals. CODES data do not capture individuals who are treated in out of state hospitals. Trauma registry data are requested from verified Kentucky, Ohio and Tennessee trauma centers. Vital records may not include information about Kentucky residents who die in other states.

Accuracy

KEMESIS software contains 400-500 edit checks. Hospital discharge data are verified for missing fields, validity of entries, duplicate records and timeliness as they are entered into the electronic system. CODES data are limited by the accuracy of the underlying data sets. Vital records data are subject to computer edit checks and must remain below a 2% error rate.

Accessibility

Hospital discharge data public use datasets are widely available and KHA produces summary reports of hospital quality measures. Aggregated TBI data and an annual summary report may be requested. BRFSS and YBRS reports are available on-line. A CODES public use dataset is not available. Access to the linked database may be approved by the data owners and Board of Directors, and some standard summary reports have been discontinued. Trauma Registry data are not generally available although two reports have been published. Vital records data are accessible only using SAS (Statistical Analysis System).

Data Integration

The Kentucky CODES project, the TBI registry and the Trauma Registry are examples of integrated data sets.

Recommendations

- Include data quality metrics and quality assurance plans in the development of the Integrated Core Injury Prevention and Control Program (ICIPC), the next edition of the *Public Health Data Resource Guide* and the 2007 update of the *Traffic Records Strategic Plan*.
- Conduct an EMS and Injury Surveillance System Assessment and coordinate this assessment with KIPRC/CHFS ICIPC planning activities, specifically addressing data quality issues.
- Develop periodic data quality reports for each component of the ISS and provide feedback to the data providers.
- **Fund the collection and integration of emergency department data into the Commonwealth Injury Surveillance System as a top traffic records priority.**
- Collaborate with the KBEMS in the development of the EMS Run Data System and its linkage with the ED/HDD and community surveillance data systems, and assist with the purchase of a state software license and a bulk purchase of tablets for ambulance providers.
- Publish CODES Administrative Reports for all years of linked data.

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 are 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 Kentucky State Police (KSP), part of Kentucky's Justice and Public Safety Cabinet, is the agency responsible for processing and initial reporting of the Commonwealth's crash data.

The Governor's Highway Safety Program, formerly part of KSP became part of the newly formed Department of Transportation Safety in the Kentucky Transportation Cabinet in 2007.

In 2005, a total of 128,685 crashes resulting in more than 43,000 injuries and 985 deaths were reported. Crash data are used to conduct problem identification with the focus on crash, fatality and injury rates in each of the Commonwealth's 120 counties. Other factors which are included in the problem identification process include number of alcohol crashes, number of speed-related crashes, occupant protection use and population. Five years of data are used for problem identification purposes. Key programs funded by Governor's Highway Safety Program include:

- Impaired Driving Program
- Occupant Protection
- Police Traffic Services/Speeding Program
- Motorcycle Program
- Safe Communities Program
- Pedestrian/Bicycle Safety Program
- Accident Investigation Program
- Crash Data Program

Countermeasures generally emphasize enforcement, education and public information activities. Program objectives for the 402 and 405 programs are stated in numerically measurable terms whenever possible. Program objectives are of sufficient detail and specificity to accommodate and facilitate the measurement of countermeasure impacts and achievement/non-achievement of overall safety goals.

Internal, administrative type evaluation of highway safety programs were not noted or emphasized. However, several key program areas have received comprehensive, impact evaluations. One evaluation study involved safety belts. Prior to enactment of a primary safety belt law in 2006, the Kentucky Legislature commissioned a study of the cost associated with non-seat belt use in crashes. Entitled *Economic Cost of Low Safety Belt Usage in Motor Vehicle Crashes in Kentucky*, the study conducted jointly by the Kentucky Transportation Center (KTC) and the Kentucky Injury Prevention Research Center (KIPRC) found that improved safety belt

use could save 70 or more lives per year in Kentucky. This paved the way for passage and enactment of a primary safety belt law in 2006.

The KTC has evaluated a number of other safety and crash related programs and issues in recent years including *Crash Rates at Intersections* (2003) and *Evaluation of the Accuracy of GPS a Method of Locating Traffic Collisions* (2004).

The KTC also annually produces two documents which are essential to the Commonwealth's problem identification/program evaluation process. The first is entitled *Analysis of Traffic Crash Data in Kentucky* and a second, broader publication is titled *Kentucky Traffic Collision Facts*. These publications are generally available in August for the previous year's crash data, making them too late to be useful in the preparation of the Highway Safety Plan (HSP) for the subsequent fiscal year. A limited amount of HPMS data from KTC's Division of Planning is included in these resource documents and contributes to their lack of availability earlier in the calendar year. One other barrier to more complete use of highway safety data in the HSP and in developing program countermeasures and goals is the very limited number of people and organizations who have access to crash data.

Concerns about crash location accuracy also reduce confidence in the highway safety program decision making process based on these data.

One pending change in Commonwealth government organization which could enhance the availability and use of safety data is the movement of the recently created Traffic Safety Data Service (TSDS) from the Traffic Operations Division of KTC to the newly created Department of Transportation Safety. TSDS can and does provide a wide variety of highway safety data by program area, jurisdiction, roadway type, road segment, vehicle involvement and a myriad of other variables.

Data sets and maps have been developed for occupant protection use, speed involvement in crashes, corridor safety data for the Commonwealth's 12 transportation districts. Other data sets provided are lane departure fatal crashes by county, motorcycle crashes per licensed operator by county and a host of other data sets.

Through the ability to incorporate location data and produce graphically enhanced maps on data sets or respond to requests which can be tailored and customized to the needs of the users, Kentucky is opening the door to an impressive future. This future will allow and promote improved data analyses for problem identification, highway safety program selection, countermeasure selection and program evaluation.

Recommendations

- Expand access to crash data via web based or other user friendly application to Kentucky's broader highway safety community.
- Provide law enforcement training to more accurately locate crashes.

- Expand staff at KTC Planning Division to maintain highway inventory and asset files and assist in the preparation of the HPMS.
- Release early edition of *Analysis Traffic Crashes in Kentucky* and *Kentucky Traffic Collision Facts* as soon as possible to facilitate better use of these resource documents.

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

Problem identification and safety analysis in Kentucky emphasize the “corridor” concept and are directed primarily at location-based analyses. As such, most of the relevant analyses are produced by the DOTS Traffic Safety Data Service office and the KTC. The prime example of the corridor type of analysis is the creation of an “adequacy” metric by the KTC. An algorithm that combines safety, congestion and condition measures into a single measure of the adequacy of each roadway location/segment is produced annually. The data are grouped by type of location so that, within each type, the resulting numbers can be used to rank-order locations from least to most adequate. When the list is produced, the DOTS staff works with 15 Area Development Districts (ADDs) around the state to develop plans to mitigate whatever problems are associated with each of the “low adequacy” corridors. The countermeasures may include enforcement, engineering, education, and (less commonly) public health programs.

Program managers in the Governor’s Highway Safety Program reported that they do not have access to an easy-to-use analytic tool that would give them a way to query the available traffic records datasets to supplement the more global, corridor-oriented problem identification analyses. They typically must rely on the Traffic Safety Data Service staff or use the annual *Traffic Collision Facts* report for information and thus are limited in the types of ad hoc analyses they can perform.

KSP makes CRASH data extracts available for analytic purposes upon request and approval. In addition to the extracts provided to the DOTS and KTC, any user may request a copy of the redacted database. Upon approval, authorized users are supplied with the data sans personal identifiers. Using their own analysis software, users are able to perform whatever ad hoc queries and data linkages they require.

Local law enforcement and engineering agencies typically rely on data extracts from KSP or on analyses provided by KTC or DOTS to develop justifications for grant requests. The ADDs also assist in coordinating local agencies’ efforts and with helping local agencies to obtain any necessary analyses.

Access to data and analyses incorporating traffic records sources in addition to CRASH data is extremely limited in the state. The CODES project does produce analytic reports upon request that include data from the Injury Surveillance System. Analyses using driver or vehicle data are available from KTC and published in standard reports. Roadway data for the state-maintained system are also used in producing annual highway safety reports. The limitations for program managers relate to both a lack of key datasets (e.g., Emergency Department Data, data on

attributes for local roadways) and a lack of reasonable access to the datasets that do exist – including crash, roadway, hospital discharge, court, driver and vehicle data.

With the exception of a resource guide describing the various sources of Injury Surveillance data, there is no easily accessible inventory describing each of the traffic records system components. Meta-data such as the data dictionary and data quality metrics are said to be available, but there is no central source for this information so potential users first need to research where to find the information.

Recommendations

- Provide users of the redacted CRASH data with access to an online query tool similar to the one available to users of the full dataset. Consider letting all users access the same dataset, with different levels of access, in order to block unauthorized users from obtaining personal identifiers.
- Develop a traffic records system inventory and publish it on the DOTS web site. Provide links to the sources of data from within the DOTS website.
- Give highway safety program managers an easy-to-use query tool and access to the core traffic records datasets.

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

The Commonwealth of Kentucky's traffic records data are critical for determining future project and program priorities, for guiding funding decisions, and for developing highway safety policy. Traffic records system data, consequently, should serve to support public policy development and evaluation for a wide range of highway safety and related public health and public safety activities at all levels of government.

The Governor's Highway Safety Program (GHSP) and the Kentucky Transportation Cabinet (KTC) have been primarily responsible for traffic safety policy development in the Commonwealth over the past five years. However, the University of Kentucky's Transportation Center (KTC), Injury Prevention Research Center (KIPRC) and the Cabinet for Health & Family Services (CHFS) have also been active to a lesser extent.

Despite the fine analyses and publications produced by these groups, it was not always evident during the interview process that highway and traffic safety policy decisions are completely data driven. This may be a result of the many major government realignments undertaken by Executive Order and the fragmented nature of public health and safety functions within the government.

At the Executive level, the appointed Cabinet-level or upper management Governor's Executive Committee on Highway Safety (GECHS) is responsible for safety policy, program and funding priorities. This group selects the emphasis areas addressed in the *Kentucky Strategic Highway Safety Plan (SHSP)*. It also reviews and approves the *Traffic Records Strategic Plan (TRSP)* produced by the Kentucky Traffic Records Advisory Committee (KTRAC). While KTRAC informs the GECHS of the availability of data upon which to make its policy decisions, the interview process suggested that not all traffic safety priority decisions and plans are necessarily based on traffic records data.

At the Legislature, requests for highway safety information and analyses are usually made to the Kentucky Transportation Cabinet (KTC) and the Kentucky State Police, who may answer the request directly or forward them to the University of Kentucky Transportation Center (KTC) and/or Injury Prevention Research Center (KIPRC) for further analysis. The KTC Traffic Safety Data Service makes a variety of county-level and regional maps, reports on topics such as collision, lane departure, motorcycle registrations per collision, alcohol fatalities and safety belt use available through its excellent Traffic Records Internet page: <http://highwaysafety.Ky.gov/>. They also provide program-related data such as fatality rates per corridor for the Drive Smart Kentucky program.

The Traffic Safety Data Service (TSDS) provides timely access to traffic collision data analyses and reports from many highway safety and geographic information systems tools developed for

the Kentucky Transportation Cabinet. The analyses provided by the TSDS facilitates government decision making, provides effective presentation of traffic collision statistical information, and enhances public information and educational opportunities.

The Kentucky Injury Prevention and Research Center CODES project has provided fact sheets, such as “Collisions with Fixed Object in Kentucky, 2000-2004,” “Fatalities by Race, Gender, Age, Role and Area Development District 2000-2004.” One KIPRC publication, “Benefits of Primary Enforcement of Kentucky’s Seat Belt Law,” was instrumental in the recent passage of Kentucky’s new primary seat belt law. However, the interview process revealed that potentially useful reports such as the CODES Management Reports and Safe Communities Reports had not been produced for several years, perhaps because their value for policy setting and or program development had not been explored or marketed to decision-makers.

Enterprise level coordination of government information exists in some form through the Commonwealth Office of Technology (COT) and Department of Geographic Information (DGI). Each cabinet agency has an Office of Technology and Chief Information Officer, but the interview process failed to reveal any cross-agency coordination in standard-setting and no obvious coordination of decision-making or policy setting at the systems level, such as is required for Traffic Records System improvements. Such coordination will also serve to reduce duplication of effort that appears to be relatively common.

It is the policy of the Commonwealth under its Open Records Act, KRS 61.870, that all non-exempt data collected by Kentucky government services may be subject to public disclosure. However public records containing data of a personal nature are protected by the personal privacy exemption. Depending on the nature of the service, data may be shared with other state agencies as stated in KRS 61.878(5) for legitimate government needs.

Recommendations

- KTRAC should support the production preemptively rather than responsively of periodic standard reports in appropriate formats for policy makers, researchers or advocacy groups who influence the policymakers. These may include crash facts, issue papers, fact sheets, ad hoc reports, and file extracts.
- The Commonwealth should mandate enterprise level coordination of public information, through its Commonwealth Office of Technology (COT) and Department of Geographic Information (DGI).
- Review the open records policy to determine if collision information can be made more readily available.

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

Few analytic resources are available to the private sector (individuals, reporters, etc.) and/or for general public analytic requests. The KSP, DOTS and KTC will answer requests for analyses, but the most efficient way of meeting these needs is for the users to request a copy of the redacted data extracts.

As long as the information requested does not contain personal identifiers, KSP will generally make the data available to anyone who requests it. Users then must have access to their own analytic resources (data analysts, query tools, data analysis software, etc.) in order to make use of the data extracts. This situation is not ideal since many potential legitimate users of the data do not have the analytic resources required.

KSP has agreed that it would be useful to such users to have an equivalent to the kinds of query tools that are built into the CRASH system, but which are currently restricted to use by a limited set of authorized users because of the presence of personal identifiers in the database. Creation of a similar set of tools for use on the redacted data could be accomplished in a number of ways (including simply blocking reports that include personal identifiers unless the user has prior authorization). The primary barrier to supporting general users in this way is that there is a long list of projects for KYOPS maintenance and enhancement that take priority.

Recommendations

- Provide users of the redacted CRASH data with access to an online query tool similar to the one available to users of the full dataset. Consider letting all users access the same dataset, with different levels of security in order to block unauthorized users from obtaining personal identifiers.
- Develop a traffic records system inventory and publish it on the DOTS website. Provide links to the sources of data from within the DOTS website.

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

The Kentucky Traffic Records Coordinating Committee is referred to as the Kentucky Traffic Records Advisory Committee (KTRAC). KTRAC was established and a chairman designated in 2004 by the Secretary of Transportation. KTRAC makes recommendations to and seek approvals from the Governor's Executive Committee on Highway Safety for any traffic records system improvements. Prior to 2004, KTRAC was known as the Traffic Records Committee.

In 2002 NHTSA completed a traffic records assessment for Kentucky. Some of the recommendations contained in the 2002 assessment were acted upon.

A State Safety Data Systems Coordinator has been appointed to act as the Commonwealth's liaison to federal agencies on issues relating to the SAFETEA-LU plan.

KTRAC is made up of policy-level representatives from each of the Commonwealth's major traffic records system components. Represented on KTRAC are data collectors, managers and users. Representatives of crash data, roadway inventory, citation/adjudication, EMS/injury control, driver license/driver history, and vehicle registration are all active and contributing members of KTRAC.

The KTRAC provides a forum for the discussion of highway safety data and traffic records issues. It also reports on any such issues to the agencies and organizations in Kentucky that create, maintain and use highway safety data and traffic records. KTRAC also examines, reviews and evaluates new technologies that have the potential to increase the efficiency and effectiveness of highway safety and traffic records data.

KTRAC Operational Structure - the KTRAC is a committee established by the Governor as part of the Governor's Executive Committee on Highway Safety and the chairperson is designated by the Secretary of Transportation. The KTRAC approves the programs and projects for the Highway Safety Data and Traffic Records System Strategic Plan. As a result of the Section 408 funding requirements, KTRAC plans to meet quarterly.

There is limited coordination between the KTRAC and the CJIS Advisory Committee, the KIPRC and Cabinet for Health and Family Services (CHFS) community public health programs. Public/private sector cooperation and partnerships are encouraged in Kentucky government, and frequently, other organizations are called upon to assist and contribute. Many of the “Highway Safety Advocates” (a group of public & private sector individuals and organizations that meets quarterly to discuss highway safety issues) are interested and involved in supporting the improvement of traffic records in Kentucky.

KTRAC has several subcommittees: They are the Crash, Roadway, Vehicle, Driver, Citation/Adjudication and EMS/Injury Surveillance.

KTRAC Barriers and Opportunities

While State TRCCs are being called upon to take a more active role, gaining the interest, participation and support of so many different stakeholders can be challenging. State and local governments continually experience staff changes and sometimes, budget cuts. Funding sources for key stakeholders are not always stable. Agencies and organizations are hard pressed to maintain their own levels of service, let alone participate in a multi-agency effort. Now is the time, however, as motor vehicle traffic deaths and serious injuries continue at unacceptable numbers, and as budgets for safety data improvements are limited, that economies of scale in technology improvements as well as multi-agency collaboration (programmatic and fiscal) become standard procedure.

KTRAC has a broad spectrum of member organizations including: Kentucky’s Transportation Cabinet, local and state law enforcement agencies, the National Highway Traffic Safety Administration, the Federal Motor Carriers Safety Administration, the Board of EMS, the Administrative Clerk of Courts, the Kentucky Office of Insurance, the University of Kentucky Transportation Center, the Kentucky Vehicle Enforcement, the Commonwealth Office of Technology, the Department for Public Health, the Injury Prevention & Research Center, the Motor Transport Association and the Federal Highway Administration.

Even with this diverse membership, there seems to be some duplication of effort and lack of communication. An example is the University of Kentucky Transportation Center who is responsible for publishing the crash facts book. The crash facts book was not published until September of 2006 because the necessary data was not received until July. The Center stated that they received the required data from KSP. KSP informed the committee that the information was given to the Center by the first of March. The interview process revealed that the delay was with data that was supplied by an agency other than KSP. All three organizations participate on the KTRAC.

EMS, although a member, fails to participate actively and therefore is unaware of the efforts that are being put forth to include injury surveillance data into the system.

A valuable tool for enhancing the communication and collaboration among KTRAC stakeholders is the NHTSA Web Traffic Records Inventory that can be located by clicking on Traffic Records Systems at the NHTSA Web site – <http://www.nhtsa.dot.gov>. Continuing to undergo enhancements, this inventory provides information about the organization of each state’s traffic

records system, contacts, and background/descriptive information for each of the major components.

As documented on this website as of March 2007, Kentucky's Traffic Records System is:

System	Contact	Submission By	Submitted On
1. State Safety Data Coordinators	Eric Walker	Erick Moran	11/8/2006
2. Governor's Highway Safety Office	Eric Walker	Boyd Sigler	8/22/2005
3. Traffic Records Coordinating Committee	Boyd Sigler	Boyd Sigler	11/18/2004
4. Traffic Crash Data System	John R. Carrico	Jennifer Dales	11/7/2002
5. Crash Statistics	John R. Carrico	Jennifer Dales	11/7/2002
6. Truck/Commercial Vehicle Data System	Glynn Powers	Boyd Sigler	9/8/2005
7. FARS Data System	Jim Franklin	Jennifer Dales	11/7/2002
8. Traffic Citations/Conviction System	Melinda Wheeler	Boyd Sigler	11/18/2004
9. Roadway Data System	Annette Coffey	Boyd Sigler	11/18/2004
10. EMS Run Data System	Brian Bishop	Boyd Sigler	11/18/2004
11. Injury Surveillance Data System	Mike Singleton	Boyd Sigler	9/8/2005
12. State GIS System	Lynne O'Connor	Boyd Sigler	11/18/2004
13. Driver Licensing Data System	Steve Coffey	Boyd Sigler	9/8/2005
14. Vehicle Registration System	Willie Payton	Boyd Sigler	9/8/2005
15. CODES Linked Data System	Mike Singleton	Jennifer Dales	2/28/2003

Recommendations

- Include a representative from the Commonwealth Office of Technology on the Governor's Executive Committee on Highway Safety.

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

The traffic safety planning process should ensure that all opportunities to improve safety in roadway, behavioral, public health/trauma care arenas are identified, considered, implemented and evaluated. In Kentucky, however, the planning process is fragmented throughout Commonwealth agencies.

There is no obvious coordination of decision-making or policy setting for public safety and health systems planning on an enterprise level. Much government planning has been interrupted as a result of changes in administration priorities.

The Commonwealth has no Chief Information Officer (CIO) at this time, although there is a Commonwealth Office of Technology (COT). State CIOs are typically responsible for developing and maintaining the statewide communications infrastructure that supports multiple public agencies and institutions, and should be an integral part of any IT planning and coordination process. As skilled communicators, consensus builders and change managers, state CIOs are uniquely positioned to facilitate these collaborative planning efforts and provide a roadmap for all to follow.

Each Cabinet has an Office of Technology that sets standards and guidelines for Cabinet functions. The enterprise-level Department of Geographic Information (DGI) and a GIS committee sets state standards and guidelines and develops metadata. A DGI representative sits on the Governor's Executive Committee on Highway Safety.

Traffic safety-related plans produced by Commonwealth agencies and organizations include the Strategic Highway Safety Plan, *Kentucky's Roadmap to Safer Highways* (September 2006), the 2007 *Highway Safety Performance Plan*, the *Traffic Records Strategic Plan*, the public health plan "*Healthy Kentuckians 2010*," the *Highway Safety Improvement Plan*, regional and metropolitan Transportation Improvement Plans, a state Trauma System Plan, other internal agency or organization IT plans, safe communities and local public health plans, as well as plans for federal grant-funded activities. Direction and approval authority and approval of these plans varies from direct Gubernatorial approval to university grant management.

The assessment process revealed that there is a mismatch in the timing of plan development, institutional issues, and a limited awareness of the relation of individual efforts resulting in limited cross-communications and coordinated decision-making during the plan development process. One such significant problem was the lack of roadway asset and traffic information on roadways of local jurisdiction that make determination of the 5% worst roadway segments all but impossible.

The University of Kentucky College of Engineering Transportation Center (KTC) and the Injury Prevention Research Center (KIPRC) have worked under contract with the GHSP, the KSP and the KTC on transportation safety-related research and program delivery, and participate fully in the safety planning process. KIPRC also works under contract with the Cabinet for Health & Family Services in highway safety-related research, planning and program delivery functions.

The Kentucky Transportation Cabinet's Traffic Safety Data Service (TSDS) provides timely access to traffic collision data analyses and reports through many highway safety and geographic information systems tools developed for the Kentucky Transportation Cabinet. Analyses provided by the TSDS provide effective presentation of traffic collision statistical information and support highway safety planning and decision-making.

In November 2004, the Governor's Executive Committee on Highway Safety (GECHS) was created by Executive Order. Membership in GECHS was by gubernatorial appointment and

consisted of cabinet-level or executive officers, and the Chair is the Commissioner of the Department of Transportation Safety. While the Kentucky Transportation Cabinet is the lead agency for the AASHTO Highway Safety Management effort and follows the Integrated Safety Management Process, the GECHS was given authority to select the Emphasis Areas that comprise the Strategic Highway Safety Plan (SHSP) and to approve the final SHSP and action plans developed by the Emphasis Area Teams.

The Governor's Highway Safety Program (GHSP) was transferred from the Kentucky State Police to the Kentucky Transportation Cabinet (KYTC), Department of Transportation Safety effective June 2007. As currently organized, the GHSP has few subject matter experts and only one position for completing program analyses. Similar subject matter experts are found in CHFS and in KIPRC.

In June 2007, the Governor's Highway Safety Program will be reorganized and will have 8.0 FTE positions assigned new functions, not yet determined. Some GHSP staff participated in the SHSP development process as members, not leaders, of Emphasis Area Teams in their area of specialty.

The Kentucky Traffic Records Advisory Committee (KTRAC) was established in November 2004 by the Governor's Executive Committee on Highway Safety (GECHS) as an emphasis area of the Strategic Highway Safety Plan. The GECHS has final approval of KTRAC's strategic plan.

The KTRAC Chair is the State Traffic Safety Administrator, appointed by Secretary of Transportation. KTRAC members chair subcommittees organized by core data files. The subcommittees evaluate project applications and the KTRAC votes to either approve or disapprove a project application. The approved projects are then presented to the GECHS for final approval. The KTRAC Traffic Records Strategic Plan (TRSP) is then integrated into the Strategic Highway Safety Plan as its Traffic Records Emphasis Area Action Plan.

The KTRAC does not have a data-specific Mission statement. The Kentucky Strategic Traffic Records Plan document (June 2006) and the interview process revealed that no environmental scan was performed to identify related data improvement activities underway in the Commonwealth, alternative sources of funds, comparable planning efforts, etc.

No Traffic Records System Inventory is available; no description of the core data systems including data dictionaries, data element descriptions and no measurable baseline quality indicators were established for the core data systems. Thus the required demonstration of data quality improvement may jeopardize subsequent year funding. However, the TRSP represents an admirable first step toward a more comprehensive strategic plan.

No formal process for strategic plan development, project selection, or project prioritization was documented. The recommendations from the 2002 Traffic Records Assessment were not addressed directly as part of the problem identification or decision-making processes.

Because no good information was available about the level of funding available, the Kentucky Strategic Traffic Records Plan programmed about four times as many fiscal year 2006 Section

408 funds as eventually were made available to the Commonwealth. As a result, a second round of decision-making identified the top four candidate projects from among those originally selected, and these are currently being implemented using 408 funds.

For each Core Data System, the inventory should include data dictionaries, defined edit checks, data collector manual, analytic user reference manual, description of data limitations, standards for electronic uploads to state and federal databases including standard file formats, data transfer protocols, pre-transfer quality checks, examples of uses, reports and analyses, and the mechanism for updating this information.

Traffic Records are used somewhat in developing short-range and long-range roadway construction and maintenance programs. This includes use of crash data for programs such as the HSIP, the STIP - High-Crash Location Projects, Safety Corridors, Build-up Program, Lane Departure Resurfacing, Median barrier, guardrail and the Six-Year Highway Plan. Safety data are also used for pre-design planning and are a component of adequacy ratings.

Crash data, some conviction data and occupant protection use data are used in behavioral Highway Safety Performance Plan development. While CODES outcome and economic cost data and public health data such as *Behavioral Risk Factor Surveillance System*, *Youth Behavioral Risk Survey* and other such survey information are available, they appear not to be used in problem identification, project development or selection or for program analysis. Problem identification is primarily roadway or county – related. The Area Development Districts provide opportunities for behavioral community programs that are more responsive to local characteristics and needs.

Recommendations

- Plan and identify activities and funding sources necessary for producing an integrated road network based upon a common centerline file and location reference system that contains traffic and roadway asset information for ALL roadways in the Commonwealth and that can be used to identify the worst 5% roadway segments.
- Prepare a Mission Statement for the Kentucky Traffic Records Advisory Committee that describes its function or business purpose.
- Perform an environmental scan that identifies political, budget, overlapping missions and other constraints on KTRAC operations and identify business needs for traffic records data of KTRAC members and other Commonwealth organizations.
- Develop and document a system inventory of all core data systems, with complete data dictionaries, data element definitions, documenting their compliance with national standards such as ANSI D.16, MMUCC, NEMESIS and MMIRE (when available).
- Establish a set of data quality metrics for each of the core data systems against which quality improvements may be measured.

- **Document the policies and procedures of the KTRAC, including the problem identification and project selection decision-making processes, document specific responses to the 2002 and 2007 Traffic Records Assessments, require applicants to provide project histories and funding sources, and establish communications requirements among all KTRAC members and subcommittee members. Incorporate these policies and procedures into Memoranda of Understanding that clearly identify the responsibilities of KTRAC members.**
- **Market Traffic Records to all potential users and partners and produce a Traffic Safety Information Resource Guide analogous to the *KCHFS' Public Health Data Resource Guide* (2005) that is based upon a detailed system inventory of the core data systems as well as other sources of data such as surveys and normalizing data.**
- Identify feedback reports and formats necessary to support the quality improvement efforts of data collectors, managers and users, and establish a series of standard reports to identified target audiences such as policy makers and funding agencies.
- Expand behavioral highway safety program planning beyond road segment or corridor-based activities to include community-based problem identification, strategies and activities, using epidemiological and behavioral data sources and analyses, and coordinate the planning of these programs with transportation injury programs identified in the *Healthy Kentuckians 2010* public health plan.
- **Take advantage of the transition of the Governor's Highway Safety Program to a higher organizational level within the Department of Transportation Safety to fill new behavioral safety program positions with individuals with epidemiological and/or behavioral analysis and behavioral program subject matter expertise.**
- Include a representative from the Commonwealth Office of Technology (COT) on the Governor's Executive Committee on Highway Safety.

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

Crash investigation training provided at the basic training level for law enforcement is 20 hours. Only 2 to 4 hours are given on the correct method to complete the crash report form. There is additional training given at the agency level when the agency uses the E-Crash program provided by the Kentucky State Police. It was uncertain how much training was given for commercial vehicle crash investigation. It was apparent, however, that sufficient training time for collecting commercial crash data was not available to all agencies; however, KSP, the Louisville Police Department, the Lexington Police Department and one smaller agency were provided additional training to certify officers in commercial vehicle inspections. It is also not clear whether sufficient training is provided for an investigating officer to determine whether a crash qualifies as a reportable truck/bus collision under the FMCSA guidelines.

There was a difference of four fatal reportable commercial crashes between what the Kentucky Vehicle Enforcement determined as reportable and the fatal commercial crashes reported through the Fatality Analysis Reporting System (FARS). The two sections were attempting to reconcile the difference at the time of the assessment.

The crash report simply asks a yes/no question as to whether or not a crash was a commercial crash; crash report instructions do not provide guidance as to what constitutes a commercial crash. There are some edit checks included in the E-Crash report that will assist in determining the status of a commercial crash that are not included on the crash report hardcopy. Edit checks not present on the actual E-Crash report completed by the officer will be present at the E-Crash report submission stage. This requires an additional step in processing the report that could be avoided if the edit checks were the same at both levels.

Kentucky Vehicle Enforcement personnel are creating a three-day training module for commercial vehicle crashes. The intent is to provide the training in an in-service style of training to veteran officers. It appeared as though no thought was given to the use existing training available through the Federal Motor Carriers Safety Administration (FMCSA). The training through FMCSA is customized to work with the state's police crash report and is provided free of charge to the state.

When law enforcement officers were asked how the location of the crash was determined, the primary response, with few exceptions, was it was determined by the location of the first harmful event. That is, that location where the first damage, injury or fatality occurred. In fact, however, the location of the crash should be where the crash sequence actually began. Consequently, the way the crash location is being reported may be misleading.

There are also several different ways to determine the location. The officer can use what he determines through his/her observation and distance estimation, or they may have access to a program called Map-Click. Map-Click was developed by KTC. It displays the GPS coordinates as well as street name, based on where the officer points on a map. Another way is to use the GEO file. Very little, if any, training is given to the officers in the use of Map-Click or the GEO file method.

Recommendations

- ❑ Incorporate sufficient commercial vehicle crash reporting training at the law enforcement training academies.
- ❑ **Utilize the Truck/Bus Collision Training provided by FMCSA rather than spend additional funds on a new training presentation.**

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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

List of Presenters / Agenda

	Monday	Tuesday	Wednesday	Thursday	Friday
8:30- 9:30	<p align="center">Session 1 Director, Highway Safety Office & Staff Boyd Sigler Lori MacIntire</p>	<p align="center">Session 7 Prosecutors and Clerks of Court</p>	<p align="center">Session 13 Data Users: Researchers, Planners, CODES, Safe Communities, SafeKids Dr. Terry Bunn Dr. Susan Pollack Michael Singleton KIPRC Ken Agent UK Transportation Center</p>	<p align="center">Report Write - UP</p>	<p align="center">Report Close - out Briefing</p>
9:30 – 9:45	Break	Break	Break		
9:45 – 10:45	<p align="center">Session 2 Crash File Manger Lt. John Carrico Kentucky State Police</p>	<p align="center">Session 8 Administrative Office of the Courts John Dobson AOC</p>	<p align="center">Session 14 State Injury Surveillance, Mortality and Hospital Discharge/ED Data George Robinson Vital Statistics Page Franklin – Kentucky Hospital Association Michael Singleton KIPRC</p>		
10:45 – 11:00	Break	Break	Break		
11:00 – 12:00	<p align="center">Session 3 State Law Enforcement Lt. John Carrico Kentucky State Police John Smoot Kentucky Vehicle Enforcement</p>	<p align="center">Session 9 Local Law Enforcement Alvin Cook Lexington Police Lt. Doug Sweeney Louisville Police</p>	<p align="center">Session 15 HSO Staff: TR Strategic Planning & TRCC Body Sigler- Chair, KTRAC</p>		

12:00 – 1:00	LUNCH	LUNCH	LUNCH	LUNCH	
1:00 – 2:00	<p>Session 4 State DOT: Roadway, Crash Location, Traffic Engineering Keith Dotson & Steve Ross Division of Planning Ed Harding Traffic Safety Data Service</p>	<p>Session 10 Local DOT City/County Traffic Engineers, MPOs Lance Meredith Safety Circuit Rider</p>	Report Write -Up	Report Write -Up	
2:00 – 2:15	Break	Break	Break		
2:15 – 3:15	<p>Session 5 State EMS & Trauma Data Systems Managers Brian Bishop Kentucky Board of EMS Dick Bartlett Kentucky Hospital Association Charlotte O’Neal KBEMS</p>	<p>Session 11 Crash Data Entry, Crash Data Output Reports Julia Shaw LFUCG Ed Harding Traffic Safety Data Service Jo Anne Tingle Division of Traffic Operations Terry Chism FHWA</p>			
3:15 – 3:30	Break	Break			
3:30 – 4:30	<p>Session 6 Department of Motor Vehicles Steve Coffey Willie Payton Vehicle Registration Doug Sutton</p>	<p>Session 12 SAFETYNET & FARS James Franklin Kentucky State Police Glynn Powers Kentucky Vehicle Enforcement</p>			

TEAM CREDENTIALS

Martha E. Florey
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Madison, WI 53704
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Martha.florey@dot.state.wi.us

Title: Assistant to the Director, Bureau of Transportation Safety

The Wisconsin Department of Transportation's Bureau of Transportation Safety includes the State Highway Safety Office. The office coordinates state and local highway safety activities and resources. The Assistant to the Director researches and prepares the Highway Safety Plan and annual report, prepares grant applications, manages the Traffic Records Improvement Program, manages Wisconsin's CODES and TraCS projects

Experience:

Martha has 20 years experience in highway safety program and project planning strategic planning, management and analysis, grant writing and community-based behavioral change program development and analysis.

Organizations:

- Secretary, Association of Transportation Safety Information Professionals
- Member, Association for the Advancement of Automotive Medicine
- Chair, Wisconsin Division, American Trauma Society
- Chair, Wisconsin State Traffic Records Coordinating Committee since 1999
- Member, TRB's Native American Transportation Issues Committee's Safety

Subcommittee

- Member, Wisconsin EMS for Children Committee
- Member, Wisconsin Child Death Review Team

Tom Hollingsworth
Columbus, OH
614-387-2800
thollingsworth@dps.state.oh.us

Title: Chief of Data Services for Ohio Department of Public Safety

Data Services is responsible for the gathering and entering of the crash data for all reportable crashes that occur in Ohio. We enter a variety of data for multiple sections within the ODPS. I am responsible for the publishing of Ohio's annual crash fact's book.

Experience:

Chief of Data Services for 4 years
Retired as a Lieutenant after 28 years with the Ohio Highway Patrol.
Involved in the modifications for the Ohio Crash Report Form
Trained Law Enforcement officers throughout the state in completion of the crash form
Instructor at the OSP Academy for 12 Years
Team member for State Traffic Records Assessment

Organizations:

Chairman Traffic Records Coordinating Committee
Association of Transportation Safety Information Professionals (Board Member)
Committee for ANSI D-16

Robert A. Scopatz, PH.D.
Data Nexus, Inc.
P.O. Box 11770
College Station, TX 77842-1770

Director of Research & Consulting Services

SUMMARY

Dr. Scopatz has over 25 years of experience in the design and analysis of research studies using statistical and operations techniques. Over 20 years of his experience has been in traffic safety, traffic records systems, and safety analyses in support of motor carriers, pavement, bridge, and traffic management programs. His expertise includes data analysis methodology, user-interface design, strategic planning, human factors, human/computer interaction, group performance improvement, learning, motivation, customer service evaluation, system performance improvement, and organizational change. Recent work includes development of web-based training in traffic records systems, revision of the NHTSA Traffic Records Program Advisory and Assessment, and research on crash data quality and process improvement. Dr. Scopatz has served as a technical expert on issues related to safety impact of unlicensed drivers and other traffic safety issues.

EXPERIENCE

1996 to Present-Data Nexus, Inc.

Director of Research and Government Services

- Maintains responsibility for strategic planning, data base development, survey design, and data analysis projects
- Participates in design and development of software modules for public safety management and data analysis/reporting, user interface design, and evaluation from a human factors perspective
- Conducts training needs assessments and training course development
- Participates in state-level strategic planning efforts and was recently a panel member for a NHTSA Assessment of Traffic Records in Idaho and Delaware

Recent projects include: revision of the NHTSA Traffic Records Advisory, development of web-based training in Traffic Records data and analysis, Traffic Records Audits and Strategic Plans for Oregon, Wyoming, and Missouri, participation in numerous NHTSA state Traffic Records Assessments, design of state DUI- tracking and citation tracking system development and implementation of a method for auditing crash report quality used for Federal Motor Carrier Safety Administration (FMCSA) and AAA Foundation for Traffic Safety projects; support for FMCSA's Commercial Vehicle Analysis & Reporting project (CVARS); and the *Unlicensed to Kill: The Sequel* project examining driving without a valid license for the AAA Foundation for Traffic Safety.

Robert L. Thompson
Ames, IA 50010
e-mail rthomps@iastate.edu

Title:

Program Evaluator, Governor's Traffic Safety Bureau, Iowa Department of Public Safety. 1987 – Present.

Responsible for development of the state's Annual Highway Safety Plan, Comprehensive Problem Identification and Annual Evaluation Report.

Prepares grant applications and manages the Bureau's Traffic Records Program. Develops performance measures and monitors contract compliance.

Assists the Bureau's director in the overall operation and management of the agency. Serves as agency liaison to numerous Highway Safety groups.

Experience:

Bob has 20 years experience in Highway Safety. Prior to that, he was a data and management analyst for six years at the Iowa Energy Policy Council.

Education:

B.S. in Agricultural Economics, Iowa State University.
Post Graduate work in Economics and Sociology, Iowa State University.

Organizations:

Co-founder and Co-chair – State Traffic Records Coordinating Committee.
Management team – Iowa's Comprehensive Highway Safety Plan.
Vice-Chair, - Highway Traffic Safety Division, National Safety Council.
Board of Delegates, National Safety Council.
Board of Directors, Iowa CODES project.
Member – Iowa Motorcycle Safety Task Force.
Member – Iowa Trauma Systems Advisory Council.
Chair, - Member Services sub-committee, Association of Transportation Safety Information Professionals (ATSIP)
Member – Committee on Transportation Safety Management, Transportation Research Board.
Expert Panel – Evaluating Highway Safety Programs, National Cooperative Highway Research Program, National Academy of Sciences.
Past President – Association of Transportation Safety Information Professionals (ATSIP)

Previous Assessments:

Traffic Records –Georgia, South Carolina, Wisconsin, Connecticut, Oklahoma and Oregon.
Alcohol – North Dakota, South Carolina and Indiana

Fred E. Zwonechek

Lincoln, Nebraska

Telephone (402) 471-2515

Fax (402) 471-3865

Title:

Administrator-Nebraska Office of Highway Safety

Responsible for the administration of the state's federal highway safety funding, the preparation and implementation of the states highway safety plan. Provide technical assistance and support to Nebraska Department of Motor Vehicles divisions. Other responsibilities include:

- Administration of Nebraska Enforcing Underage Drinking Laws federal funding
- Administration of state's Motorcycle Safety Education Program.
- Preventive Health Block Grant Advisory Committee Vice-Chair.
- Chair State's Traffic Records Committee.

Experience:

Thirty two years of work in highway safety agency, including twenty four years as Administrator. Served as Administrator of DMV Vehicle Services and Motor Carrier Division. Served as interim Director for the Nebraska DMV. AAMVA Regional past chair of Public Affairs and Consumer Education Committee. Previous NHTSA assessment team participant.

Organizations:

Governor's Highway Safety Association, Transportation Research Board, Nebraska Safety Center Advisory Committee