

Uniform Guidelines *for* State Highway Safety Programs



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Highway Safety Program Guideline No. 10

Traffic Records

Each State, in cooperation with its political subdivisions and tribal governments, should implement a traffic records system (TRS) to support highway and traffic safety decision-making and long-range transportation planning. A complete TRS is necessary for identifying the locations and causes of crashes, for planning and implementing countermeasures, for operational management and control, and for evaluating highway safety programs and improvements. This guideline describes the components that a State TRS program should include and the criteria that the program components should meet.

I. TRAFFIC RECORDS SYSTEM INFORMATION COMPONENTS

A TRS has been defined as a virtual set of independent real systems (e.g., driver conviction records, crash records, roadway data, etc.), which collectively form the information base for the management of the highway and traffic safety activities of a State. An updated concept of a TRS encourages States to take a global approach and work toward compiling data into a unified, accessible resource. Sharing and integrating data makes such a system possible, without necessarily duplicating costly and time-consuming tasks such as data entry. Achieving integrated access to data without bringing all the data into a single database is a goal of the TRS. The traffic records system should consist of the following major components:

- A.** The Crash Data Component documents the time, location, environment, and characteristics (e.g., sequence of events, rollover, etc.) of a crash. It contains basic information about every reportable (as defined by State statute) motor vehicle crash on any public roadway in the State. Through links to other TRS components, the Crash Data Component identifies the roadways, vehicles, and people (e.g., drivers, occupants, pedestrians) involved in the crash. These data help to document the consequences of the crash (e.g., fatalities, injuries, property damage, and violations charged), support the analysis of crashes in general, and support the analysis of 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.).

- B.** The Roadway Data Component includes roadway location, identification, and classification, as well as a description of a road's total physical characteristics and usage. These attributes are tied to a location reference system. Linked safety and roadway information are valuable components that support a State's construction and maintenance program development. This roadway information should be available for all public roadways, including local roads.

The State Department of Transportation (State DOT) typically has custodial responsibility for the Roadway Data Component. This component includes various enterprise-related files such as:

- Pavement
- Bridges
- Intersections
- Roadside appurtenances
- Traffic control devices
- Guard rails
- Barriers

Traffic

- VMT (vehicle miles traveled)
- Travel by vehicle type

Other

- GIS (Geographic Information System)
- LRS (Location Reference System)
- Project inventory

- C.** The Driver Data Component includes information about the State's population of licensed drivers as well as information about convicted traffic violators who are not licensed in that State. Information about persons licensed by the State should include: personal identification, driver license number, type of license, license status, driver restrictions, convictions for traffic violations in the State and the history of convictions for critical violations in prior States, crash history (whether or not cited for a violation), driver improvement or control actions, and driver education data.

Custodial responsibility for the Driver Data Component usually resides in a State Department or Division of Motor Vehicles (DMV). Some commercial vehicle operator-related functions may be handled separately from the primary custodial responsibility for driver data. The structure of driver databases typically is oriented to individual "customers."

- D.** The Vehicle Data Component 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 vehicle history (including odometer readings) in order to produce the information needed to support analysis of vehicle-related factors that may contribute to a State's crash experience. Such analyses would be necessarily restricted to crashes involving in-State registered vehicles only.

Custodial responsibility for the vehicle data usually resides in a State Department or Division of Motor Vehicles. Some commercial vehicle-related functions may be handled separately from the primary custodial responsibility for all other vehicle data. The structure of vehicle databases typically is oriented to individual "customers."

- E.** The Citation/Adjudication Data Component, which identifies citation/arrest and adjudication activity of the State, includes information that tracks a citation from the time of its distribution to a law enforcement officer, through its issuance to an offender, its disposition, and the posting of conviction in the driver history database.

Case management systems, law enforcement records systems, and DMV driver history systems should share information to support:

- citation tracking;
- case tracking;
- disposition reporting; and
- specialized tracking systems for specific types of violators (e.g., DUI tracking systems).

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 and should be available at the local level.

The information should be used for determining the level of enforcement activity in the State, for accounting and controlling of citation forms, and for detailed monitoring of court activity regarding the disposition of traffic cases.

Custodial responsibility for the multiple systems that make up the Citation/Adjudication Data Component should be shared among local and State agencies, with law enforcement, courts, and the State Division or DMV sharing responsibility for some files (e.g., portions of the citation tracking system). State-level agencies should have responsibility for managing the law enforcement information network (e.g., a criminal justice information agency), for coordinating and promoting court case management technology (e.g., an administrative arm of the State Supreme Court), and for assuring that convictions are forwarded to the DMV and actually posted to the drivers' histories (e.g., the court records custodian and the DMV).

F. The Statewide Injury Surveillance System (SWISS) Data Component typically incorporates pre-hospital (EMS), trauma, emergency department (ED), hospital in-patient/discharge, rehabilitation and morbidity databases to track injury causes, magnitude, costs, and outcomes. Often, these systems rely upon other components of the TRS to provide information on injury mechanisms or events (e.g., traffic crash reports). The custodial responsibility for various files within the SWISS typically is distributed among several agencies and/or offices within a State Department of Health.

This system should allow the documentation of information that 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 SWISS should support integration of the injury data with police-reported traffic crashes and make this information available for analysis to support research, public policy, and decision making.

II. TRAFFIC RECORDS SYSTEM INFORMATION QUALITY

A State's traffic records information should be maintained in a form that is of high quality and readily accessible to users throughout the State. Performance-based measures should be quantifiable and should be established for each attribute of each component (e.g., the amount of elapsed time from initial data collection until entry in the traffic records system, the level of accuracy and completeness the data must meet in order to pass edit and validation checks during data entry, the level of adoption of various standards and guidelines, etc). The definition of each performance-based measure and its relative significance may vary for each of the State's TRS data components.

The quality of a State's traffic records information is determined by the following attributes:

- **Timeliness** – information should be available within a timeframe to be meaningful for effective analysis of a State's highway safety programs, and for efficient conduct of each custodial agency's business and mission;
- **Consistency** – the information should be consistent with nationally accepted and published guidelines and standards (e.g., the Model Minimum Uniform Crash Criteria, the National EMS Information System) and data should be collected on uniform forms that are prescribed by the State for use by all jurisdictions. The ANSI D16.1-2007 is the standard for statistical classification of motor vehicle traffic crashes and is the primary reference for classifying motor vehicle crashes. This standard promotes consistency of motor vehicle traffic accident statistics. To view the standard, go to:
<http://www.atsip.org/index.php?/atsip/d-16>.
- **Completeness** – the information should be complete in terms of all the people, events, things, or places represented by the records in the various components, and it should be complete in terms of all the variables required to be collected on those people, events, things, or places;
- **Accuracy** - the information should be accurate as determined by quality control methods to ensure accurate information is contained on individual reports (e.g., validity and consistency checks in the data capture and data entry processes and feedback to jurisdictions submitting inaccurate reports);

- **Accessibility** – the information should be readily and easily accessible to the principal users of the traffic records system components, including both direct access (automated) and the ability to obtain periodic (standard) reports as well as reports and data by special request; and
- **Data Integration** – information in any traffic records system component should be capable of being linked with any other component through the use of common data variables where possible and permitted by law.

III. USES OF A TRAFFIC RECORDS SYSTEM

The purpose of a State's traffic records system is to establish a base of useful information and data. This includes operational personnel, program managers, program analysts, researchers, policy makers, and the public. To be of optimal value, the system should provide for the efficient flow of data to support a broad range of traffic safety and other activities, in particular the following:

- **Problem Identification**
Problem identification is the process of determining the locations and causes of crashes and their outcomes and of selecting those sites and issues that represent the best opportunity for highway safety improvements;
- **Research and Program Development**
The traffic records system should provide information to identify safety problems, trends, and baseline measures essential for data-driven planning decisions;
- **Policy Development**
The traffic records system should provide information to permit informed decisions in setting highway safety policy, including State Highway Safety Plans.
- **Analytic Resources Access**
Data users, and decision makers in particular, should have access to resources including skilled analytic personnel and easy to use software tools to support their needs. These tools should be specifically designed to meet needs such as addressing legislative issues (barriers as well as new initiatives), program and countermeasure development, management, and evaluation, as well as meeting all reporting requirements.
- **Public Access to Data**
The TRS should be designed to give the public or general non-government user reasonable access to data files, analytic results, and resources, but still meet State and Federal privacy and security standards.
- **Data Use and Improvement**
The TRS should be viewed as more than a collection of data repositories, and as a set of processes, methods, and component systems. Knowledge of how these data are collected and managed, along with where the bottlenecks and quality problems arise, is critical to users understanding proper ways to apply the data.

IV. TRAFFIC RECORDS SYSTEM MANAGEMENT

The development and management of traffic safety programs is a systematic process with the goal of reducing the number and severity of traffic crashes. This data-driven process ensures that all opportunities to improve highway safety are identified and considered for implementation. This process can be achieved through the following initiatives:

Traffic Records Coordinating Committee (TRCC)

The State should form a TRCC whose membership includes, among others, managers, collectors, and users of traffic records and public health and injury control data systems. The TRCC should have the authority to approve the State's Strategic Plan for Traffic Records Improvements. The TRCC should also:

- Represent all stakeholders; each stakeholder must have support from the top management of the representative agency;
- Have the authority to review any of the State's highway safety data and traffic records systems and to review any proposed changes to such systems prior to implementation;
- Provide a forum for the discussion of highway safety data and traffic records issues and report on any such issues to the agencies and organizations in the State that create, maintain, and use highway safety data and traffic records;
- Represent the interests of the agencies and organizations within the traffic records system to outside organizations; and
- Review and evaluate new technologies to keep the highway safety data and traffic records system up-to-date.

Strategic Planning

The TRS should support the traffic safety strategic planning process that helps State and local data owners identify and support their overall traffic safety program needs and addresses the changing needs for information over time.

Data Integration

States should integrate data and expand their linkage opportunities to track traffic safety events among data files. Data integration should be addressed through the following:

- Create and maintain a system inventory;
- Support centralized access to linked data;
- Meet Federal reporting requirements, such as the Fatality Analysis Reporting System (FARS), the Motor Carrier Management Information System (MCMIS / safetynet), the Highway Performance Monitoring System (HPMS), and others;
- Support electronic data sharing; and
- Adhere to State and Federal privacy and security standards.