

State Traffic Safety
Information Systems
Strategic Planning
A Guide for States

State Traffic Safety Information Systems Strategic Planning

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Introduction

On August 10, 2005, the President signed the new surface transportation reauthorization bill, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users or SAFETEA-LU. This legislation contains what is perhaps the most significant endorsement ever of the need for reliable, timely, accurate, and accessible traffic safety data at the local, State, and national levels. There are over 30 sections within the bill that will, in some form, require the collection, management, and distribution or analysis of safety data by local, State or Federal agencies.

In order to assure that the required data is properly, efficiently, and effectively collected, well managed, and available to support these traffic safety programs, each State should have in place a comprehensive plan for the improvement of all the safety data systems within that State. This traffic safety information systems strategic plan, developed with input from the data collectors, managers, and users, can provide a guide for the most cost-effective use of available resources with the maximum value of the resulting traffic safety information systems environment in terms of data accuracy, reliability, timeliness, inter-operability, and accessibility.

This document provides an overview of the strategic planning process. The end product of this process should be a plan that achieves the following:

- a comprehensive multiyear plan covering the State's Traffic Safety Information System that is approved by the States' Traffic Records Coordinating Committee (TRCC);
- addresses existing deficiencies, how they were identified, and priorities for corrective action;
- identifies performance-based measures and matrices for measuring progress, including benchmarks;
- indicates what funds will be used and how they will be used to address the goals and deficiencies of the plan;
- establishes timelines and accountability for components of the plan;
- integrates State data needs and goals with the State's highway safety plan; and
- the plan's activities should improve the timeliness, accuracy, completeness, uniformity, integration, and accessibility of State highway safety data.

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What is a Traffic Safety Information Systems Strategic Plan?

The strategic plan is a multiyear plan with annual updates intended to set the framework for improving all aspects of a Comprehensive Statewide Traffic Safety Information System Improvement Program, providing vision and focus for activities over both the short and long term. Although accepted “best practice” within the highway safety community has always been to make data-driven decisions, the reality has been that the data to drive those decisions has really not been available. The development and implementation of a Statewide Traffic Safety Information System Strategic Plan is intended to address this data gap in the most efficient and effective manner possible. The data needs and goals should be consistent with all the other States’ Highway Safety Planning documents.

State Strategic Planning Process

A State with a multi-agency Traffic Records Coordinating Committee to guide the effort, and with a well-developed strategic plan, will have the greatest likelihood of being able to make significant improvements to their data systems in a minimum amount of time with the greatest level of efficiency. The strategic plan itself must be based upon good information and should have a clear vision of what the goals and objectives are, and how they will be achieved. The multiyear strategic planning process sets the foundation for assuring that data is available to support both Federally funded traffic safety programs and those programs that are funded from State and local sources. The systems that the plan covers should include, but are not limited to:

- traffic crash systems;
- traffic citation and adjudication systems;
- emergency medical/injury surveillance systems;
- driver licensing and driver history systems;
- vehicle registration systems; and
- roadway inventory systems.

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1. Traffic Records Coordinating Committee

The vital first element in the planning process is to define the group that will be responsible for approving, developing, and implementing the plan. Each State should have a policy-level group that oversees the State's highway safety data systems. The TRCC function may be vested in an existing information systems planning group within the State, but there should be a group within the State that can commit personnel and resources to address multiyear data systems planning across different State agencies. The TRCC-driven planning process should result in a statewide data improvement program that assures coordination of efforts and sharing of data between the various State safety data systems.

In addition to the policy level TRCC, States may create working or technical committees as they deem appropriate to address specific planning and implementation efforts; however, the State TRCC should have the authority and charge of overseeing the planning and improvement of the key safety data systems within the State. The State TRCC should be charged with reviewing and approving the strategic plan and implementation plan on an annual basis.

The TRCC, or the State committee that serves the TRCC function, is an ideal forum for the development of a Statewide Traffic Safety Information Systems Strategic Plan. A collaborative approach to developing the plan will be necessary to jointly identify the gaps in existing resources, negotiate the various authorities to perform each task, and assign who should be responsible, in terms of people and agencies, for completing each task. The TRCC should express a uniform message about the importance of building and strengthening traffic safety data in the State. A timeline should be established and a plan of action should be clearly defined within the plan.

2. Traffic Records Assessment

The second key element of a good State traffic safety data system planning process is the performance of a Traffic Records Assessment in a State. This is an in-depth, formal review of a State's highway safety data and traffic records system that, at a minimum, addresses the issues identified in NHTSA's Traffic Records Advisory. The assessment must be conducted by an organization or group that is knowledgeable about highway safety data and traffic records systems, but independent from the organizations involved in the administration, collection, and use of the highway safety data and traffic records systems in the State. One type of qualifying assessment would be that performed by NHTSA. The resulting report provides the State TRCC with a concise, focused list of recommendations to improve State data systems.

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The TRCC should ensure that the State has performed an objective assessment of its traffic records system as a basis for identifying strengths, weaknesses, and areas of potential efficiency improvements. An assessment should be performed every five years. Interim self-assessments are encouraged as part of the State annual review of progress and highway safety data program status.

3. Goals and Objectives

Based upon the Traffic Records Assessment and under the guidance of the TRCC, a clear set of goals and objectives should be defined as the foundation for the strategic plan. This plan must address existing deficiencies, identifying how they were identified and the State's approach to develop corrective actions in project priority order.

Once an assessment is completed, the next task that should be undertaken is active dialogue at the TRCC level to determine how to benchmark the State safety data systems in terms of where each currently stands in terms of timeliness, accuracy, completeness, integration, uniformity, and accessibility. In other words, the systems should be evaluated in terms of performance-based measures and matrices for measuring progress, including its own benchmarks. This benchmarking process should also address how well the various systems adhere to accepted data system standards such as NHTSA's Model Minimum Uniform Crash Criteria (MMUCC) Version 2002 or higher, and ANSI D.20 for crash data elements and attributes, NEMSIS Version 2.2 or higher for EMS run data elements and attributes, and any other applicable data standards. As this benchmarking process is performed, the State should set specific timelines and performance goals for each subsystem/ process and should document the current status of each component in terms of those goals. Annually the TRCC can then compare how each system has progressed toward meeting its State and locally established goals.

3. a. Benchmarking requires that you compare your current system performance to others or to compare your performance to yourself using different periods of time. Some comparisons a State Traffic Safety Information System might make would be the status of their crash location system month-to-month, county-to-county, or year-to-year. Another would be the number of days from the crash event to when the crash was entered in the system, or date received. Yet, another example could be to compare a number of crashes received from agency year-to-year.

3. b. Performance-based measures are standardized, quantitative measures of data quality including timeliness, accuracy, completeness, uniformity, integration, and accessibility, that measure a State's progress towards achieving the goals and objectives identified in its strategic plan.

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4. Potential Projects and Programs

The TRCC should identify potential projects and data system improvement programs that will move the State's traffic safety information system in the direction defined by its goals and objectives.

Once a State TRCC has set goals for each safety data system and has documented the current status of each system in terms of those goals, the next step is the identification of projects to be included in the strategic plan. The list of potential projects should address the various initiatives that the TRCC believes can and should be undertaken, both short and long term. Candidate projects that are identified should advance the State traffic safety information systems environment and should address deficiencies/weaknesses that were identified by the Assessment. All traffic safety data initiatives within the State, regardless of funding sources are interrelated, and should appear within the strategic plan.

5. Project Descriptions

Each candidate improvement project should be concisely defined in terms of project plans which provide a basic overview of each project as identified within the strategic plan. Each project plan should contain information such as: responsible project director, agency, goal/purpose of the project, anticipated results of the project (how will its success or failure be measured), any inter-relationships or dependencies on other projects, estimated timelines, and resource requirements. The Plan must identify the cost of each potential project and timelines along with the funding source for each project and how those funds will be used.

6. Plan for Linking Data

Within the planned projects, each should address how it will facilitate linkage and sharing of data between systems. A key aspect of the national goals for State safety data improvement efforts is the promotion of data linkage and sharing. The "store once, use many times" philosophy is considered critical to increasing the reliability and efficiency of our local, State, and national highway safety data systems.

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7. Improved Compatibility and Interoperability

Each project or program description should address how it is expected to improve the compatibility and interoperability of data between State and local systems as well as with the national data efforts. Each project plan should specifically address the issue of adoption of national model data elements and best practices. As identified within the reauthorization legislation, State and local data systems are expected to move toward adoption of national standards such as ANSI D20, MMUCC, and NEMESIS. At the same time, one of the national data system goals is to move toward an environment where data can be easily shared or moved between agencies, States, and national data repositories such as the NHTSA State Data Systems Program and National Emergency Medical Services database.

8. Assign Accountability and Set Deadlines

For each project there should be a clear definition of the agency or project director who is responsible for the project. Each project description should provide a clear set of milestones and expected completion dates for each milestone. This accountability and timeline component of the strategic plan will serve to assist in the State's annual progress evaluation report.

9. Evaluations

Each project plan should include specific criteria that will be used to measure the success or failure of the project in terms of the project's impact on achieving the safety data improvement goals and objectives. By defining in the beginning the expected impact upon measures such as timeliness, accuracy, completeness, integration, uniformity, and accessibility, the success or failure of each project can be determined. Each State will be expected to provide annual evaluations of their various projects and their success toward achieving the goals and objectives as defined in their strategic plan.

10. Prioritization – Four-Box Analysis

Having clearly defined each potential project, its responsible agent, timeline, impact upon the program goals, and likely resource requirements, each TRCC must then prioritize the candidate projects and select those that will be undertaken in the short term and those that are more suitable long-term projects. Although there are many techniques for assigning priority, all potential projects and improvement programs should be assessed and projects should be prioritized using some systematic method. The four-box process is one of the least complicated

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to implement. It is essentially a process by which each project is ranked in terms of two measures: potential payoff if implemented and successful, and potential cost or difficulty. Those projects that fall into the low-cost/high payoff cell are the ones that should probably be undertaken first.

Irrespective of the technique used for rating possible improvement projects, the ultimate responsibility for a coordinated, effective implementation plan lies with the State TRCC.

11. Priority Schedule

Based upon the four-box analysis or another appropriate prioritization method, projects and programs should be prioritized and scheduled for implementation. Those projects that are selected for immediate or short-term implementation should be identified within the annual work plan and the appropriate funding and other resources should be identified and committed by the TRCC.

It is expected that most strategic plans will identify a range of projects that the TRCC believes are viable and worth pursuing. Some of these will be high priority, short-term projects and are likely to be implemented within the very near term (one to three years). Other projects, although high priority or key to the overall program success, may require a longer term development and implementation schedule.

12. Timeline of the Plan

The strategic plan should include a set of timelines for the development and implementation of each project or program. Dependencies between and among projects should be clearly identified. This overall view of the projects that will be undertaken, and in particular the interdependencies between projects, will assist the TRCC as they monitor progress of the overall State data improvement program.

13. Revision Plan

The strategic plan should be an active document, being updated at least annually to reflect new issues and the changing environment within highway safety. New State legislation, changes to Federal legislation, and changing priorities and opportunities will dictate that the strategic plan be reviewed and updated regularly. One outcome of this annual review should be an annual update to the strategic plan.

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Reporting and Accountability

As previously mentioned, each TRCC will be expected to provide at least annual reports on the progress of the State Strategic Traffic Safety Information System Improvement Program. This report will be expected to include information on all projects within the plan, regardless of funding sources.

Conclusions and Next Steps

This strategic planning overview is not intended to define a specific, mandatory process. Each State will need to modify the process to accommodate their local environment, organizational structure, and working limitations. Each State is encouraged to work with their NHTSA Regional Office to develop a variation of the process that will meet its individual needs as well as national, State, and local requirements.

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Basic Elements of the Statewide Traffic Safety Information System Strategic Planning Process

Purpose of Developing a Multiyear Traffic Safety Data Improvement Plan	The multiyear strategic plan is intended to set the framework for improving all aspects of a Comprehensive Statewide Traffic Safety Information System Improvement Program, providing vision and focus for activities over both the short and long term.
Who Is to Provide Direction?	The State Traffic Records Coordinating Committee (TRCC) should provide direction for the plan development and must approve the final product.
TRCC Membership	The TRCC should be headed by a policy-level executive committee which can allocate resources and commit the responsible State agencies to the plan. It should contain representation from the key safety data collectors, managers, and users at the State and local level.
Mission & Vision Statement	The TRCC should establish a clear vision and mission for the development and implementation of a coordinated, focused program to improve the safety data systems within the State.
Traffic Records Assessment	The TRCC should ensure that the State has performed an objective assessment of its traffic records systems as a basis for identifying strengths, weaknesses, and areas of potential improvement. A formal assessment should be performed within the next five years by an outside group.
Goals & Objectives	Based upon the Traffic Records Assessment and under the guidance of the TRCC, a clear set of goals and objectives should be defined as the foundation for the strategic plan. Benchmark reports must be available on the State's Traffic Safety Information System.
Potential Projects & Programs	The TRCC should identify potential projects and systems improvement programs that will move the State's traffic safety information systems in the direction defined by the goals and objectives.
Project Descriptions	Each candidate project should be concisely defined in terms of its likely lead agency/project director, resource requirements, likely timeline/ benchmarks, and expected impact on achieving the goals. Each project must identify the costs, timeline, and source of funds.
Plan for Linking Data	Within the planned projects, each should address how it will facilitate linkage and sharing of data between systems.

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Basic Elements of the Statewide Traffic Safety Information System Strategic Planning Process (continued)

Improved Compatibility and Interoperability	Each project or program description should address how it is expected to improve the compatibility and interoperability of data between State and local systems as well as with the national data efforts. Each project plan should specifically address the issue of adoption of national standards and best practices.
Assign Accountability and Set Deadlines	For each project there should be a clear definition of the agency or project director who is responsible for the project, and a clear set of milestones and expected completion dates for each.
Evaluations to Be Used	Each project plan should include specific criteria that will be used to measure the success or failure of the project in terms of the project's impact on achieving the safety data improvement goals and objectives.
Prioritization – Four-Box Analysis	The potential projects and improvement programs should be analyzed using the four-box analysis process to identify short-term/low-cost projects with high payoff, long-term/high-cost projects with low payoff, and those that fall in the middle.
Priority Schedule	Based upon the four-box analysis, projects and programs should be prioritized and scheduled for implementation.
Timeline of the Plan	The overall strategic plan should include a set of timelines for the development and implementation of each project or program. Dependencies between projects should be clearly identified.
Revision Plan	There should be a process in place, driven by the TRCC, whereby the strategic plan is updated annually to reflect the status of projects and changing priorities.
Reporting & Accountability	Each TRCC will be expected to provide at least annual progress reports on the progress of the Statewide Traffic Safety Information System Improvement Program. This report will be expected to include information on all projects within the plan, regardless of funding sources.

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Overview of the Four-Box Analysis Process

The four-box analysis process focuses upon identifying those projects with the greatest likely impact, highest likelihood of success, and the least risk or cost.

The Four Box Analysis Chart

HIGH PAYOFF – LOW RISK OR COST	HIGH PAYOFF – LOW RISK OR COST
GOOD OPPORTUNITY – HIGH PRIORITY	MODERATE OPPORTUNITY – MIDDLE PRIORITY
LOW PAYOFF - LOW RISK OR COST	LOW PAYOFF – HIGH RISK OR COST
MODERATE OPPORTUNITY – MIDDLE PRIORITY	POOR OPPORTUNITY – LOW PRIORITY

Each project that is identified as a candidate for inclusion within the strategic plan should be classified based upon several factors. These factors should include such measures as:

- cost of the project;
- if it is a short-term (1-2 years) or long-term (3 or more years) effort;
- how difficult the project will be in terms of coordination, etc.;
- how significantly the project will affect the program goals if successful;
- how likely the project is to achieve its desired impact on the systems; and
- if there are any major costs associated with failure of the project, and how high that risk is.

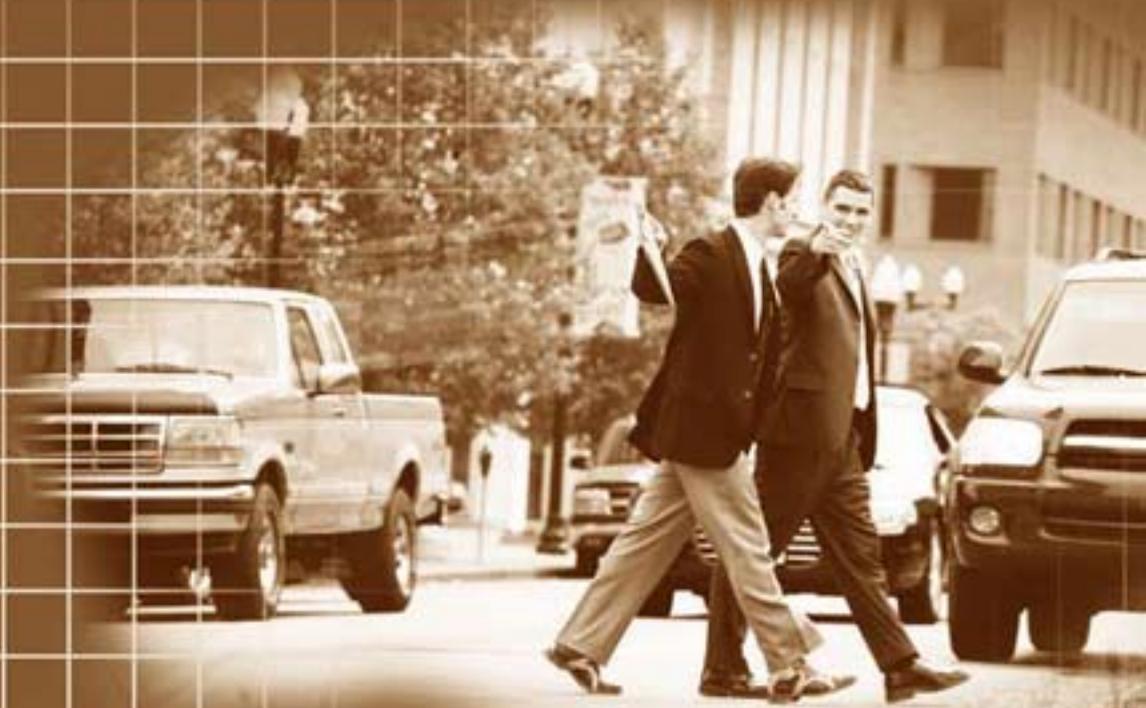
Having made these evaluations of the proposed project it is then classified as being a member of one of the four cells in the table above. In general would one classify the project as:

- Low Cost – High Payoff
- Low Cost – Low Payoff
- High Cost – Low Payoff
- High Cost – High Payoff

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Within these four groups, the projects that should normally be the first to be undertaken are the extremely cost-effective projects: the low-cost – high-payoff projects. These will normally be easy to enact, require a minimum of resources, and be most likely to result in the quickest, most significant improvements to one or more systems. At the other extreme, those projects that are high cost and low payoff are the ones that will typically be set aside and not included in the work plan. The middle ground projects, those classified as low cost - low payoff and high cost - high payoff, are the ones that will be the most difficult to rank in any prioritization process. These groups will typically require more attention to cost estimates, risk analysis, and estimation of potential impact. After this additional, detailed analysis, the TRCC may find that it can comfortably move some of the middle-ground projects to one of the extreme groups. Finally, the TRCC will need to establish which of the middle-ground projects should be selected for implementation in the near term, and which ones are best left for possible re-assessment in the future. Historically, this high-level approach to project classification and prioritization provides a solid framework for decision-making.



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