



U.S. Department of Transportation
Federal Highway Administration



Safety Target Coordination Report

September 2016

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Technical Report Documentation Page

1. Report No. FHWA-SA-16-101	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle Safety Target Setting Coordination Report		5. Report Date September 2016	
		6. Performing Organization Code	
7. Author(s) Audrey Wennink, Ryan Klitzsch, Beth Wemple, Danena Gaines		8. Performing Organization Report No.	
9. Performing Organization Name And Address Cambridge Systematics, Inc. 100 CambridgePark Dr., Suite 400 Cambridge, MA 02140-2369		10. Work Unit No. (TRAIS)	
		11. Contract or Grant No. DTFH61-10D-00020	
12. Sponsoring Agency Name and Address Federal Highway Administration Office of Safety, 1200 New Jersey Ave SE Washington, D.C. 20590		13. Type of Report and Period Covered Final Report, June 2015- October 2016	
		14. Sponsoring Agency Code	
15. Supplementary Notes Danielle Betkey is the staff at FHWA Office of Safety who led this project.			
16. Abstract MAP-21/FAST Act regulation require that identical safety targets be set in each State for the common safety performance measures. Additionally, safety targets must be coordinated between State DOTs and MPOs. This report documents best practices identified via interviews and workshops that can help States and MPOs improve coordination on safety target setting.			
17. Key Words Safety performance measures, traffic safety, targets, coordination		18. Distribution Statement Unrestricted	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 48	22. Price N/A

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Introduction

This report is intended to assist State Departments of Transportation, State Highway Safety Offices, and Metropolitan Planning Organizations with coordination as they set Federally required safety targets.

OVERVIEW

In anticipation of Moving Ahead for Progress (MAP-21) requiring increased coordination on safety performance measures, the U.S. Department of Transportation (USDOT) undertook an initiative to identify State and regional best practices on safety target setting coordination. The Federal Highway Administration (FHWA) Office of Safety, in partnership with the National Highway Traffic Safety Administration (NHTSA) led this research, which involved conducting interviews with nine States and convening workshops in seven States to understand how State Departments of Transportation (DOT), State Highway Safety Offices (SHSO) and Metropolitan Planning Organizations (MPO) currently are coordinating on safety targets and anticipate enhancing their processes.

In the fall of 2015 the study team conducted interviews on safety target setting processes with SHSO leadership in Colorado, Delaware, Michigan, Missouri, New York, South Carolina, Texas, Vermont, and Washington. In the spring of 2016, the study team led seven one-day workshops involving State DOT safety and planning staff, SHSO staff and MPOs leadership to discuss crash trends, target setting methods, and coordination between the State DOT, SHSO and MPOs. The study team coordinated workshops in Louisiana, Michigan, Missouri, North Dakota, Pennsylvania, South Carolina, and Washington. The best practices documented in this report are a result of input received via this research.

Previous research on safety target setting by FHWA has included a *Safety Target Setting Final Report* that defined a high-level framework for safety target setting and separate research on urbanized and non-urbanized safety targets. (FHWA resources on safety performance management are available at: the [Safety PM Web site](#).) As the MAP-21 rulemaking process has progressed, the safety target setting process has evolved and a wider range of stakeholders is involved. This report addresses the target setting coordination process, which includes steps in the safety target setting framework defined previously. The coordination process includes:

- Review crash trends.
- Define target setting method.

- Review scenarios.
- Select targets.
- Secure approval of targets.

This document provides information and best practices that States and MPOs can draw upon as they coordinate their own safety target setting processes.

LEGISLATIVE CONTEXT

USDOT established seven national performance goal areas in MAP-21 that were affirmed by the Fixing America's Surface Transportation (FAST) Act, one of which is safety. USDOT issued final rulemakings in March 2016 on Safety Performance Management (Safety PM) and the Highway Safety Improvement Program (HSIP). The Safety PM rule detailed the requirements for safety target setting. Annual safety targets are required for five performance measures, expressed as a five-year rolling average, and applicable to all public roads:

1. Number of fatalities.
2. Rate of fatalities per 100 million vehicle miles traveled (VMT).
3. Number of serious injuries.
4. Rate of serious injuries per 100 million VMT.
5. Number of nonmotorized fatalities and nonmotorized serious injuries.

In 2008, SHSOs voluntarily agreed to include performance measures in their Highway Safety Plans (HSP) beginning with their fiscal year (FY) 2010 documents. Beginning in FY 2014, the NHTSA Uniform Procedures for State Highway Safety Grant Programs Interim Final Rule required States to include performance measures and data-driven targets for each measure. This requirement continues under the FAST Act and is reaffirmed in the NHTSA Interim Final Rule issued in May 2016.

Three of the 15 required performance measures for SHSOs are common to those required for State DOTs: number of fatalities, fatality rate, and number of serious injuries. FHWA and NHTSA required identical targets for the three common measures. Given the resulting need to consider both engineering and nonengineering strategies (education, enforcement, and emergency response) in setting targets, the target setting process is shifting to one co-led by both the SHSO and State DOT, and including MPOs.

Data-driven means informed by a systematic review and analysis of quality data sources when making decisions related to planning, target establishment, resource allocation, and implementation.

Evidence-based means based on approaches that are proven effective with consistent results when making decisions related to countermeasure strategies and projects.

Source: NHTSA Uniform Procedures for State Highway Safety Grant Programs Interim Final Rule.



Source: Cambridge Systematics, Inc.

The Safety PM rulemaking requires MPOs to establish safety targets for each of the five measures for all public roads within 180 days after the State DOT reports its targets. MPOs have two options when setting targets for each measure:

1. Establish a numerical target for each performance measure specific to the MPO planning area.
2. Agree to support the State DOT target.

By supporting the State target MPOs agree to plan and program projects to contribute toward achieving the State target. As noted in the Statewide and Metropolitan Planning; Nonmetropolitan Planning Final Rule published in May 2016, the planning process must not only consider safety, but *increase* the safety of the transportation system.

REPORTING TARGETS

State DOTs will report data-driven targets in the HSIP Annual Report, due annually by August 31. SHSOs report targets in the Highway Safety Plan (HSP), due annually by July 1 as shown in figure 1. MPOs must establish targets within 180 days after the State establishes each target (by August 31). MPO targets are reported to the State DOT, and made available to FHWA upon request.

Safety Planning Factor

The Statewide and Nonmetropolitan Transportation Planning; Metropolitan Transportation Final Rule § 450.306 (b) published May 27, 2016 describes 10 required planning factors, one of which is safety. The rule states:

The metropolitan transportation planning process shall be continuous, cooperative and comprehensive, and provide for consideration and implementation of projects, strategies, and services that will address the following [safety] factor:

- *Increase the safety of the transportation system for motorized and nonmotorized users.*

Highway Safety Plan	July 1
HSIP Annual Report	August 31
MPOs report to State	February 27 of following year is the last day for MPOs to establish targets

Figure 1. Table. Annual reporting deadlines.

Each State is required to have a Strategic Highway Safety Plan (SHSP), updated every five years. The SHSP identifies a State's key safety needs and guides investment decisions towards strategies and countermeasures with the greatest potential to save lives and prevent injuries. The strategies and programs identified in the SHSP are developed into specific projects and programs in the HSIP and HSP. Annual target setting methods should be coordinated with the SHSP multiyear goal setting approach.

SHSPs typically include goals, such as specific fatality and serious injury reduction amounts over the multiyear timeframe of the Plan. Targets reported in the HSIP Annual Report and HSP are for a one-year timeframe. The SHSP must include goals that are consistent with the safety performance measures. Figure 2 shows the relationship of the plans and targets to each other.



Source: Cambridge Systematics, Inc.

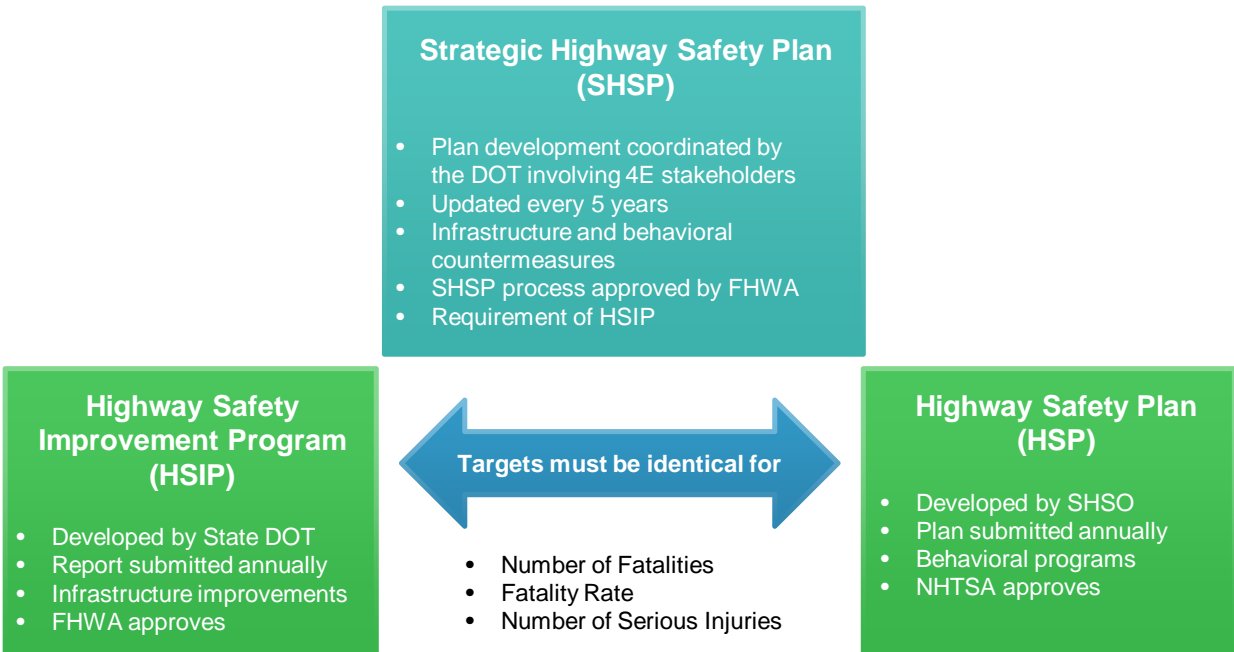


Figure 2. Chart. Required safety documents and agencies setting targets.

(Source: Cambridge Systematics, Inc.)

Whether an MPO agrees to support a State HSIP target or establishes its own numerical target the MPO would include in the Metropolitan Transportation Plan (MTP) a systems performance report evaluating the condition and performance of the transportation system with respect to the safety performance targets described in the MTP, including progress achieved by the MPO in achieving safety performance targets.

FEDERAL DETERMINATION OF SIGNIFICANT PROGRESS

Each year, FHWA determines whether a State has met or made significant progress toward meeting its targets. FHWA will use the Fatality Analysis Reporting System (FARS) and Highway Performance Monitoring System (HPMS) data to determine if the fatality number and rate targets have either been met or if performance is better than the year prior to target establishment. As part of this process States will report fatality and serious injury data from their State crash databases in their HSIP Annual Report, which FHWA will use for evaluation of serious injury targets.

If a State does not achieve or make significant progress on four out of five targets it must obligate HSIP funds to safety projects and develop an Implementation Plan. Similar to the FHWA requirements, if a State has not met its performance targets in the previous year's HSP, NHTSA's regulation requires the State to describe how it will adjust the upcoming HSP to better meet performance targets.

MPOs will be held accountable for safety progress through the statewide and metropolitan planning process. FHWA will review how MPOs are addressing and achieving their targets (or assisting the State in achieving targets) as they conduct Transportation Management Area (TMA) Certification Reviews (only for large MPOs with more than 200,000 population). The TMA Certification Review requires the Secretary to certify at least once every four years whether the metropolitan planning process of an MPO serving as a TMA meets requirements, including the requirements of 23 USC 134 and other applicable Federal law. One of these requirements is to include a performance-based approach in the metropolitan transportation planning process (see 23 USC 134(h)(2)). For non-TMA MPOs FHWA will review how MPOs are addressing and achieving their targets during routine and ongoing Stewardship and Oversight of the planning process.



Safety Target Setting Process Overview

SAFETY TARGET SETTING FRAMEWORK

As agencies begin the process of setting data-driven, evidence-based targets, several approaches should be considered. No one approach to setting targets is required by FHWA—States can choose their own technical methods. FHWA has developed a general framework for guiding the target setting technical process, which is detailed in the *Safety Target Setting Final Report* and summarized here. (FHWA resources on safety performance management are available at: the [Safety PM Web site](#).) The general three-step framework is shown in figure 3. Agencies may wish to test several approaches or scenarios based on different assumptions. The basic steps for safety target setting are:

1. Use trend analysis.
2. Consider external factors, i.e., population, demographic distribution.
3. Forecast fatality and serious injury reductions based on planned implementation of proven countermeasures:
 - Identify potential for application of countermeasures (through SHSP, HSP, HSIP or other planning processes).
 - Identify data on countermeasure impact.
 - Develop constrained list of countermeasures based on expected effectiveness and resources (i.e., expected lives saved per dollar of investment).
 - Estimate system, region, or State benefits based on the aggregation of expected countermeasures, discounting for potential overlap among emphasis areas.

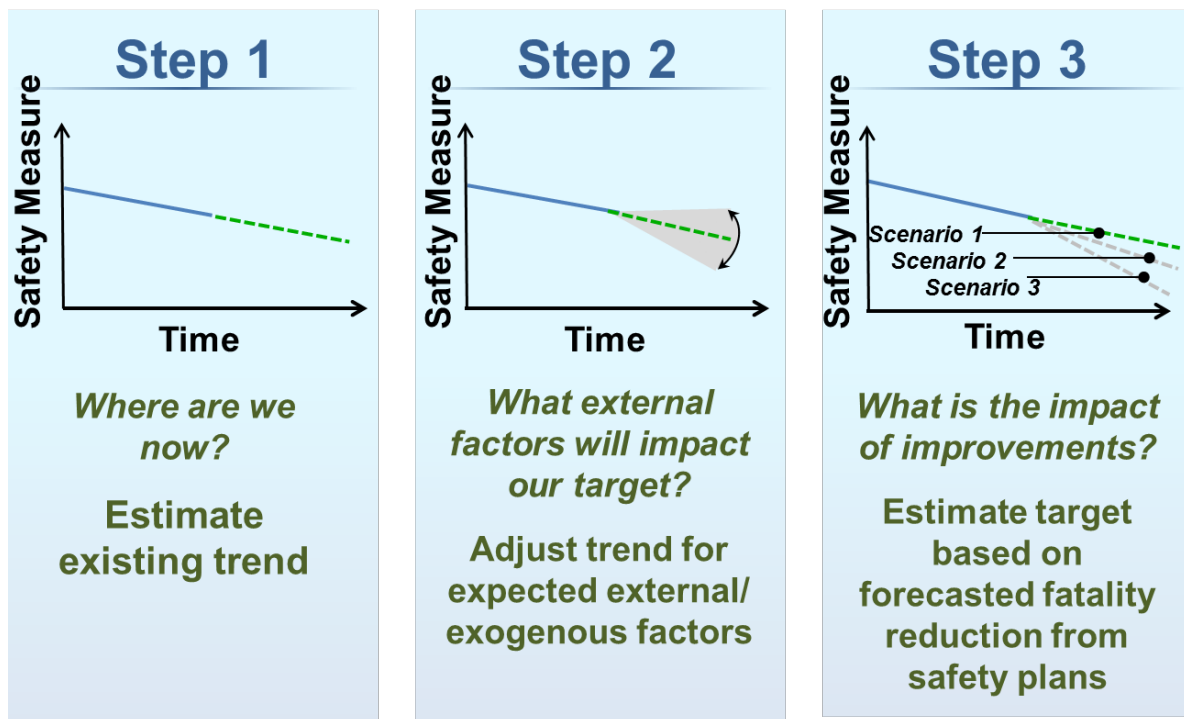


Figure 3. Graph. Safety target setting framework.

(Source: Safety Target Setting Final Report, FHWA, 2013.)

Target setting is intended to help stakeholders identify the likely outcomes of a set of investments. This process will aid in determining how to allocate resources to obtain the best outcomes for a given level of expenditure. The full range of stakeholders involved in setting or achieving targets should be involved in the process. Executive leadership for both the State DOT and SHSO also will need to provide input when reviewing draft targets, and ideally at key milestones in the process when assumptions for policies, legislation, safety programs, resource allocation, and other factors are being established.

The State and MPOs will need to address key questions in each of the safety target setting phases. Considerations when setting targets are highlighted in the steps below.

STEP 1—REVIEW EXISTING TREND

When reviewing trend data and considering how it will inform future targets, a State will need to evaluate where the trend is heading and whether it is acceptable. For example, if a State

experiences fatality increases over multiple years, or even a sharp increase or decrease in one of the last five years, this can alter the trend line.

Given that performance measures are five-year rolling averages, agencies can test out the range of potential targets possible using three to four years of known historical data plus estimates of annual reductions for one or two years in the future. This will inform what numbers are needed in year four or five to calculate a desired five-year average target.

Figures 4 and 5 show how Missouri tested scenarios, with historical fatality data shown in the red bars and potential future results shown in yellow bars. Given the large increase in fatalities in 2015, the State considered what the five-year average target could be for the next few years if the State anticipated a one percent (figure 4) or two percent decrease (figure 5) in fatalities for each of the next five years. With a five-year rolling average calculation, a State could set a five-year average target higher than their current five year rolling average while assuming annual reductions in fatalities.

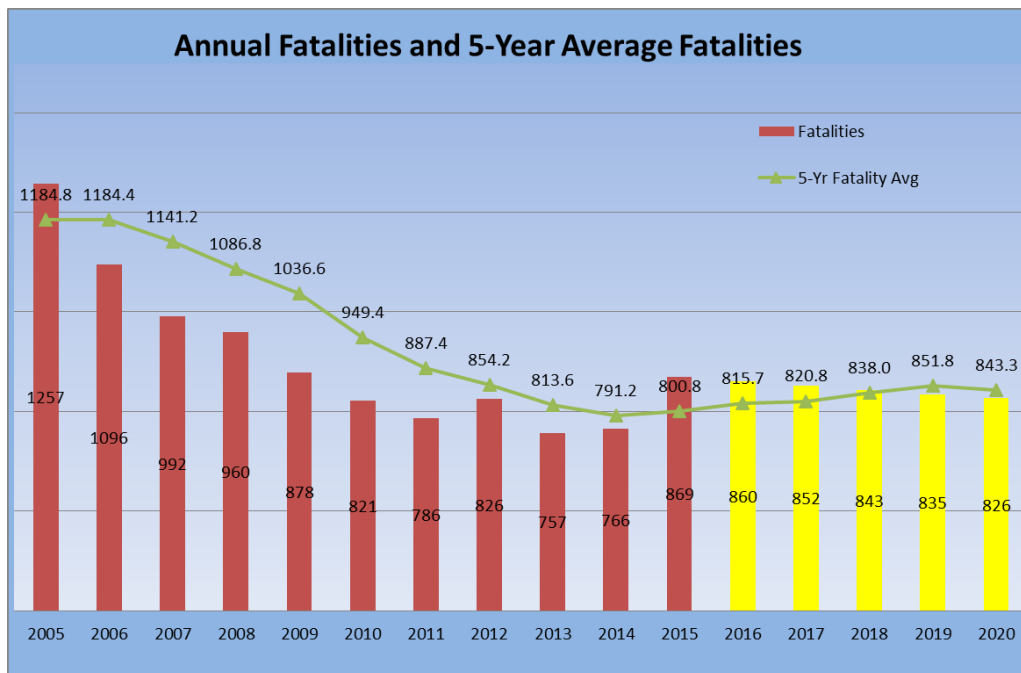


Figure 4. Graph. Missouri annual fatalities and five-year average fatalities 2005 to 2015 and forecasted to 2020 with one percent annual fatality reduction.

(Source: Missouri Department of Transportation.)

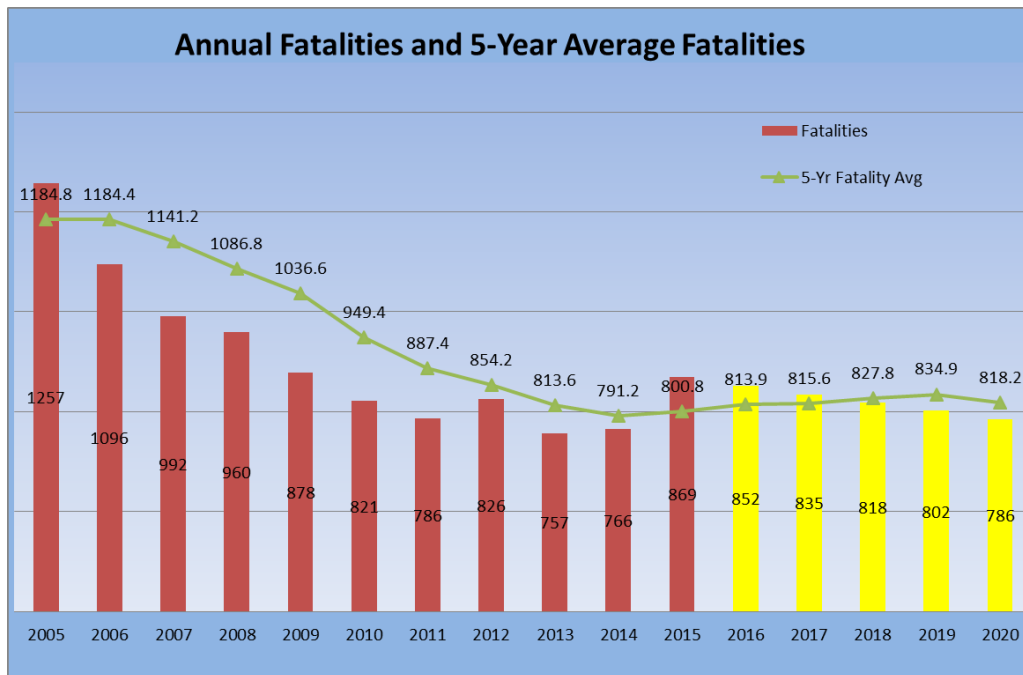


Figure 5. Graph. Missouri annual fatalities and five-year average fatalities 2005 to 2015 and forecasted to 2020 with two percent annual fatality reduction.

(Source: Missouri Department of Transportation.)

Target Setting Increases Transportation Planning Transparency

Transportation agencies are conducting safety planning in a fiscally constrained world. A transparent approach is to know what the data shows, what resources are available, and to be able to define expected outcomes based on the safety plan. With this information planners and executive leadership can decide if they need to allocate resources differently to achieve different outcomes.

For example, analysts might find that it is technically nearly impossible for the five-year average to go down for the target year unless the next year's fatalities decrease dramatically (e.g., more than 15 percent). In such a case, stakeholders and leadership will need to decide if a data-driven increasing target is acceptable. If executive leadership decides that an increasing—or even flat—target is not acceptable, then the State or region will need to acknowledge that dramatic changes will be needed in policies or the level of investment to achieve an aggressive target. If such significant changes are not made there may be an increased likelihood that the target will not be

achieved. The intent of target setting is to foster these types of discussions and to help decisionmakers understand how resource allocation, policies, and investment decisions are linked to performance outcomes.

STEP 2—CONSIDER EXTERNAL FACTORS

During the second step in the target setting process, stakeholders will need to consider what trends are occurring in the State and what they can influence. Planners can influence factors such as the extent to which multimodal options can provide alternatives to auto travel, which may influence VMT as well as overall severe crash rates. While some factors are out of stakeholders' control, such as weather and demographic shifts, the State will need to consider them during development of data-driven targets. The factors considered and their impact on target selection should be reported as part of target justification. Step 3 factor in estimated improvements from safety programs.

Considerations for Aggressive Safety Targets

A State that chooses a very aggressive target is making a very strong commitment to safety. This approach will require aggressive implementation efforts to improve performance. While an aggressive target introduces greater risk of missing the target, it is an opportunity to emphasize commitment to safety, strengthen safety policies, and improve consideration of safety in investment decisions.

STEP 3—FACTOR IN ESTIMATED IMPROVEMENTS FROM SAFETY PROGRAMS

During the third step in the framework, safety specialists estimate how their planned safety program is anticipated to affect the current trend and thus how it will influence the target for the next year. Stakeholders will need to identify and use tools to forecast safety outcomes of planned transportation programs, including both engineering and behavioral projects, to check how the planned program is anticipated to perform compared to proposed targets. This will

involve using evaluation information from previous efforts such as program evaluations and crash modification factors (CMF), as well as considering how long it takes for projects to be implemented and generate results. If systems are not available to forecast reductions in fatalities and injuries based on a planned level of investment, safety planners should begin work on developing this information.

Safety is one of many priorities transportation planners must address and one of several performance targets required to be set by State DOTs and MPOs. Therefore, another facet of the safety target setting process is determining what tools are available to assist with resource allocation across multiple priority areas against which a State commits resources. State DOTs and MPOs are not limited to using only HSIP funds for safety; to achieve targets they may need to identify other transportation funds for safety projects and programs. Resource allocation tools help decisionmakers to understand the outcomes that can be expected with a particular mix of spending across program areas. Safety stakeholders should be part of the team developing or using resource allocation tools.



Technical Considerations

DATA ANALYSIS AND AVAILABILITY

DATA ANALYSIS PROCESS

When beginning the target setting process, a key initial question to resolve is who will lead data analysis. Every State maintains a crash database from which fatality and serious injury data can be extracted. Additionally, all agencies have access to the public Federal database FARS, although data is typically not finalized until up to two years after the close of the calendar year. Many SHSOs have a data

analyst or statistician on staff. In other cases the State DOT, which often manages the State Motor Vehicle Crash Database, takes the lead on analysis. Another scenario is that a contractor such as a university research center manages data queries. The key is to identify early who has access to the needed data and the right skills to conduct the analysis throughout the target setting process. It is critical that the entity that takes the lead be trusted by all stakeholders, provide access to the data, and be able to clearly explain technical methods used.

For MPOs to make a decision about whether to develop their own targets or adopt the State DOT targets, they will need to evaluate fatality and serious injury trends in their planning areas. In some cases States make crash data available online so MPOs can run their own queries. In other cases MPOs need to make requests of the State DOT for crash data. As coordination is occurring on target setting, some States such as Missouri and Pennsylvania are preparing crash data trend information for all MPOs in the State and providing this directly to the MPOs. MPOs will need to understand how to obtain the data and how much time it will take if they need to make a data request of the State DOT.

Analysis will likely occur in multiple phases during the target setting process. Stakeholders will need to review trends and develop scenarios considering the impact of different external factors and the anticipated fatality and serious injury reduction of planned programs.

The South Carolina DOT is meeting with MPOs in 2016 and continuing into 2017 to conduct safety briefings and provide crash data for their regions prepared by the DOT. This will inform how safety is addressed in MPO long-range transportation plans.

As an example, for support on safety performance management and target setting, Louisiana Department of Transportation and Development (LADOTD) works with the Highway Safety Research Group (HSRG) at Louisiana State University. HSRG has developed several web-based dashboards to support the SHSP, including one for target setting, which is shown in figure 6. The dashboard calculates five-year averages and shows how they compare to the SHSP goal. It also calculates a linear trend forecast.

DATA REPORTS

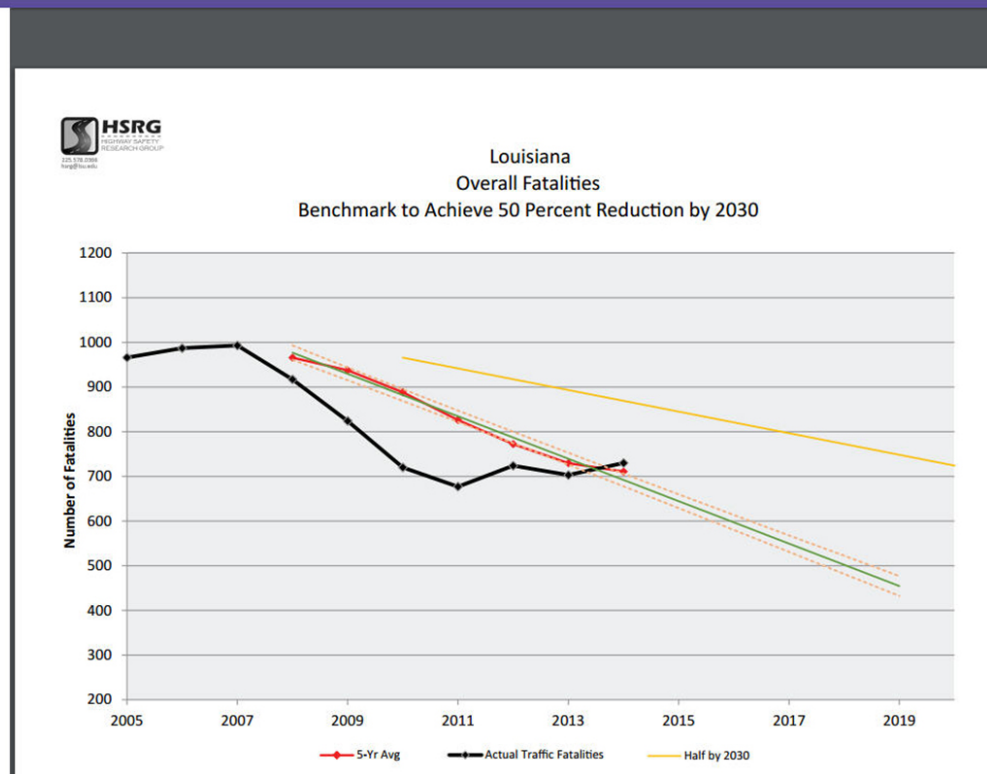


Figure 6. Image. Louisiana safety target setting dashboard.

(Source: [Louisiana Crash Data Reports.](#))

DATA AVAILABILITY

CRASH DATA

To prepare for reporting the common safety targets in the HSP by July 1, safety planning work should be conducted in the spring of each year. However, for some States it takes some time to process and finalize crash data from the previous year. Given the need to have targets set sooner than FARS data is available, States will likely use their State crash database for the last year or two of fatality data. Serious injury data is obtained from State crash databases as no national database exists for serious injury data. States will need to work with staff that manage crash data to try to move up the date by which data are finalized for the previous year to early spring. However it is worth noting that even if a complete set of data for the previous year is available by the time the target setting process occurs, the targets will be set for two years in the future, as shown in figure 7.

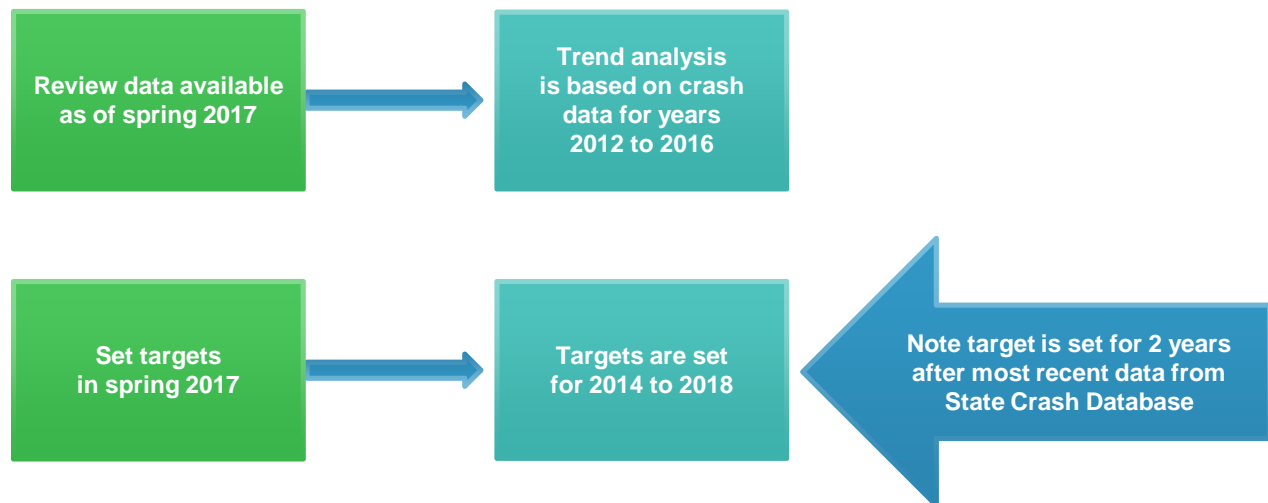


Figure 7. Chart. Data timing.

(Source: Cambridge Systematics, Inc.)

Agencies with limited experience in crash data analysis may have questions about data quality. Crash data system managers should be prepared to describe the status and quality of crash data and plans for improvement to stakeholders, particularly to MPOs. This is an opportunity to

leverage MPO relationships with local law enforcement and the State's Traffic Records Coordinating Committee to assist in cases where there is a need to improve processes for crash data collection and entry. For example, if local jurisdictions are slow in adopting electronic crash reporting, MPOs may be able to assist in communicating the benefits to adopting these systems in terms of data quality and timeliness and its importance in making safety investment decisions. Data collection on non-State roadways also can be enhanced by partnerships between State DOTs and MPOs and coordination of data collection efforts, as was the case in Louisiana.

MPOs also may need training in accessing crash data from State crash databases. DOTs can provide training to enable MPO staff to gain skills in crash data analysis and better consider safety in planning and programming processes. Sometimes MPOs and State DOTs have concerns about liability when crash data are shared publicly due to the legal context in the State. DOTs can provide information to MPOs on what is permissible regarding crash data sharing so agencies can feel more comfortable working with and communicating safety information. The Pennsylvania, Alabama, and Washington DOTs are addressing these concerns by developing guidance for MPOs on this issue.

DOT-MPO Collaboration on Data Collection

During the Louisiana Department of Transportation and Development's (DOTD) process of collecting Model Inventory of Roadway Elements (MIRE) fundamental data elements (FDE) on all public roads it established a program to support MPO data collection. MPOs were able to pay for the collection of additional data in their regions via supplemental agreements to collect signage and pavement data on the local road network. The cost for one data collection effort was \$90,000 per MPO (which represented a discount because it was conducted along with another data collection effort).

VEHICLE MILES TRAVELED DATA

VMT data are needed to calculate fatality and injury rates. Many States currently do not have VMT data for the previous year ready by spring. To set rate targets using the most accurate

The University of Michigan Transportation Research Institute (UMTRI) uses VMT data from Michigan DOT and calculates a predicted VMT value to aid Michigan in setting rate targets.

trend data, States will want to have VMT data by approximately the same date in the spring as the crash data so trend analysis can begin. This may require some process changes or reallocation of resources but will help States develop more accurate targets. States may estimate VMT changes for future years and incorporate them into fatality and serious injury target calculations.

MPOs that wish to set their own safety targets for their planning area will need to calculate their own regional VMT estimates and submit their methodology for doing so along with their targets to the State DOT, as noted in the final rule. FHWA has provided technical guidance on methods for performing these calculations. (FHWA resources on safety performance management are available at: the [Safety PM Web site](#).) MPOs also will need to coordinate with the State DOT and internally to ensure that VMT data are available in sufficient time to complete their target process. While MPOs have 180 days after the State DOT sets targets to either set their own targets or adopt the State targets for the same calendar year as the State DOT targets, they are not required to wait that long and could set targets concurrently with the State cycle if desired. However, even if MPOs define targets at the same time as the State, they might need additional time to secure approval of targets from the MPO Policy Board.

SERIOUS INJURY DEFINITION

The FHWA and NHTSA established a single, national definition for serious injuries to ensure a consistent, coordinated, and comparable system for reporting serious injury data. States are required to report serious injuries per the Model Minimum Uniform Crash Criteria (MMUCC) 4th Edition attribute for "Suspected Serious Injury (A)" by April 15, 2019. However, it is recommended that States begin using the MMUCC 4th Edition definition and attributes beginning January 2019 in order to have a complete and consistent data file for the entire 2019 calendar year. States that use a different definition for serious injury may use the State Serious Injury Conversion Tables available from NHTSA and FHWA to report their data according to this standard in the interim. (Conversion tables are available at: the [Safety PM Web site](#).) For States that will need to make

changes to their reporting of serious injuries it will be important to ensure clarity during the transition as that may significantly affect the way trends appear. If a change is needed, States should reclassify data for the five-year period used in the target calculation.

REPORTING FORMAT

From a technical perspective, for the State DOT and SHSO targets to be the same, they must be expressed in the same terms. According to the Safety PM Final Rule targets must be expressed as five-year averages. NHTSA also requires the three common targets in the HSPs to be expressed as five-year averages.



Source: iStockphoto LP.



Key Stakeholders

KEY STAKEHOLDERS

This section defines the core traffic safety stakeholders as well as wider range of individuals that should be involved to achieve consensus in setting targets and define a shared purpose on the direction of safety programs. The process for setting targets involves each of these agencies and their respective stakeholders.

STATE HIGHWAY SAFETY OFFICE

SHSOs have the longest history of setting annual State targets. Therefore, SHSOs primarily have developed annual targets and in recent years shared them with the State DOT for concurrence. Moving forward, given the required identical targets for the three common measures, and the resulting need to consider both engineering and nonengineering strategies (education, enforcement, and emergency response) in setting targets, the process should be shifting to one co-led by both the SHSO and the State DOT, and including MPOs. Stakeholders with which the SHSO typically has a relationship and who should be included in the process include representatives from the law enforcement community, public health, and education.

When establishing targets it will be increasingly important to document the rationale for the selected targets and the data used to inform the process. Performance measures reported in the HSP must include documentation of current safety levels, quantifiable annual performance targets, and justification for each target.



Source: Cambridge Systematics, Inc.

STATE DEPARTMENT OF TRANSPORTATION

State DOTs will report safety targets in the HSIP Annual Report submitted each year by August 31. However, given that the targets for fatalities, serious injuries, and fatality rate already will have been reported in the HSP by the SHSO, the State DOT will need to have worked closely with the SHSO and other stakeholders during the spring of each year to come to agreement on the methods and approved targets.

DOT-MPO Collaboration on HSIP

During its last call for HSIP projects Washington State DOT (WSDOT) specified to MPOs three project types that have been giving the best results of reducing the most severe crashes for the cost. MPOs accepted these recommendations and proposed these types of safety projects.

The State DOT has responsibility for all transportation projects on State-owned roadways, as well as providing input and guidance on projects on county and local roadways. Given the scale of a State DOT's influence on the transportation system, it is important to remember that all transportation projects have an element of safety in them. Every project has the potential to either improve or degrade the overall safety of the transportation system, and all transportation investments should be carefully reviewed for their anticipated impacts on safety. Therefore, coordination processes should include the full range of stakeholders that have an influence on the

Considering Safety in the Planning Process to Achieve Targets

As targets are set, stakeholders need to think about how they will achieve them. Staff that plan and design infrastructure need to ensure projects—particularly capacity projects—are improving safety, not degrading safety. In cases where improvements bring a project up to present design standards, there is likely some inherent safety benefit. However, it is preferable to use the Highway Safety Manual (HSM) and other safety analysis methods to ensure that safety is maximized based on proven methods. With the HSM, it is possible in the planning stages to identify potential safety problems that will result from a general transportation project and try to mitigate them. Consideration of safety should be encouraged early in the planning process for all projects.

safety of the transportation system and safety target achievement. This includes State DOT staff with responsibility for transportation planning and programming, operations, maintenance, and asset management. Ultimately the State DOT will be responsible for setting and tracking progress toward achieving multiple targets in [seven national goal areas](#) established under MAP-21 and will need to optimize resources to achieve the desired results in each

of these areas. Therefore, decisionmakers across various areas within the State DOT will need to coordinate on resource allocation. Other divisions and programs (such as Safe Routes to School and nonmotorized transportation programs) also may be consulted, or their programs considered in these calculations. When States develop dedicated programs to support safety improvements on local roads such as North Dakota's Local Roads Safety Program this benefits engagement in safety by MPOs, which represent local jurisdictions.

North Dakota Local Roads Safety Program

North Dakota developed its Local Roads Safety Program after discovering 50 percent of severe crashes occur on local roads. The program takes a systemic approach to reducing fatalities and serious injuries by implementing low-cost safety strategies at areas with identified risk factors. Individual plans were developed for all counties in North Dakota, along with 12 cities, 4 Tribal areas, and a national park. The plans make it easy for local agencies to apply for HSIP funding. North Dakota sets aside 50 percent of HSIP funds for local roads safety projects.

METROPOLITAN PLANNING ORGANIZATIONS

As noted, MPOs have the option of setting their own safety targets for the public roads within their planning area, or stating that they will support the State target through their planning and programming. It is important to ensure MPOs are part of the process whether they set

It is beneficial to involve elected officials in safety target setting discussions, particularly at the regional level. This provides an opportunity to build the political will for ensuring potential future investments are properly reviewed for their impacts on safety.

their own targets or support the State target. MPOs are governed by policy boards comprised of local elected officials who will need to approve targets. MPO technical committees and agency staff will be involved in developing target setting methodology, considering factors that will influence targets and making recommendations. Ideally the MPO will involve a broad range of safety stakeholders in the discussion about setting regional safety targets, including representatives of both the infrastructure and behavioral aspects of transportation safety. Relevant stakeholders also include elected officials, planners, engineers, representatives of law enforcement, public health, advocacy organizations, and education. MPOs also have public participation plans that may require engaging a public involvement committee or other methods for gaining public input.

As MPOs begin to more closely track safety outcomes and target achievement, it will be important for them to conduct some level of self-evaluation regarding how safety is addressed in planning and programming processes. Are safety criteria used in selecting projects in the MTP or Transportation Improvement Program (TIP)? How are safety impacts of all transportation projects (not only safety-specific projects) considered? Target setting presents a perfect opportunity to help decisionmakers connect the region's level of emphasis on safety and the anticipated outcomes in terms of traffic fatalities and serious injuries.

MPO Safety Planning—DVRPC

Delaware Valley Regional Planning Commission (DVRPC) the MPO for Philadelphia, Pennsylvania conducts annual analysis of crashes, injuries, and fatalities for the most recent five years for municipalities and counties. Every three years the DVRPC develops its Transportation Safety Action Plan, which is similar to an SHSP. A regional safety task force (RSTF) meets quarterly and discusses safety emphasis areas. In addition to those focusing on engineering, a number of partners are involved with RSTF that are leading behavioral elements, including police departments, district attorneys, representatives of transportation management associations, AAA, and transportation safety advocates . The RSTF guides development of the plan.

The SCDOT provides data on how safety performance in each MPO planning area compares to total statewide fatalities and serious injuries and to other MPOs.

State DOTs can take a proactive role in supporting MPOs by assembling crash data for their regions and distributing it to them. Additionally, States may want to track how crashes are trending in MPO areas compared to the State at large to understand the share of the State safety problem occurring in MPO areas and how those trends compare to statewide trends.

If MPOs choose to support the State targets—that is to plan and program projects to help reach those targets—the State DOT and MPO should be prepared to coordinate on what this means in concrete terms. Will the State DOT engage MPOs in a review of how safety is considered in their planning and programming process? Some States are holding MPO peer exchanges to share best practices in considering safety as part of the transportation planning process.

Pennsylvania Support of MPOs

Pennsylvania DOT develops a Highway Safety Guidance Report each year for each MPO and Rural Planning Organization (RPO) that describes crash trends, identifies high-crash locations, and includes recommended strategies to address certain crash factors. The MPO report tracks the current safety status against its share of the long-term statewide safety goal in the SHSP.



Coordination Process

As noted, targets for the three common performance measures are required to be submitted by both the State DOT and SHSO. It is logical that these targets be identical so that all parties are working toward the same goal. Coordination is therefore required between the State DOT and SHSO and other stakeholders to come to agreement on the three identical safety targets.

A main element of the coordination process involves ensuring the right people are part of the discussions. As noted previously it is critical to have both engineering and behavioral experts involved in the discussions about targets from the beginning. The discussion of targets is really a discussion of priorities, resource allocation, review of evidence-based strategies, forecasting results, reviewing policies, and determining political will for doing what it takes to reduce fatalities and serious injuries. If the SHSO and the State DOT are not co-located, or do not have processes established to collaborate on a regular basis, additional time may be needed to accomplish a thorough, data-driven target setting process.

In North Dakota, weekly safety strategy meetings are held on an ongoing basis to ensure coordination between the SHSP, HSP, HSIP, and Local Road Safety Program. This forum will be used to discuss future issues related to target setting and approval of identical targets.

Given the large number of agencies involved and the importance of data-driven analysis stakeholders should expect to accomplish target setting over multiple steps. Steps in the process are shown in figure 8: This process builds on and integrates the framework for safety target setting. (The Safety Target Setting Final Report is available at the [Safety PM Web site](#).)



Figure 8. Chart. Target setting coordination process.

(Source: Cambridge Systematics, Inc.)

Stakeholders should consider several elements during each step in the process:

1. **Review crash data trends**—During the review of historical crash data trends, analysts will need to discuss any data considerations that affect understanding of the trends, such as whether the definition of serious injury will be changing or if there have been changes to crash forms. They will likely want to evaluate what a target would be if the current trend were to continue into the future (step 1 in the Target Setting Framework). Stakeholders also should consider how successful they were in achieving previous safety targets.
2. **Define target setting method**—States may use any data-driven method they choose to set safety targets. They likely will want to test out several technical approaches to setting targets (i.e., different types of trend lines or assuming different rates of annual reduction). While one agency may take the lead in recommending a method, all stakeholders committing to the target should understand and agree on the method.

3. **Review scenarios**—Once the technical method is determined, stakeholders will want to think about questions in steps 2 and 3 of the Target Setting Framework, such as different VMT trend assumptions and anticipated policies and anticipated outcomes of investments, and will likely want to test different potential scenarios. They may wish to evaluate scenarios that involve using the years of known data that comprise a five-year average and determine what number they would need to achieve in the target year to reach a certain five-year average target.
4. **Select targets**—Once the method and assumptions for the preferred scenario are agreed upon, safety stakeholders will need to agree upon the final target to be reported in the HSIP annual report and HSP. It is important that all stakeholders agree targets are based on a realistic, data-driven approach.
5. **Secure approval of targets**—Both State DOT and SHSO leadership will need to agree on the common State safety targets selected. Approval of the targets signifies State leaders' commitment to a certain level of focus on and investment in safety. Leadership needs to understand the resources required for the State to achieve the selected targets and the consequences if targets are not achieved or significant progress is not made. Similarly, MPO leadership will need to understand how regional planning and programming priorities are anticipated to impact safety outcomes and target achievement. MPO Policy Boards will likely need to approve MPO targets.

A safety target is based on considering what reductions in fatalities and serious injuries can be achieved from both the infrastructure and behavior perspectives. Therefore the State DOT will bring its infrastructure perspective and the SHSO its knowledge of behavioral programs to collaborative discussions on setting the targets. Since the three targets reported in the HSP will need to be identical to those in the HSIP Annual Report, collaboration by all stakeholders will be required, building in sufficient time before July 1 for stakeholders to review trend data, determine a target setting methodology, review potential scenarios, agree upon a draft target, and obtain approval from leadership.

Figure 9 shows one cycle of coordination and reporting.

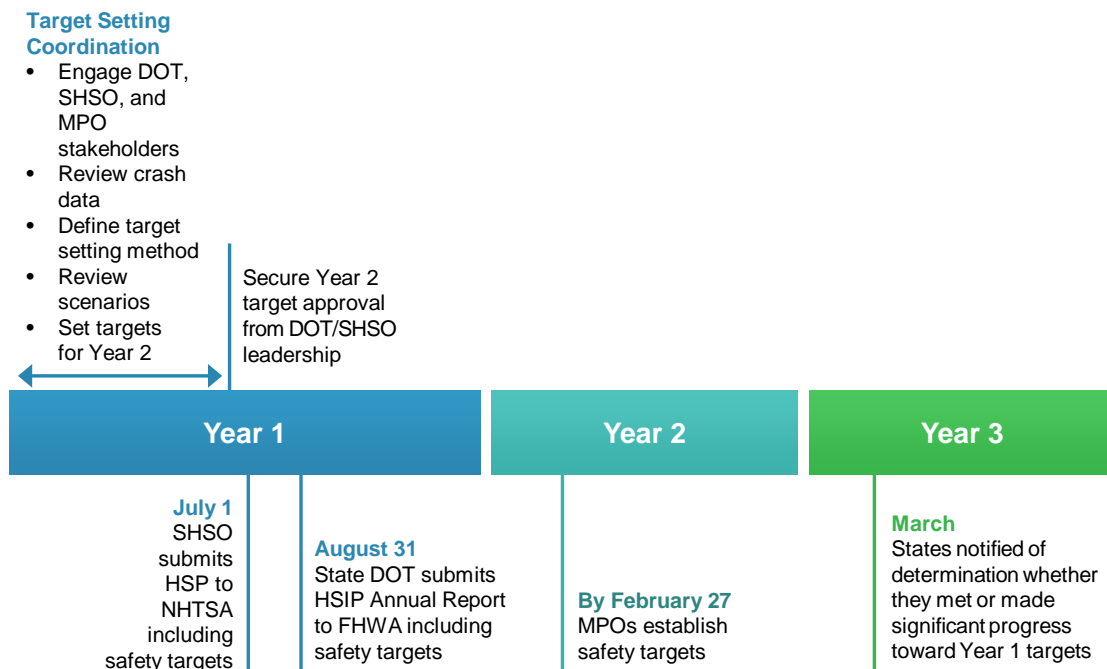


Figure 9. Chart. Target setting coordination and reporting cycle.

(Source: Cambridge Systematics, Inc.)

COORDINATION WITH METROPOLITAN PLANNING ORGANIZATIONS

Given that the State target encompasses all public roads, including those within MPO boundaries, State targets must be coordinated with MPOs. Coordination between MPOs and the State is required whether MPOs set their own targets or support the State targets.

If MPOs set their own regional targets the State and MPOs will want to consider how the regional targets relate to the State targets. If MPOs support the State target, they are committing to plan and program projects that will help the State achieve its target. HSIP funds are eligible for use both on State and non-State roadways. Behavioral programs funded through NHTSA and administered by the SHSO may be conducted in any area of the State with identified traffic safety problems, so safety improvements may be funded in any location where there is a defined need. MPOs will need to evaluate their project prioritization processes to ensure safety is adequately considered so transportation projects funded in the region contribute to improving safety along with other goals.

FORUMS FOR COORDINATION

Once stakeholders are identified, they need to work together to undertake the target setting process. Several options exist for conducting this work within existing safety collaboration structures.

STRATEGIC HIGHWAY SAFETY PLAN COLLABORATION STRUCTURES

States have been required to develop SHSPs for more than a decade. State DOTs are required to coordinate development of SHSPs through a collaborative process. States generally establish a technical and leadership committee structure with multidisciplinary representation to guide the SHSP update process and often to provide oversight on implementation. As part of SHSP updates, goals are typically established, so these stakeholders often have some familiarity with methods for setting quantitative safety goals.

SHSP committees are more commonly staying active after plan development to oversee the implementation process and hold at least annual or semiannual meetings. This type of committee is an excellent forum for target setting discussions as membership represents the 4 Es (enforcement, education, engineering, and emergency response), and communication protocols exist. If States utilize an SHSP committee for target setting they may need to adjust the schedule so the group meets in the spring, potentially on multiple occasions. Additionally, group membership may need to be adjusted to include other stakeholders that may not have been included in previous discussions, such as State DOT planning and programming, maintenance and operations representatives, and MPO representatives.

PERFORMANCE-BASED PLANNING AND PROGRAMMING COLLABORATION STRUCTURES

After passage of MAP-21, some States established groups organized around Performance-Based Planning and Programming (PBPP) to share information on this planning approach and

to discuss the rulemakings that would be forthcoming. These groups are excellent forums for target setting discussions. For example, Missouri and Washington State safety stakeholders established communications structures around PBPP.

Washington has a very collaborative approach for developing targets and prioritizing and programming safety funds. Figure 10 shows the State target setting process. The Multimodal Safety Executive Committee (MSEC) serves as the oversight body in the Washington DOT's program management office. The Washington technical team was originally established to respond to the safety performance management notice of proposed rulemaking (NPRM). MPOs then expressed a desire to retain the structure moving forward to facilitate discussion. The technical team is comprised of managers at the MPOs who have hands-on experience with data and significant technical knowledge. This group is responsible for making technical recommendations to the Target Setting Working Group.

The Target Setting Working Group is comprised of a small number of representatives with technical expertise from the MPOs, the State DOT, and the Safety Commission that meet monthly to discuss policy and process issues in depth and prepare recommendations for the Target Setting Framework group. The Target Setting Framework Group is comprised of WSDOT representatives and MPO and Regional Transportation Planning Organization directors who are decisionmakers that meet quarterly to seek agreement on safety target recommendations.

Missouri Performance Based Planning Collaboration

In response to MPOs' request for additional collaboration on MAP-21 implementation, MoDOT initiated monthly MAP-21 performance management webinars in March 2015. In addition to the Missouri MPOs, MoDOT invited DOT representatives from the States that share MPOs with Missouri: Arkansas, Kansas, and Illinois. MoDOT set up a collaboration Web site to facilitate the sharing of resources between the DOT and the MPOs. In addition, MoDOT sent emails to the MPOs as Notices of Proposed Rulemaking (NPRM) and new resources were published. The webinars continue to be held monthly, with MoDOT facilitating each webinar and topics suggested by the MPOs. Topics have included the Notices of Proposed Rulemaking, data sharing, performance based planning and programming, examples from MPOs, asset management how to develop performance measures and target setting. More information is available [here](#).

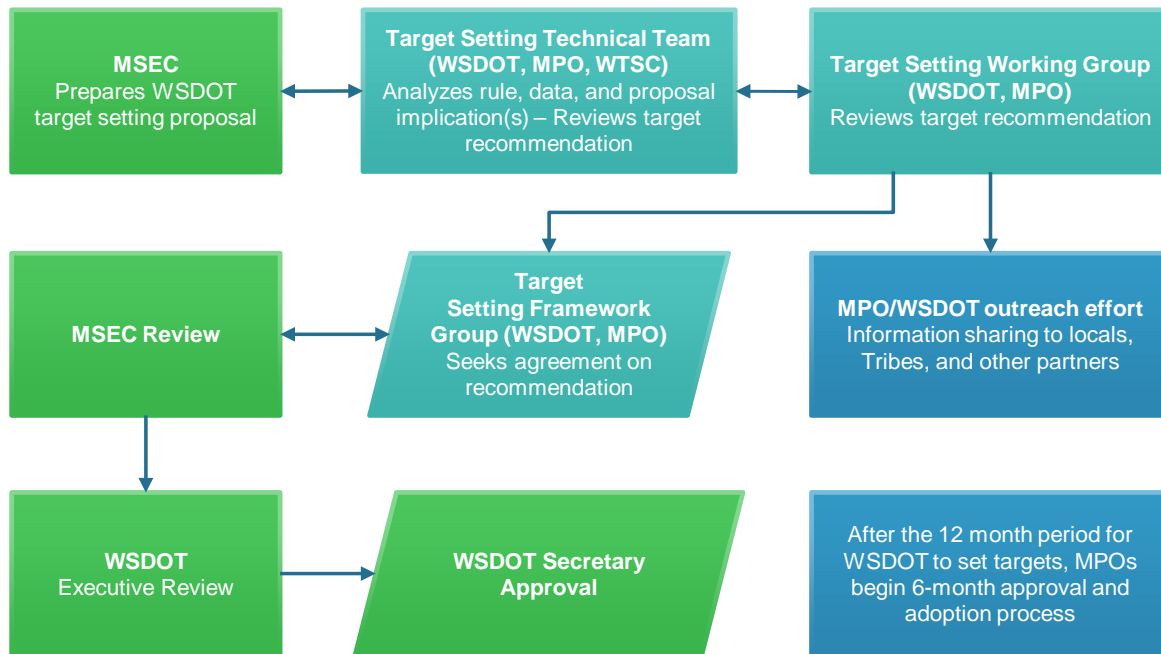


Figure 10. Chart. Washington safety target setting structures.

(Source: Washington DOT.)

HIGHWAY SAFETY PLAN DEVELOPMENT STRUCTURES

SHSOs have been developing annual safety programs reported in their HSPs for a number of years. Many SHSOs have established oversight bodies that help with determining priorities and making grant awards. For example, the Delaware Office of Highway Safety (DOHS) has a Grant Advisory Committee comprised of members including DOT, SHSO, law enforcement, NHTSA, and FHWA staff. This group meets twice per year (January and May) to reach agreement with the State DOT on the proposed targets and priority areas for the safety program. Given this type of group includes both behavioral and engineering staff, it is a useful forum for engaging in discussion about coordinated targets. As needed the meeting dates of such groups can be adjusted or additional meetings added to address target setting by the required deadlines.

SAFETY SUMMITS

The safety planning coordination process can be enhanced via statewide safety conferences or summits. For example, many States conduct annual traffic safety summits or conferences to bring together a broad range of safety stakeholders or conduct such events as part of the SHSP development process. For example, South Carolina held a traffic safety summit with the intention of encouraging the development of innovative strategies as well as building relationships and partnerships among the multidisciplinary safety stakeholders such as engineers and law enforcement. Safety Summits provide an opportunity for MPO staff to build relationships and encourage coordination with a range of safety stakeholders such as law enforcement personnel with whom they may not have interacted previously. Presentations on data trends and progress toward targets are typically core elements of such conferences. Statewide safety conferences are useful opportunities for discussion on targets and how safety programs need to be adjusted to achieve targets.

LOGISTICS

To support coordination it is helpful to make participation in the target setting process as easy as possible. One approach is to integrate safety target setting discussions into existing meeting structures such as those defined earlier. To ensure sustained participation by all critical stakeholders who may be located some distance from the capital city, it may be beneficial to enable remote participation in meetings via webinar and telephone.

APPROVALS

Ultimately, safety targets must be approved by the appropriate State representative(s) before submission to USDOT in the HSP and HSIP Annual Report. Each SHSO has a designated Governor's Representative who typically has final approval of targets. In some cases, there may be another executive body designated for approval, such as that of Michigan's Governor's Traffic Safety Advisory Committee. In other cases the Coordinator of the SHSO may have final say over the targets. In States where the SHSO resides within the State DOT, the

Director of the State Department of Transportation also may serve as the Governor's Representative, so a single individual may be able to approve targets.

However, if the SHSO and State DOT are housed separately, State DOT executive leadership will need to sign off on targets separately. There may be additional scrutiny by State DOTs on targets the State is committing to since there are potential consequences to funding flexibility for the State DOT if safety targets are not met or significant progress is not made. Safety stakeholders should determine early in the process what is required to secure approval from executive leadership on safety targets in terms of lead time and documentation required.

Michigan Governor's Traffic Safety Advisory Commission (GTSAC)

The GTSAC was formed by an Executive Order of the Governor in 2002, in part, to serve as the State's major forum for identifying key traffic safety challenges, and developing, promoting, and implementing strategies to address these challenges. The target setting process and approval is handled within the GTSAC.



Resources for Target Setting Coordination

AGENDA ITEMS FOR MEETINGS ON SAFETY TARGET SETTING COLLABORATION

The following is a list of agenda items to draw from for stakeholder meetings on safety target setting:

- Stakeholders required for target setting process:
 - State DOT representatives (including representatives from planning, programming, asset management, maintenance).
 - SHSO representatives.
 - MPO representatives.
 - Other stakeholders, e.g., law enforcement, public health, education, statisticians, epidemiologists.
 - Who needs to approve the HSIP and HSP targets from SHSO/State DOT?
- Planned target setting schedule (spring):
 - Number, dates, locations of meetings.
 - Format; provide webinar capabilities for remote attendance.
- Data needs:
 - Who will manage data analysis and perform calculations for target setting? Should a formal data sharing plan be established?
 - Data availability—when will State crash and VMT data be finalized for previous year? Is data available for the first quarter of the current year?
- Trend analysis of performance measures—Statewide and by MPOs planning area:
 - Number of fatalities.
 - Fatality rate.

- Number of serious injuries—are any adjustments required to report as “Suspected Serious Injury (A)” using the required MMUCC definition?
- Serious injury rate.
- Nonmotorized fatalities and serious injuries displayed together, and separate bicycle and pedestrian fatalities and serious injuries.
- Target setting method:
 - Alignment with SHSP methods.
- Target achievement in previous years.
- External factors that will affect target setting/achievement next year.
- Estimates of fatality/serious injury reduction from planned safety programs:
 - Evaluation results/forecasted impact from planned behavioral program.
 - Evaluation results/forecasted impact from engineering program.
- Potential target scenarios.
- Final State targets for approval.
- Which MPOs are interested in setting regional targets?
 - Do they have needed data?
 - What support is needed?
- Alignment of proposed MPO targets with State target.
- Expectations if MPOs state support of State target.
- Method of reporting MPO targets to State.
- State/MPO target approval process.

CHECKLIST FOR SAFETY TARGET DEVELOPMENT

- Identify who will lead data analysis (e.g., statistician, data analyst in SHSO, State DOT staff in charge of crash database, member of traffic records coordinating committee).
- Define mutually agreeable method for MPOs to report targets to State, or express support of State targets.
- If MPOs support the State targets, define how State will review MPO support of safety through planning and programming.
- Compile fatality, injury, and VMT data.
- Identify all stakeholders who need to be involved in target setting process.
- Establish meeting schedule for stakeholders during spring so final coordinated targets are approved by June or earlier; ensure time for approval by executive leadership is built into schedule.
- Ensure all MPOs have access to crash data for their metropolitan planning areas and any other needed information to inform target setting.
- Review State and MPO fatality and serious injury trends for each performance measure with stakeholders.
- Review achievement of targets in previous years.
- If previous targets were not met, work with stakeholders to determine what changes to engineering and behavioral programs may have to occur.
- Work with stakeholders to determine target setting method.
- Work with stakeholders to identify external factors that will affect future trends (e.g., legislation, policies, demographics, trends in MPO areas, etc.) and develop potential scenarios for targets.

- Assemble evaluation data from previous engineering and behavioral programs and forecasted results to estimate fatality and injury reduction from planned programs.
- Check alignment of target setting method and potential targets with SHSP.
- Review potential target scenarios.
- Identify State targets.
- Secure approval of State targets by SHSO and State DOT leadership.
- MPOs report targets.



U.S. Department of Transportation
Federal Highway Administration
Office of Safety
1200 New Jersey Avenue, SE
Washington, D.C. 20590

FHWA-SA-16-101

September 2016

This material is based upon work supported by the FHWA under contract number DTFH61-10-D-0020.

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