

# Safety Target Setting Peer Exchange

## *Meeting Report*

*August 2013*



U.S. Department of Transportation  
**Federal Highway Administration**

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*Final report*

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Fort Worth, TX  
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# 1.0 Overview

The Federal Highway Administration (FHWA) Office of Safety hosted a Peer Exchange on State and regional safety target setting methods in Fort Worth, Texas on February 13 and 14, 2013. The Peer Exchange was one task in a larger project designed to identify the state of the practice in safety target setting, methods states and regions are using to set safety targets, and to develop guidance on safety target setting. In support of performance-based initiatives, FHWA has established a new Office of Transportation Performance Management within the Office of Infrastructure. In preparation of and response to the legislative requirements in the recently passed surface transportation legislation: Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21), FHWA is establishing regulation and guidance to comply with and adopt a performance-based, quantitative approach to establishing safety performance measures and guidance in setting targets in support of those measures.

Previous tasks in this project included: A brief literature review on target setting practices, which included a national and international review of safety target setting methods; a Technical Background Report that analyzed target setting methods in transportation and non-transportation agencies; research on state and regional approaches to safety target setting conducted via an electronic survey of State Departments of Transportation (DOTs), State Highway Safety Offices (SHSOs) and Metropolitan Planning Organizations (MPOs); and a review of Strategic Highway Safety Plans (SHSP), Highway Safety Plans (HSP) and regional safety plans.

The purpose of the Peer Exchange was to gain further insight into current methods used by States, MPOs and local jurisdictions in setting safety targets, best practices and future needs. This information will be used to help FHWA develop guidance and support needed to assist DOTs, SHSOs and MPOs set safety targets, which is required under MAP-21. Initially, the research focused on national safety target setting practices, as FHWA expected it would be required to set a national performance target for fatality reductions under MAP-21. That requirement was not ultimately included in MAP-21. Therefore, the focus of the work has shifted to supporting States and regions in meeting MAP-21 requirements. Outcomes of the Peer Exchange will provide information to FHWA as it develops the final rule for implementation of MAP-21, which is expected to be enacted in early 2015.

The Peer Exchange identified several “key themes” important for understanding current practice in terms of target setting, data analysis, marketing targets, challenges, opportunities, etc.

In an earlier phase of this project, DOT, SHSO, and MPO staff were surveyed regarding State and regional safety targets and target setting methods as well as interest in participating in a peer exchange. For those respondents indicating

interest in a Peer Exchange survey responses were reviewed in more detail. Participants were selected for invitation to the peer exchange based on the following considerations to ensure a representative group:

- Approach to safety target setting;
- Geographical distribution;
- Agency type (DOT, SHSO, and MPO); and
- State/region population growth rates.

The ten participants were then grouped into four panels with similar approaches. The panels met via teleconference prior to the peer exchange to develop joint presentations to address their agencies' target setting methods, challenges, successes, and future directions. Peer Exchange participants and their roles and responsibilities related to safety, as well as the agenda, are in the Appendix.

The contractor, Cambridge Systematics, presented an overview of initial research results. The literature showed in countries where ambitious targets are set, safety improvements are achieved. Safety target setting can motivate stakeholders, move safety practitioners out of their comfort zones to advance the state of the practice, and ensure resources are targeted appropriately to obtain the greatest return on investment.

Many U.S. states have adopted "Halving Fatalities" within two decades and zero fatalities as long-range targets. Some countries have ceased establishing national fatality targets and measure only progress in reducing fatalities (i.e., UK and Canada). Some conduct modeling to develop safety targets, such as in Australia and the U.K. although little is published about the modeling mechanics. When modeling is used, it is typically only one element in the process. Some agencies evaluate the effectiveness of countermeasures by reviewing all countermeasures under consideration to develop a forecast of the fatality reduction accomplished under various scenarios (i.e. Norway.) Benchmarking is also used by several agencies/countries (i.e., New Zealand).

The Peer Exchange first focused on the methodologies used by states/regional agencies in setting their safety targets. States were asked to present information about their current target setting practices, including:

- Current agency target;
- Method used to set the target;
- Technical challenges/successes in target setting;
- Challenges/successes in working with stakeholders; and
- Planned future directions for safety target setting.

The presentations were followed by discussion of key themes, opportunities and challenges with respect to target setting. The following sections summarize the participant presentations and the interactive discussions.

## 2.0 Safety Targets and Target-Setting Methods

Each state and region presented the current safety target and the method for its development. The methods used by states and regions largely fall into the following major categories. Often, agencies adopt more than a single approach:

- Toward Zero Deaths (TZD) as a goal (i.e., UT and WA);
- TZD as an overarching vision with interim goals (i.e. RI, GA, PA, MI);
- Halving Fatalities by 2030 (i.e. RI, MD, PA);
- Targets based on fatality trends (i.e., DE, Mid-America Regional Council); and
- Edict from a leadership committee or consensus (MI, Portland Metro (OR)).

The **Delaware Highway Safety Office (DE SHSO)** has set targets since the early 2000s. The agency uses the 14 Governors Highway Safety Association (GHSA)/NHTSA performance measures, with fatalities as the top performance measure. The target is to decrease traffic fatalities six percent from the 2008-2010 calendar year average of 114 to 107 by December 31, 2013. The DE SHSO relied on Fatality Analysis Reporting System (FARS) and State crash data to develop the target.

The Agency also uses “a healthy dose of intuition” in target setting. Staff knows which levers to push to achieve the target and understands feasibility issues based on years of experience. An eight-member advisory committee, including NHTSA and local and state law enforcement, provides advice and perspective by conducting a high level review of previous year activities and results. SHSO staff draft the Highway Safety Plan using a detailed problem identification process and establish a goal and potential countermeasures. The director meets with program managers to ensure buy-in on the goal. In May of each year the draft plan is presented to the advisory committee for approval.

The **Mid-America Regional Council (MARC)**, a bi-state MPO in Kansas City, sets a fatality target. The current target is to halve fatalities by 2040. The agency also tracks the fatality rate and the number of disabling injuries as part of the regional performance measures in its long range transportation plan but does not set targets for these measures. The MPO tracks fatalities and serious injuries because the SHSPs of the two States in which the MPO resides (MO and KS) track them. The target-setting process involved a Long-Range Transportation Plan (LRTP) subcommittee that convened regularly during the plan development

process and met with stakeholders to establish goals. The performance measures for each goal were developed internally by staff.

MARC is also part of a regional safety coalition (Destination Safe), which includes 4E safety representatives from Kansas and Missouri. The coalition develops a regional safety plan, e.g., a regional version of an SHSP. In setting a target, the coalition chose the more aggressive rate of fatality reduction of the two States: Missouri, which set a 15 percent fatality reduction target over four years (2008-2012). Four years is a much shorter timeframe than was set in the LRTP (30 years).

The **Michigan Department of Transportation (MDOT)** target is to reduce traffic fatalities from 889 in 2011 to 750 in 2016 and to reduce serious traffic injuries from 5,706 in 2011 to 4,800 in 2016. The target represents a 3.4 percent reduction in fatalities per year, compared to the previous four year SHSP, which had a five percent annual fatality reduction target. The Michigan philosophy is to set an aggressive goal to motivate the State to work hard to make significant progress. MDOT also adopted TZD as part of its mission statement.

Michigan set its SHSP target using five regional focus groups for its third SHSP update. In the previous iterations Michigan held a one-day safety summit and the Governor's Traffic Safety Advisory Commission (GTSAC) selected the target. By reaching out to the regions, Michigan obtained significantly increased involvement in the safety target setting process. At the regional meetings, the SHSP team presented regional crash trend and Emphasis Area data. All of the regional focus groups selected essentially the same target. The target was then validated by additional data analysis, e.g. economic trends.

The **Utah Department of Transportation (UDOT)** established Target Zero with an annual two percent reduction in fatalities target. The selection of zero is not based on numbers or data but on a consensus that zero is the right goal. Utah considered historic trends, but desired a stretch goal. Utah consciously uses a fatality number instead of a rate because the population growth in the State could result in a reduced rate without reducing fatalities. Additionally, Utah wanted a target that is understandable by the public; Utah stresses the importance of understanding that public opinion cannot be underestimated. The Executive Safety Leadership Team coordinated goal setting among agencies.

UDOT worked with Emphasis Area (EA) leaders to help develop targets for the Highway Safety Plan (HSP). For engineering EAs, the DOT established targets. The HSP incorporates targets from other related plans, and the process also involved motor carriers and transit agencies.

In Utah, safety target setting continually evolves. Utah emphasized the ongoing need to evaluate systems and processes to ensure the target matches the current environment. Utah notes it is possible targets may stay the same but the way a state arrives at the target may change.

The **Portland Metro (MPO)** LRTP has six desired outcomes, including safe and reliable transportation. In 2008, Portland Metro underwent a Federal certification

review and FHWA recommended increased focus on safety. A FHWA-sponsored workshop was held in the fall of 2009, and since then Metro has convened a Regional Safety Workgroup, which developed the MPO's 2035 RTP performance target, the State of Safety in the Region report, and the Regional Transportation Safety Plan. Metro's target is to reduce by 50 percent the number of pedestrian, bicyclist, and motor vehicle fatalities plus serious injuries by 2035, corresponding to the "halving fatalities" approach.

The **Maryland SHSO (MD SHSO)** has adopted TZD, with emphasis on "Toward". The State has also adopted Halving Fatalities by 2030. The safety target is to reduce the annual number of traffic-related fatalities by 3.1 percent per year, from 592 in 2008 to fewer than 475 by December 31, 2015. From 2007 to 2011 fatalities dropped 3.2 percent annually even though VMT did not decline much during economic recession; therefore the future target is based on similar rate of reduction.

The State also sets injury and serious injury targets. The injury target is developed using the annual ratio of fatalities to total and severe injuries and applying those ratios to the 2030 fatality goal. For example, the MD SHSO calculated an annual ratio of fatalities to total injuries of 0.011 (based on 8 years of data). The agency then applied the ratio of 0.011 to the 2030 fatality goal (reduction from 592 deaths in 2008 to 296 deaths in 2030) to determine expected number of injuries. This resulted in a 44 percent decrease in total injuries from 2008 to 2030, and an annual reduction of 2.6 percent. Annual interim targets are set through 2015.

The **Rhode Island DOT** adopted Toward Zero Deaths with an interim goal to halve fatalities and serious injuries by 2030, for an annual reduction of 3.2 percent annually. Therefore the fatality target setting method is adoption of halving fatalities with a long term vision of reaching zero fatalities.

The **Washington State DOT** adopted Target Zero by 2030 for fatalities and serious injuries. The State's philosophy is: what would be the right number if it were not zero? Target Zero has been a long-term goal for Washington, and is now in its fourth iteration.

To establish interim targets, Washington used the Holt Method of statistical analysis, which is a linear regression to forecast data into the future by weighting the near term years heavier than the out-years. Washington has looked at five and 10 year trends. The state has also plotted a straight line trend from the present number of fatalities to zero. Standard deviation from the trend line is used to report a range of what the data should show in the near-term. Washington may change the target setting process again to develop upper and lower controls in the range.

The **Pennsylvania DOT (PennDOT)** adopted TZD as its vision, emphasizing "Toward." The target is Halving Fatalities by 2030, using a rolling five year average. PennDOT uses a decentralized structure as most statewide targets represent the combined efforts of 11 engineering districts. Each district develops

its own safety plan, with PennDOT determining the overall safety targets. Districts range from having significant support for the target to expressing some resistance. Approximately 84 percent of Pennsylvania's fatalities occur on state roads and 16 percent on local roads. While the majority of Pennsylvania's safety programs are dedicated towards addressing state-owned facilities, PennDOT has also instituted a number of programs to improve safety on local roads through the Local Technical Assistance Program (LTAP). Pennsylvania has established goals within Emphasis Areas, which added together exceed the goal because of overlap among the Emphasis Areas.

The **Georgia DOT** (GDOT) and the SHSO obtained SHSP Leadership approval to adopt AASHTO's goal of reducing the fatality rate to 1.0 per 100 million vehicle miles traveled by 2008. Georgia's share of the goal was calculated at four percent, or 40 fatalities per year. Seeking to exceed the goal, Georgia chose a reduction of 41 fatalities per year as its annual target. Georgia has selected TZD as an overarching vision. While Georgia has reduced its fatality level to nearly 1,000 and seeks to get it below 1,000, the State decided against establishing a target to "get below 1,000" to reduce confusion since it uses TZD.

Georgia is measuring rural and urban performance separately but not setting targets for each. Each SHSP Task Team estimated the impacts of its proposed countermeasures using nationally accepted crash reduction factors.

## 3.0 Key Themes

The key themes presented below were derived from the presentations and discussions at the Peer Exchange.

### 3.1 ACCOUNTING FOR VARIABLES NOT INCLUDED IN HISTORIC DATA

Many factors may play a role in development of future safety targets. As trends and policies change and technology advances, past trends may not accurately predict what will occur in the future. For example, emerging trends such as the flattening of VMT nationally, reduced driving by the younger population, and changes in population growth trends may result in different types and locations of crashes. As vehicle technology evolves and more vehicles with advanced safety features enter the fleet, both how safety is addressed and the targets set for fatalities and other safety measures will necessarily change.

It is important to be careful about assumptions when relationships between datasets are analyzed throughout the processes of setting a target. Non-safety trends may not be predictive of safety results. For example:

- Utah has had a strong economy, growing population, and an increase in young drivers, but fatalities have gone down, a condition that violates most assumptions we make about safety;
- In Georgia during the years (2008-2009) when the State had large drops in crashes (9-14 percent per year) the VMT was stable or increased slightly. Again, we tend to assume an increase in VMT results in an increase in crashes, i.e. increased exposure.

## **3.2 ACHIEVING CONSENSUS/BUY-IN**

Key themes regarding obtaining buy-in on targets include: highlighting the feasibility of low-cost safety strategies, considering external audiences, collaboration among key safety agencies, and using existing safety organizational structures.

Participants noted the importance of not presenting to stakeholders the concept that to achieve a target will take a massive amount of resources, as this can create resistance to setting or adopting an ambitious target. It is important to emphasize that many low-cost approaches can improve safety. Engineering alone will not reduce fatalities to zero. It is necessary to get the public's buy-in to change behavior. To emphasize the daily relevance and importance of safety to the public, it is useful to communicate impactful safety messages on an ongoing basis. For example promotion of the daily traffic death tally - "zero deaths today" on dynamic message signs has been effective in several states. Another option is to promote the number of days into the year without a fatality or to publicize counties without fatalities.

The DOT and SHSO in a State should collaborate closely on setting the target and developing and implementing strategies to achieve the target. SHSOs have an ability to engage partners to which they provide funding for behavioral safety programs, while DOTs typically focus on working with engineering partners. Both agencies should play an active role.

Existing structures for safety collaboration at the state level have been effective at bringing together diverse stakeholders and supporting collaborative progress toward a safety target. The traffic records coordinating committees (TRCC) required in each state have helped engage many safety stakeholders in ongoing efforts to improve the quality of data needed for problem identification; selecting, evaluating, and prioritizing effective solutions; and progress tracking. One area for improvement, however, is to ensure outputs of the TRCC strategic plan are aligned with the SHSP needs.

## **3.3 TOWARD ZERO DEATHS**

Toward Zero Deaths (TZD) has been adopted by the FHWA Office of Safety. Many states have selected TZD or a variation, such as Zero Deaths or Zero

Fatalities. For example, Utah and Washington selected zero as an actual goal, while most other states have adopted it as a vision statement without a specific date for achievement. It is easier to get support for zero as an overarching vision statement than as a specific target with a date. States that have adopted TZD as a goal tend to do so because they believe if they do not set a zero fatalities target they will never achieve zero fatalities. Additionally, some believe no other choice is appropriate; any number other than zero implies tolerance of a certain number of deaths.

An example of adoption of a zero fatalities target by the private sector is Volvo's recent claim that by 2020 no person will die in one of their cars. It may be instructive for the transportation safety community to see what lessons can be learned from Volvo's approach.

To encourage States and regions to set zero fatalities as a goal and to motivate agencies to believe they can make dramatic improvements in safety, the Governor's Highway Safety Association developed a compelling presentation about human advances and the possibility for bold change<sup>1</sup>. The GHSA information played a role in Georgia's executive committee adopting TZD as a vision. However, setting interim targets may meet with resistance without supporting data.

### **3.4 TARGET SETTING WHEN FUTURE RESOURCES ARE UNKNOWN**

Many states struggle with the balance between setting aggressive targets, which demonstrate commitment to saving lives but may not be achievable, and setting less ambitious but more achievable targets that tolerate higher numbers of lost lives. In some areas of transportation, ambitious targets are set without knowledge of future resources, such as mode share shifts and transit ridership increases. If the U.S. adopts the more ambitious target at the national level, other stakeholders, such as auto manufacturers, may be more likely to step up with additional resources. Incentives could be offered to industries to increase attention to safety.

On the flip side, if states set very aggressive targets and do not reach them, it could demoralize stakeholders. Failure to meet targets could result in a lack of confidence in agencies' ability to deliver on their promises.

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<sup>1</sup> <http://www.ghsa.org/html/issues/files/pdf/reauth/2011.03.26.lifesavers.pdf>.

### **3.5 ORGANIZATIONAL STRUCTURES/RELATIONSHIPS**

Formalized safety roles and responsibilities of DOTs, SHSOs and MPOs and information for leadership are needed so each agency's contribution to achieving a safety target is clearly defined. Formalizing agency safety roles communicates the responsibilities to partner agencies, and establishes strong working relationships so effective programs last through administration changes.

Stakeholders must ensure safety is a priority at multiple levels within organizations and among external audiences. The location of safety staff on agency organizational charts is a reflection safety's priority within an agency. Safety is more likely to be given a high priority, despite many competing imperatives, when safety practitioners have access to high level agency decision makers. Key safety stakeholders include DOT executives, elected officials who form MPO leadership, staff who execute programs, and the public, which elects the public officials.

### **3.6 INSTITUTIONALIZING SAFETY TARGETS**

To ensure safety targets remain in place over the long term, they must be adopted by multiple individuals and departments and integrated throughout agency programs. This can be achieved by integration of safety into agency processes and staff performance evaluations, developing ongoing collaborative structures, and integrating proven safety practices into design guidance.

Institutionalization of a commitment to safety processes ensures that when leadership moves on, and institutional knowledge and experience leave an agency, a mechanism is in place to ensure the mission lives on. Legacy processes must be developed to ensure knowledge transfer, especially given the general lack of workforce development programs for safety management.

One institutionalization approach is to develop a safety training curriculum for key stakeholders at various levels within the organization or individuals who interact with the agency on safety issues. For example, Washington State identified and is developing safety training by function and division and identified the appropriate training for various staff levels. The American Association for State Highway Transportation Officials (AASHTO) has also identified this need and established a workforce development effort within Goal 5 of the Standing Committee on Highway Traffic Safety's Strategic Plan, to assist agencies with leadership and performance.

Another approach to institutionalize safety is through staff performance expectations. For example, safety outcomes are a component of Utah DOT staff leader performance evaluations. This ensures a culture shift from focusing not only on pavement condition and structure ratings, but also on fatality reduction. By incorporating this performance measure into the staff leadership reviews, managers ensure staff is contributing to safety.

The larger the number of agencies and individuals that own the safety target, the greater likelihood of continuity and success. It is important to look outside the champion agency and have partners take ownership of the process, so they expand the realm of influence. To ensure ongoing engagement by members of a coalition, all agencies must commit to helping each other.

Succession planning must be conducted not only for staff but also for programs, to ensure ongoing commitment to safety. The incorporation of safety into long-range plan targets will ensure some level of ongoing safety engagement, but safety also needs to be integrated into planning scopes of work and design guidelines/standards to become part of routine practice.

Institutionalization of safety efforts can be ensured by establishing communications structures that will live on if individuals change. In one State the safety engineer established a regular meeting of all engineers, which is also attended by a communications representative. Some states have a Strategic Communications Alliance involving all key public information officers who manage ongoing coordinated safety communication efforts. To ensure long-term participation by regional stakeholders, it may be necessary to provide logistical or administrative support so regional champions do not burn out. For example, the Maryland SHSO uses contractors to address logistical burdens for regional safety coalitions.

MPOs are driven by Federal requirements, and some believe safety institutionalization can only be achieved by making it a requirement. While performance measures are required and safety targets will be required, MPOs may not address safety beyond these requirements. Significant resources are required for an MPO to conduct ongoing data collection, sustain the 4Es of safety (Engineering, Enforcement, Education, Emergency response), and fund staffing and marketing. Transportation operations is one example of a Federal requirement<sup>2</sup> resulting in institutional structures for ongoing commitment. Once the Federal regulation was instituted, Intelligent Transportation Systems (ITS) architecture became institutionalized, although it took a 15-year process.

### 3.7 SERIOUS INJURY TARGETS

MAP-21 requires states and regions to set serious injury targets, which some agencies have not addressed previously. Data quality is a significant issue as standardization of serious injury data is more challenging than fatality data because a high quality national database exists (the Fatality Analysis Reporting System or FARS). Significant variation in serious injury scales exists among

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<sup>2</sup> A Federal Rule issued January 8, 2001 defined Intelligent Transportation System Architecture and Standards:

[http://ops.fhwa.dot.gov/its\\_arch\\_imp/docs/20010108.pdf](http://ops.fhwa.dot.gov/its_arch_imp/docs/20010108.pdf).

States so national level data is highly inconsistent. A common national approach is needed for producing data with an injury severity rating scale. To improve serious injury data, linkages will need to be strengthened between serious injury crash data and medical records and privacy issues will need to be overcome. Research efforts are currently underway, which will contribute to improvement in this area.

An ultimate goal is for all hospitals to produce serious injury data that adhere to a national format. Participants noted that while the end product should be defined, States should be able to collect and clean the data in their own way. Some states still use the Crash Outcome Data Evaluation System (CODES) to link crash, hospital and EMS data; however, others depend only on crash reports. When 33 states were participating in CODES, a well-documented national process for preparing the data existed. Software exists to relate injury severity ratings (KABCO) to the World Health Organization's Abbreviated Injury Score (AIS). NHTSA's National Center for Statistics and Analysis (NCSA) has a procedure for converting every State's data into the KABCO scale. Long-term, crash reports might not include injury reporting because hospitals would provide the data. Once all States have electronic crash reporting, injury data could go directly into a State's trauma registry.

Privacy challenges exist for managing injury data given the Health Insurance Portability and Privacy Act (HIPPA), which results in limitations on use of certain data. Addressing these issues will require collaboration between State departments of health and DOTs, as is the case in Washington State.

Research underway on serious injury data collection and management will contribute to improvements in quality and standardization. The NCHRP 20-24 (37)K research effort involves surveying how States are collecting serious injury data. NCHRP 17-57 will develop a proposed method for reporting data and a process for moving States forward. The National EMS Advisory Council (NEMSAC) was established by law as a statutory advisory council under MAP-21 and is continually working to improve the National Emergency Medical Services Information System (NEMSIS), which seeks to standardize data collected by EMS providers and to aggregate the data at a national level.

### **3.8 COMMUNICATING TARGETS**

While setting safety targets is important to reducing loss of life on the roadways, communicating targets is equally critical. If targets are not communicated, they will not be effective. The first step is to use consistent branding to successfully communicate targets internally throughout all affected disciplines at key stakeholder agencies. Once internal buy-in is achieved, the next step is to communicate to external audiences, such as elected officials and the public.

Consistent branding of all communications about safety is important. Maryland promotes TZD with a five-minute video focusing on speeding, impaired driving,

and safety belt use, which is used as an internal public service announcement on the meaning of TZD. The video is shown at all levels of internal agency meetings, with the governor, and with other partners, such as at law enforcement roll-call presentations.

Recognizing stakeholder communications strengths and taking advantage of marketing and communications resources is important because not all are naturally strong communicators. The engineering community presents a communications challenge for safety stakeholders. Many are not aware most engineering standards have not been evaluated for safety performance, and they need access to this information as well as the benefits of non-engineering countermeasures such as enforcement and education. The flexible Highway Safety Improvement Program (HSIP) funds must be invested in programs to achieve the greatest safety benefit with limited resources.

## 4.0 Technical Challenges

Several technical challenges are associated with setting safety targets and methods for achieving them: shifting geographic boundaries for MPOs affecting baseline data, crash data quality, linking crash data with other data sets, competing priorities for project prioritization, nominal versus substantive safety, and technical analysis challenges.

### 4.1 GEOGRAPHIC BOUNDARIES

Shifting boundaries and the impact on setting goals and tracking progress is an issue that affects MPOs but not States. MARC is part of a regional safety coalition (Destination Safe) encompassing the MPO boundary plus additional counties for a total of 13 counties. MPO boundaries routinely change, due to urbanization. Therefore, changing geographies for both the MARC MPO boundary and the Destination Safe Coalition service area will require adjustments to the base year fatality levels used in setting the safety target.

### 4.2 DATA QUALITY

Crash data quality is a known issue and each State's required Traffic Records Coordinating Committee works to continuously improve data. Challenges vary by State may include unreliable data for specific crash types, incomplete location data, and delays in obtaining crash data, etc.

Oregon uses self-reported crash data, which means people involved in crashes must submit a report unless the crash involves a fatality or serious injury, in which case a police crash report is completed. Therefore, safety analysis can

focus only on fatal and incapacitating injury crashes because data on less severe crashes are unreliable.

Data completeness and timeliness can be a significant issue. In some States electronic crash reporting is fully implemented; however in States still manually entering data from paper crash reports backlogs and increased risk of error can occur. When crash definitions or crash report forms change, year-to-year data consistency is impacted. Ensuring location data is accurate can be a challenge and different systems for determining crash locations must be reconciled. For example, Georgia is working to reconcile data coded in both latitude/longitude and milepost formats.

### **4.3 DATA LINKAGES AND DATA SHARING**

Few States can connect roadway infrastructure with crash data, although making these linkages is necessary to enable increasingly targeted safety analysis. In some cases, States seek to develop systems for managing all databases in a centralized manner, which some have found can be overly formulaic and a barrier to actually linking data, as has been the case in Utah. FHWA recently conducted a Roadway Safety Data Capabilities Assessment<sup>3</sup> on the collection, management, and use of roadway safety data, which provides insight into data linkage improvement opportunities.

Privacy issues can be a barrier to accessing data because of HIPPA rules, especially when linking crash and hospital data. Also, data owners may be protected only when using the data they own, as is the case in Maryland. Data shared with other agencies may not be legally protected.

Implementation of low cost safety and systemic improvements has substantially reduced fatalities in some locations and some States and regions are moving closer to achieving safety targets. As targets get more challenging to achieve, improvement will require increasingly detailed analyses to identify new effective improvements, which will create a demand to connect multiple data sets to examine precise locations of behaviors (e.g. corridors between bars where impaired driving is most likely).

### **4.4 OTHER ISSUES**

#### **Competing Priorities**

To make continued progress toward safety targets, planned transportation improvements must prioritize safety. Transportation projects are selected based on considering a number of priorities, which may include mobility, multimodal

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<sup>3</sup> [http://safety.fhwa.dot.gov/rsdp/downloads/rsdp\\_usrsdca\\_final.pdf](http://safety.fhwa.dot.gov/rsdp/downloads/rsdp_usrsdca_final.pdf).

access, congestion reduction, economic development, and safety. While agencies typically claim safety is a top priority, when actually selecting projects often other priorities take precedence. For example, Portland Metro noted its projects are generally selected for other reasons than safety despite a stated commitment to safety.

When safety issues are known but the fixes are costly and difficult, regions may avoid making improvements because safety funds alone are not sufficient to cover larger improvements. Participants noted there is a need to leverage other resources beyond safety funding to improve certain safety hot spots.

The challenge of balancing priorities also is reflected in tradeoffs during project design. Often reduction in congestion takes priority over multimodal safety considerations. Context sensitive design is resulting in some improvements as engineers use new design guidance, and traffic engineers are getting more used to making tradeoffs.

### **Nominal versus Substantive Safety**

The issue of nominal safety (designing to current engineering standards that often were not based on actual safety outcomes) and substantive safety (designing based on known safety outcomes using tools such as the Highway Safety Manual) is important to making progress toward targets but continues to be a challenge. Most agencies continue to build only to current engineering standards, which is not substantially improving safety. It is critical that facilities be designed incorporating proven effective countermeasures, for which crash modification factors (CMFs) exist. The challenge is partners are often resistant to using methods that they perceive as varying from standard engineering practice due to risk management issues.

### **Technical Analysis**

States identified the need for assistance in developing formulas to apply to safety projections related to population growth, VMT changes, economic trends, and legislative improvements. These analyses are essential to target setting.

States struggle to forecast outcomes for behavioral countermeasures given limited research in this area, which hampers target setting in behavioral areas. Participants note it is difficult to evaluate isolated components of public information and education programs and to determine what each component contributes individually. They suggest evaluation of packages of improvements such as education and enforcement activities.

## **5.0 Technical Successes**

Many States have made advances in safety data management and analysis, including dedicating resources to safety analysis, developing processes for more current crash data, linking data, conducting benefit-cost analysis, supporting local jurisdictions, improving Emphasis Area definitions, and tracking performance.

### **5.1 DEDICATED SAFETY ANALYSIS RESOURCES**

The provision of dedicated and trained staff to conduct detailed safety analysis enables improved problem definition, better solution identification, and improved target setting. For example, the DE SHSO has its own data analyst, and Georgia has an epidemiologist on staff in the SHSO.

Improved processes for obtaining updated safety data contribute to safety target setting and tracking of progress. MARC developed a safety data task team including staff from Missouri and Kansas with established protocols for safety data requests from partner agencies. MARC shares information quarterly with the policy committee to track trends and change programming as needed.

### **5.2 UPDATED CRASH DATA**

Every State and region is working toward obtaining more complete and updated crash data. Some States have developed their own tools to enable improved crash data management. For example, the DE SHSO developed a Crash Analysis Reporting System (CARS), which provides data in real time and more analytical capacity than the State Police's reporting tool. While the state police conduct FARS analysis, it was limited for certain factors such as aggressive driving reporting and impaired driving (did not include drugged driving).

### **5.3 DATA LINKAGES**

States are able to conduct more sophisticated problem identification and develop tailored solutions by linking crash data to other data systems. This becomes increasingly important as States get closer to achieving fatality targets and seek to further reduce the most challenging crashes. For example, Utah's Traffic Records Coordinating Committee is actively working to provide linkages to citations, court records, and other datasets. Utah's success in reducing fatalities is generating more interest in improved data linkages.

Utah is using mobile Laser Imaging Detection and Ranging (LIDAR) for roadside data collection and to calibrate asset data. It is possible to develop engineering

drawings from these data and to link road inventory, geometry, and weather conditions with crash data; Utah also plans to add skid information (skid testing performed by UDOT). The maintenance and asset management groups funded this data collection.

## 5.4 BENEFIT-COST ANALYSIS

Benefit-cost analysis provides information on which countermeasures are most effective at reducing fatalities and will be most beneficial in achieving a safety target. Utah conducts benefit-cost analysis for infrastructure projects, and requires linkages to the SHSP to fund projects. Utah flexes HSIP funds every year to fund enforcement and education programs as it has calculated a high return on investment (ROI) for non-engineering programs.

WSDOT evaluates each countermeasure for return on investment, and stops using those that are ineffective. Washington weights fatalities and injuries equally in calculating ROI, which is a philosophical decision to not chase fatalities and weight them higher.

Target-based safety requires starting at the planning stage. WSDOT safety leadership is helping to evaluate tradeoffs that exist with every project decision. For example, in Washington stakeholders are trying to reconcile that if the State chooses to make a large investment, such as building a highway interchange, it is choosing not to use those funds somewhere else, potentially on low-cost systemic safety improvements on a large portion of system. Another consideration is any safety project implemented must be maintained over time, which is essentially asset management.

PennDOT conducts significant evaluation of countermeasure effectiveness, calculating benefit-cost ratios for most countermeasures for which this is possible. As part of this analysis, PennDOT calculates the cost to save one life.

Another way to look at ROI is to calculate what state agencies are spending due to costs for crashes paid by Medicare/Medicaid. Those costs can be presented to the public to emphasize the need for safety investment. In addition, a Crash Cost Calculator is available on the AASHTO website.

## 5.5 LOCAL/REGIONAL SUPPORT

Given the large numbers of crashes on non-state roadways, many States are realizing that to achieve additional progress toward a fatality target they need to increase safety support of local and regional agencies. Utah is helping its MPOs develop crash data analysis similar to the HSIP process so they can help develop projects for consideration for HSIP funding.

Utah has found mapping of crash data effective in publicizing safety issues and helping jurisdictions better understand safety issues. UDOT has developed United States Road Assessment Program (usRAP) risk maps with five years of

data for State roads, which are posted on a public site. The goal is to include all roadways in mapping efforts soon.

While MPOs do not own or operate roadway facilities, many regional agencies find that their strongest role is to serve as a clearinghouse for crash data and analysis to support the region and local jurisdictions. A core MPO strength is the ability to bring together key stakeholders and facilitate regional discussion of safety issues.

## **5.6 EMPHASIS AREA DEFINITIONS**

States are trying new methods of defining Emphasis Areas to ensure improved focus on the most serious problems and better facilitate development of targeted countermeasures. Compared to its previous SHSP, which had 14 Emphasis Areas, Maryland is now taking a different approach to streamline the number of Emphasis Areas. Characteristics such as vehicle type and demographic groups filter through each Emphasis Area (i.e. motorcycles, younger, older, etc.) but are not Emphasis Areas in and of themselves.

In addition, Maryland has streamlined safety priority development. Previously the State established separate performance areas in its HSP, SHSP, and business plan. Now the SHSP is the guiding document and all related plans flow out of it.

## **5.7 PERFORMANCE TRACKING**

Use of creative methods for tracking performance and communicating results to stakeholders ensures ongoing knowledge of progress and can motivate continued action. For example, PennDOT uses tracking dials to track performance quarterly. Each year the dials start off in the red, which motivates partners to achieve the annual goal, which is reflected by getting the dial into the green.

# **6.0 Stakeholder Challenges**

Involvement by a diverse set of stakeholders is critical to advancing safety efforts; however coordinating with a large number of agencies and staff at various levels in those agencies can present challenges. Issues raised by Peer Exchange participants include: coordination between DOTs and SHSOs, maintaining focus on a data-driven process, resistance to aggressive safety targets, developing and maintaining a focus on safety, and funding policies and practices.

## **6.1 SHSO AND DOT COORDINATION**

In many States the target setting process is not coordinated between SHSOs and DOTs. Research for this project showed that in about half of States, the DOT and SHSO have different targets, which can create confusion and negatively impact stakeholders' buy-in on the safety goal.

In most States the DOT takes responsibility for the SHSP and coordinates with the SHSO. However, the level of actual coordination between the DOT safety function, which generally takes the lead on infrastructure, and the SHSO, which leads behavioral aspects of safety, ranges from extremely close to having limited contact, particularly during the SHSP implementation phase. One factor that may play a role in the level of coordination is the location where SHSO is physically housed. In a number of States the SHSO is located in a completely separate office from the DOT, sometimes within the law enforcement function or department of motor vehicle administration, while in other States the SHSO is a department within the DOT.

## **6.2 FOCUS ON DATA-DRIVEN PROCESS**

While established good practice in safety is to undertake a data-driven process, safety stakeholders are often highly influenced by media coverage of safety issues, political agendas and personal perceptions about the safety problem. This can result in lack of focus on safety problems and solutions that will continue progress toward the safety target. MARC noted it finds maintaining a focus on a data driven versus politically driven process an ongoing challenge as often stakeholders have perceptions of traffic safety issues not based on reliable research. Agencies must continually educate stakeholders on the need to use data to define safety problems and identify solutions.

## **6.3 RESISTANCE TO ADOPTION OF AGGRESSIVE TARGETS**

In most cases approval of the safety target occurs within a senior level steering committee often comprised of partner agency leadership. However, variation in levels of support among leadership and staff within agencies can be a challenge. For example, in Utah, while executive leadership bought into Target Zero, UDOT staff level stakeholders were resistant to choosing zero as the target, given feasibility concerns. Within DOT organizations, middle management is focused on doing; therefore, zero is a harder sell because engineers usually do not feel zero fatalities are possible on roads they design. Achieving culture change requires constant public information and pressure.

In Rhode Island, which adopted a vision of Target Zero, stakeholders initially expressed concern zero was not a realistic goal. RIDOT leadership was

concerned the DOT would be responsible for a majority of the actions to work toward achieving the target. Therefore extensive communications were required emphasizing that a range of agencies had responsibility for implementing the SHSP.

## **6.4 DEVELOPING AND MAINTAINING SAFETY FOCUS**

For some stakeholders safety is a central part of their job function but for others it may be an aspect they deal with on a less regular basis. Therefore, it can require effort to maintain a safety focus by certain departments and agencies and sustain continued progress toward achieving targets. For example in Michigan, the traffic safety office is housed within the MDOT design division. State traffic engineers – the middle layers of management -- mainly want to design and build roads, and have less interest in safety. As a result, the safety team must continually work to keep them engaged in safety, particularly in implementing substantive safety using proven safety countermeasures to work toward achievement of the target.

In Rhode Island participants noted that not only is new safety-related legislation needed, the need to work with legislators to ensure existing laws stay in place is also important. For example, the primary safety belt law in Rhode Island has a sunset clause after three years and must be renewed. Constant vigilance is required to ensure this and other laws remain in effect.

Another challenge is maintaining stakeholder and Emphasis Area team involvement given individuals' multiple responsibilities.

## **6.5 SAFETY FUNDING POLICIES AND PRACTICES**

In some States the DOT establishes policies restricting access to HSIP funds. For example, the Oregon State policy is to not spend HSIP funds on non-State roadways, which reduces the ability for urban areas to obtain safety funds. The only available safety funding sources in the Portland region, therefore, are surface transportation planning (STP) and congestion mitigation and air quality (CMAQ) funds.

In a few regions, efforts have been made to establish safety funding set-asides, but some of these have not been successful. For example, the Portland Metro MPO sought to take a portion of Federal STP and CMAQ funds to dedicate to safety but was unsuccessful as projects with economic development focus won out over safety. Portland has faced challenges getting policymaker buy-in to prioritize and fund safety.

Projects for which the Portland Metro MPO allocates dollars, including access management, are governed by design best practices. However, Metro has less influence over the extent to which local road designs account for safety when a local jurisdiction pays for the full cost.

## 7.0 Stakeholder Successes

Now that all States have developed SHSPs and stakeholders have been implementing a 4E process for several years, States and regions have had some successes in engaging a broadening range of agencies and organizations.

### 7.1 REGIONAL SAFETY COALITIONS

A few MPOs have successfully developed regional safety coalitions that conduct safety analysis, set targets and lead implementation of safety countermeasures. For example, the MARC Destination Safe Coalition includes 4E stakeholders from Kansas and Missouri, and has successfully engaged many safety champions. The coalition has a dedicated budget with which it funds behavioral safety countermeasures. Portland Metro established a Regional Safety Work Group, comprised of three counties, larger cities, the State highway safety office, and consultants, which focuses on engineering-oriented safety efforts.

### 7.2 STATE ADVISORY AND STEERING COMMITTEES

At the state level, various advisory and steering committees have been developed to guide SHSP development and implementation. For example, the DE SHSO Grant Advisory Committee is very successful in developing annual targets and identifying safety programming. The MD SHSO reports quarterly on safety progress to the Executive Council, which includes: the Motor Vehicle Administration (MVA), State Highway Administration (SHA), MD Transportation Authority; State Police (MSP), and the Maryland Institute for EMS Systems. Memoranda of understanding (MOUs) are under development between the MSP, SHA, and MVA to institutionalize data sharing and distribution. The target statements and TZD vision are being incorporated into each organization's Business Plan to ensure uniformity of targets.

Prior to development of the SHSP, Utah established an Executive Safety Leadership Team, which developed its own safety plan based on AASHTO's 1997 safety plan. Stakeholders at the leadership level were very much in agreement from the start on adopting TZD as a goal and a big-picture idea.

Georgia has established a Multiagency Safety Team (MAST) comprised of the highest level partners including FHWA, Department of Education (DOE), NHTSA, the Department of Health (DOH), the liquor control board, and the State Police. While there are too many other safety stakeholders for all of them to meet regularly, MAST meets quarterly in person.

Washington State has achieved a high level of acceptance of the target and prioritization of safety at senior levels in many partner agencies and agency

leaders support each other's programs. The State only implements what is in the SHSP and has good buy-in from stakeholders on this process.

### **7.3 DOT INSTITUTIONALIZATION OF SAFETY**

Safety is typically included as an overarching DOT goal. However, safety is often not fully integrated as an organizational imperative. The key is getting from safety expressed as a lone goal statement to full integration of safety throughout the culture of an agency, which has a more substantial impact on reducing fatalities and achieving targets. UDOT is a good example of successfully achieving this evolution. Historically, UDOT had identified safety as one of several strategic directions for the agency. However, the concept of transportation safety has now been rebranded more specifically as the safety target, *Toward Zero Deaths*. The strategic direction is no longer "safety" but "zero fatalities", which represents a significant cultural evolution and a more concrete understanding of the role and impact of safety. As the fatality numbers have continued to decrease, UDOT staff are increasingly supportive and convinced that zero is achievable.

### **7.4 ENGAGEMENT OF NON-TRADITIONAL PARTNERS**

As safety practice evolves and more stakeholders are brought to the table, some agencies are becoming increasingly creative in their partnership activities. For example, while SHSOs have always incorporated media as part of their outreach activities, often in the form of purchasing advertising time for public service announcements (PSAs), some agencies are realizing the potential of partnering with the media in a more proactive manner. In 2012, the largest Utah TV station approached UDOT seeking to become a full partner in TZD. The station has committed to producing at least 50 stories on traffic safety over the course of 2013 and highlighting crash impacts, as part of a campaign called, "The Road to Zero Fatalities".

Reaching out to SHSP stakeholders via regional meetings to set a safety target for the most recent Michigan SHSP was very effective. Through this process Michigan was able to engage stakeholders in very different contexts, such as southern urban vs. northern rural, and this approach far surpassed involvement in previous SHSPs.

### **7.5 PUBLIC ENDORSEMENT OF TARGETS BY LEADERSHIP**

When SHSPs are adopted or safety targets set, it can be effective to use these benchmarks as opportunities for senior leadership to publicly express their support for safety. For example, the Maryland governor and chiefs of police

signed proclamations supporting TZD. In Rhode Island the governor signed the SHSP in a formal ceremony that received significant media coverage.

## 8.0 Impact of Safety Target Setting on Planning and Outcomes

Peer Exchange participants stated that establishment and promotion of safety targets does have an impact on safety outcomes. The positive results include: more focused allocation of resources where the greatest benefit can be achieved, use of targets in communications efforts, increased collaboration and increased focus on safety in transportation planning.

### 8.1 FOCUSED ALLOCATION OF RESOURCES

A number of States have found the safety target provides focus for decision making and resource allocation. Agencies know they must invest funds in areas where the greatest gains will be made, despite public and political pressures. Agencies have increasingly shaped their processes to ensure resources go only to the areas of highest need. For example, the DE SHSO now conducts outreach to agencies where action is needed based on problem identification and no longer accepts unsolicited grant applications. When selecting countermeasures the DE SHSO finds it easier to say “no” when relying on the data.

In 2012, MARC revised its scoring criteria for the Surface Transportation Program and Transportation Enhancement Program applications to raise awareness and elevate the importance of safety. MARC also incorporated additional safety components, requirements, and questions in the applications to encourage applicants to develop proactive approaches for safety at project locations. The revised criteria provide better context and connections between proven countermeasures referenced in the *Kansas City Regional Transportation Safety Blueprint*.

The MARC regional safety coalition receives annual funding from two States and accepts grant applications for behavioral programs. The coalition uses data to define the greatest needs and make strategic decisions on projects to fund. In addition, MARC now has a program to conduct Road Safety Audits (RSAs) annually.

A result of safety target setting is that many States now select only proven countermeasures and are relying more on crash modification factors (CMFs)<sup>4</sup>. Safety targets influence selection of projects for many States: if a strategy is not in the SHSP it does not get funded.

## **8.2 USE OF TARGETS IN COMMUNICATIONS**

Agencies are finding that broad communication about safety targets is an effective way to raise the profile of safety. For example, MARC documents progress toward safety targets in quarterly reports, which is spurring increased interest in safety.

## **8.3 SAFETY TARGETS INCREASE COLLABORATION**

With the establishment of targets, agencies are working together on program and project-related issues given a common vision and understanding, and they look for data sharing and analysis opportunities. Interactions among Engineering, Enforcement, Education and Emergency Medical Services are improved. Washington is moving toward establishing a fifth E for Evaluation, Analysis and Diagnosis, which the State believes will lead to better countermeasure selection since crash contributing factors will be better understood.

States can leverage other transportation planning activities in the State to gain safety benefits. For example, GDOT is using regional council contracts to enhance safety by requesting that regional agencies collect pedestrian counts as part of their regional planning work.

## **8.4 SAFETY FOCUS IN TRANSPORTATION PLANNING**

When targets are always in mind, the focus on safety can be increased in general transportation planning processes. The change in Georgia's safety culture is resulting in changes to infrastructure design. Georgia is undertaking context sensitive solutions, such as making pedestrian accommodations at every signalized intersection. The State has learned it pays off to make these changes early, even as areas are in the early development stages, so conflicts are prevented as traffic volumes grow.

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<sup>4</sup> CMFs are available at the CMF Clearinghouse (<http://www.cmfclearinghouse.com>) and in the Highway Safety Manual.

## 9.0 Future Directions for Safety Target Setting

The future for safety target setting will depend to some extent on how current practices are working. Some States have set the most ambitious target possible – zero – while others are more cautious. The zero fatalities target States have found targets motivate practices resulting in improved safety outcomes. However, as States get closer to zero fatalities, progress does get more difficult. Safety targets are to some extent different from other types of transportation targets, because aggressive targets are sometimes established as a way to motivate action and are not only a reflection of what is possible given current trends.

### 9.1 POTENTIAL FUTURE TARGET SETTING METHODS

At the Peer Exchange safety stakeholders stated they believe linear trendsetting is most likely to be used in future safety target setting because that is most understandable. However, it may be useful to show a target range (such as a standard deviation) around a trend line. Federal regulation related to safety targets must account for the inevitable fluctuations in data. It is likely the fatality trend line will likely be used to set annual targets, which will maintain focus on the end goal. If States develop a range, most will report the high end of the target range to FHWA to avoid penalties for not achieving their target. The threat of a penalty for not achieving safety targets could force decision makers to be reluctant to set more aggressive goals.

Clarity is needed on whether MPO targets are expected to contribute to a State target. MPOs may set a target based on State targets. MPOs will likely need to understand regional crash trends and how they relate to the State before they set targets.

### 9.2 FUTURE TECHNICAL APPROACHES

Agencies have identified a number of approaches to improve target setting and transportation safety practices.

#### **Predictive Methods**

RIDOT seeks to use the Highway Safety Manual and the Interactive Highway Design Manual to conduct more predictive analysis. PennDOT is beginning to implement SafetyAnalyst.

## **Improved Consistency Among Plans**

MARC seeks to better incorporate safety countermeasures identified in the Missouri and Kansas SHSPs into its programming process.

## **Local Safety Analysis**

MARC seeks to facilitate the initiation of similar levels of safety analysis by local jurisdictions. Systemic safety improvements are preferred throughout the region but local jurisdictions must follow through with implementation.

MARC plans to conduct more GIS mapping of safety data. The MPO also plans to develop a pedestrian safety report and to try to normalize pedestrian crash data by exposure.

## **Performance Measures**

MPOs and DOTs can partner better on safety, especially since MPOs are logical partners for development of performance measures.

As the result of a recent NCHRP pilot study in the Kansas City region focusing on incorporating safety performance in the transportation planning and programming process, MARC recognized it tracks many “behavioral” categories but no “infrastructure” categories. MARC will include a more robust analysis of infrastructure-related crash types and recommended countermeasures in the update of its long-range transportation Plan (LRTP) Safety Chapter later this year.

## **Communications and Outreach**

Stakeholders noted marketing and communications resources must be used to complement safety stakeholder skill sets. Certain groups may not be as comfortable communicating about safety as they are practicing safety and is acceptable to hire marketing professionals to strengthen safety efforts.

Safety outreach to youth in Portland could be integrated with Metro’s current ongoing youth education program.

## **Expanded Range of Safety Advocates**

Participants noted an opportunity exists to leverage elected officials’ public role in preserving and improving quality of life in their communities. Elected officials should take more responsibility for traffic safety as part of the obligation to the communities they serve. Engaging new advocates is part of the safety marketing effort.

## **Communications of Targets**

The choices made in use of language can play a major role in effectively communicating safety concepts. For example, MARC consciously uses

“disabling” injuries versus serious injuries for greater communications impact. Similarly, targets using absolute numbers are more easily communicated to the public than fatality rates.

Participants emphasized that culture change is critical and influencing the public is a critical part of the equation. The media can be used more effectively by being proactive versus reactive.

### **Integration of Safety Earlier in the Transportation Planning Process**

Many problems impacting safety occur at a planning level. Promises regarding future projects are often made that cannot be kept. If problems are caught early, solutions with better results can be developed.

### **Achieving Future Progress**

Although the State of Washington has made much progress toward zero fatalities, difficult issues still remain: for example, it will be a challenge to reach the three percent who do not wear seatbelts, which account for 40 percent of fatal crashes, and the 40 percent of fatal crashes involving driving under the influence (DUI). Highly targeted efforts will be needed to effect additional improvements.

Urban and rural safety problems and solutions are different. Sometimes different funding sources are used for urban and rural safety improvements.

Participants noted there is a need for a more efficient way to track progress, such as an automated web-based system.

### **MAP-21 Federal Guidance**

The group recapped some of the key MAP-21 safety provisions and their expected impacts on safety practice. MAP-21 requires U.S. DOT to establish performance measures. Known measures that will be required are:

- Fatality and serious injury rates; and
- Number of fatalities and serious injuries.

States will be required to set targets within one year of the final guidance, and MPOs will need to set targets six months after States.

According to the NHTSA Interim Final Rule released on January 23, 2013, for FY 2014 and thereafter, HSP and HSIP reports need to have the same targets, and they feed into SHSP targets. The rule notes, “NHTSA intends to collaborate with other DOT agencies to ensure there are not multiple measures and targets for the performance measures common across the various Federal safety programs.” Ultimately, it is likely – and would be desirable – for all three plans to have the same targets.

The NHTSA Interim Final Rule requires that annual targets be set and that in the HSP States report progress toward achieving targets. Currently, most States have long-range targets established via their SHSPs. All SHSOs already set annual targets in their HSPs. The FHWA regulation has not yet been released.

MAP-21 establishes new provisions in the event safety deteriorates on High Risk Rural Roads (HRRR) or among older drivers in a State. If the fatality rate on rural roads increases over a two-year period, a State must obligate funds for projects on HRRRs at least 200 percent of the FY09 HRRR program. If fatalities and serious injuries per capita for road users over 65 increase during a 2-year period, a State must include strategies in its subsequent SHSP, considering Older Driver Handbook recommendations.

The law requires that U.S. DOT determine if States have met or made “significant progress” toward achieving their safety targets. If States do not meet or make significant progress they will be required to take the following actions:

- Obligation authority equal to prior the year HSIP apportionment will be permitted for use only for HSIP projects; and
- An annual safety implementation plan will be required describing actions the State will take to meet targets.

State Commercial Vehicle Safety Plans now will have to set a target. The Federal Transit Administration (FTA) is establishing a new safety office and every transit agency is now required to develop a safety plan.

## **NHTSA**

Discussion touched on a few aspects of NHTSA safety recommendations. NHTSA requires safety targets to be evidence based. NHTSA’s recommendation is to develop performance measure calculations using three and/or five-year moving averages. If three-year averages are used it is possible to see emerging areas faster, but it is a good idea to perform calculations for multiple time periods. States are encouraged to use more measures than core required NHTSA/GHSA measures. Many States track other EAs for which core measures do not exist.

# **10.0 Future Resource Format**

Participants contributed perspectives on what formats for resource materials or training they have found to be most useful.

## **10.1 GUIDANCE TOPICS**

The overarching message on communications about safety target setting should be a precise definition of the specific requirements and some methods for

achieving success. States would like guidance on how to account for the overlaps between crash types/Emphasis Areas. States need information on how to account for changes in population, VMT and economic conditions in safety forecasts. Support is needed for developing successful methods to communicate targets to effect culture change.

## 10.2 DESIRED FORMAT

Peer Exchanges are beneficial when designed with individual breakouts and targeted topics so participants can attend the sessions most relevant to them, such as at the Chicago SHSP event. However, Peer Exchanges have limitations because few people from each State have access and they are costly.

Participants said a suite of tools is most useful so each agency/individual can select what works to meet their needs. The range of formats could include:

- Written guidance;
- Peer exchanges;
- PowerPoint deck templates;
- Videos including interviews documenting best practices; and
- Webinars;
  - Co-sponsorship by the Governors Highway Safety Association (GHSA) and AASHTO is desirable.

## 10.3 GUIDANCE PROMOTION

Key forums for promoting the guidance include:

- MPO consortia in each State. It may be useful to focus on larger MPOs with greater capacity.
- GHSA annual meeting. Potentially FHWA could keynote the event. The joint GHSA/ SCOHTS SMS luncheon could address common safety issues.

# A. Appendix

**Table A.1 Peer Exchange Participants**

	<b>Participant</b>	<b>Agency</b>	<b>Safety Role/Responsibilities</b>
State/Region	Jeff Roecker	Pennsylvania DOT	Highway safety and traffic operations, manages SHSP, tracks HSIP funds.
State/Region	Joshua Naramore	Portland Metro (MPO)	Leads safety program and Congestion Mitigation and Air Quality (CMAQ) program.
State/Region	Kim Lariviere	MI DOT	Implements SHSP within DOT.
State/Region	Jana Simpler	DE SHSO	Director of SHSO (housed separately from DOT); team member for SHSP implementation.
State/Region	Tom Gianni	MD SHSO	Director of SHSO (housed separately from DOT); SHSP is managed by SHSO.
State/Region	Kathy Zahul	GA DOT	State traffic safety engineer, leads SHSP.
State/Region	Stephen Lachky	Mid America Regional Council (MPO)	Transportation planner, bicycle/pedestrian, safety programming, manages LRTP performance measures.
State/Region	Sean Raymond	RI DOT	Traffic management and highway safety, HSIP, SHSP engineering.
State/Region	John Milton	WA DOT	Director of enterprise risk and safety management (there is no traffic safety office). Reports safety performance measures quarterly to Governor and cabinet. Chairs TRB highway safety performance committee.
State/Region	Robert Hull	UT DOT	Director of traffic and safety for UT DOT. Oversees Zero Fatalities effort and SHSP, administers HSIP funds.
FHWA	Heather Rothenberg	FHWA Office of Safety, Office of Integration	
FHWA	Shira Bergstein	USDOT Office of the Secretary Office of Policy	
FHWA	Chris Chang	FHWA Office of Performance Management	
FHWA	Georgia Chakris	NHTSA Region 8 Administrator	
FHWA	Frank Marrero	NHTSA Regional Program Manager for TX	
Consultant Team	Susan Herbel	Cambridge Systematics, Inc.	
Consultant Team	Audrey Wennink	Cambridge Systematics, Inc.	

## Safety Target Setting Peer Exchange Agenda

February 13-14, 2013

Fort Worth, TX

### Day 1 – February 13, 2013

Time	Topic	Presenters
9-9:15 a.m.	Welcome and Federal Perspective	Keith Williams, FHWA
9:15-9:45	Project Overview Initial Research Results Objectives of Peer Exchange	Susan Herbel, Audrey Wennink Cambridge Systematics
9:45-10:45	<b>Panel 1</b> <i>Linear trends for safety target setting</i>	Jana Simpler, DE SHSO Stephen Lachky, Mid America Regional Council (MPO)
10:45-11:00	Break	
11:00-12:00	<b>Panel 2</b> <i>Target setting by leadership group, committee or consensus</i>	Joshua Naramore, Portland Metro (MPO) Robert Hull, UT DOT Kim Lariviere, MI DOT
12:00-1:30	Lunch	
1:30-2:30	<b>Panel 3</b> <i>Adoption of Halving Fatalities or Zero Fatalities</i>	Tom Gianni, MD SHSO John Milton WA DOT Sean Raymond, RI DOT
2:30-3:30	<b>Panel 4</b> <i>Alternative Approaches to Target Setting</i>	Jeff Roecker, PA DOT Kathy Zahul, GA DOT
3:30-3:45	Break	
3:45-4:45	Discussion	All
4:45-5:00	Wrap Up	Cambridge Systematics

**Day 2 - February 14, 2013**

<b>Time</b>	<b>Topic</b>	<b>Presenter</b>
8:30-9 a.m.	Review of Key Themes from Day 1	Cambridge Systematics
9:00 a.m.-9:30 a.m.	Potential Target Setting Approaches	Cambridge Systematics
9:30-10:30 a.m.	Discussion	All
10:30-10:45 a.m.	Break	
10:45-11:45 a.m.	Discussion	All
11:45 a.m.	Wrap Up and Next Steps	Keith Williams
Noon	Adjourn	





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