Reaching Targets and Reaching Hearts:
Highway Safety Leadership in the MAP-21 Era

Proceedings of the May 2013 AASHTO CEO
Safety Leadership Forum

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This project is being conducted for the American Association of State Highway and Transportation Officials as part of NCHRP Project 20-24 (91) Support Services for the AASHTO State DOT CEO Safety Leadership Forum -- May 2013. The report has not gone through the usual rigorous review process established and monitored by the Transportation Research Board Executive Committee or the Governing Board of the National Research Council, and should not be described as a “TRB Report”. It should be described as a contractor’s report conducted for AASHTO with funding provided through National Cooperative Highway Research Program Project 20-24 (91).
"What you do is so important to your state’s economy and to your citizens’ mobility, but your decisions, your priorities and your impact as transportation leaders can affect and save more lives than any other appointed official."

NTSB Chair Deborah Hersman to the AASHTO CEO Safety Leadership Forum participants

Engineering and Empathy: MAP-21 Keys to Highway Safety

Reaching performance targets while also reaching the hearts of the public will be the challenge for U.S. transportation agency executives in the new era of performance-based highway safety codified by the Moving Ahead for Progress in the 21st Century Act, known as MAP-21.

MAP-21 raises the bar for performance-based highway safety programs by establishing in federal statute the need for transportation agencies to formally set federally recognized highway traffic-safety targets and then to publicly report on how they are using engineering and behavioral programs to reach those targets.

To succeed in the MAP-21 highway safety era, transportation executives will need the "hard" skills of sound engineering and advanced performance management as well as the "soft" skills of building partnerships and changing public attitudes to emphasize the human tragedy of highway crashes. Translating crash statistics into engineering countermeasures needs to be paired with humanizing those statistics so that each is recognized for what it is - a human life.

At the sixth biennial AASHTO State DOT CEO Safety Leadership Forum held on May 6, 2013, in Providence, R.I., state transportation executives discussed the MAP-21 requirements and shared examples of how they use engineering and empathy to drive down highway crashes. In a representative example, the Utah DOT closely monitors its crash statistics and focuses upon delivering its engineering countermeasures. But it also invites to its commission meetings the families of highway crash victims to humanize the reasons for its efforts.

"These are not statistics," said Ahmad Jaber of the Utah DOT. "These are people who have lost a loved one. It brings a totally different perspective when we have them in front of the Transportation Commission. It's a very sobering experience."

MAP-21 advances with a two-prong approach the growing emphasis of recent years upon a performance-based federal highway safety program. The first prong emphasizes sound engineering and analysis. It requires that highway agencies set formal crash-reduction goals and targets for the Federal Highway Administration’s primarily engineering-focused Sec. 148 Highway Safety Improvement Program. Transportation agencies will need to set targets to reduce their numbers of fatalities and serious injuries and regularly report their results on a national website. These requirements emphasize a transportation executive’s "hard" skills to ensure that his or her agency is setting meaningful targets, accu-
rately analyzing crash data, identifying sound engineering strategies and successfully delivering engineering countermeasures on time.

The second prong emphasizes effective “soft skills” of communication and partnership to change the hearts, minds and behaviors of society to be more safety conscious. MAP-21 formalizes into federal statute what had been 14 voluntary primarily behavioral measures developed by the Governors Highway Safety Association (GHSA) and the National Highway Traffic Safety Administration (NHTSA) for the Sec. 402 behavioral programs. These require changing public behavior regarding the use of seat belts and child restraints, wearing motorcycle helmets, controlling speed and protecting vulnerable populations such as pedestrians and bicyclists. To reach state targets for the behavioral measures, agency executives will need to help change societal attitudes, build coalitions with advocacy groups, law enforcement, emergency responders and clearly communicate to the public, legislators, and the media why changes in behavior are critical. Several noted that the "soft" skills may be more difficult to master than the "hard" skills of engineering and performance management.

Although they cooperate now, MAP-21’s further linkage of the Sec. 402 and Sec. 148 programs through common performance measures and joint accountability is likely to further emphasize the need for partnership and close coordination between the two programs. Those partnerships, in turn, should spur even more outreach and partnership with other government, non-profit and private-sector groups. The result should be that the four Es of Engineering, Education, Enforcement and Emergency Services are coordinated to a more formal degree than ever before.

The importance of state transportation agency leadership in achieving the MAP-21 goals was emphasized by speaker Deborah Hersman, chair of the National Transportation Safety Board (NTSB.)

"What you do is so important to your state's economy and to your citizens' mobility, but your decisions, your priorities and your impact as transportation leaders can affect and save more lives than any other appointed official. That's because when it comes to safety, it's at the state level where the biggest difference can be made."

Although the “hard” engineering skills may be most familiar to some executives, it is the “soft skills” of advocacy and partnership that may be the most difficult.

"As you know, the difference starts at the very beginning with sound design and engineering decisions and continues with execution and maintenance. This is hard work, and you do it well. But, when it comes to the behavioral aspects of safety — such as speeding, impaired driving or occupant protection -- the work continues with strong laws and enforcement, with education and outreach and with evaluation to understand what's working and what isn't. This part of the job is a bit harder than setting bridge piers and pouring concrete because the job is never done."

This report summarizes the CEO Safety Leadership Forum and the MAP-21 provisions that will define the current era of highway safety. The forum addressed and this report summarizes:
- How MAP-21 changes highway safety expectations both in terms of engineering and behavioral programs;
- How agency executives can "get ahead of the curve" with a performance management dashboard that emphasizes leading measures that increase the likelihood of achieving their targets, and;
- What are successful strategies for agency leaders to engage externally to build coalitions to
change public attitudes, public policy and public assumptions about the need for increased highway safety.

**The New Era of MAP-21**

MAP-21 formally codifies what has been a growing trend toward performance-based highway safety programs. Many states have set formal crash-reduction targets for years as part of their internal performance-management programs or within their formal safety plans and programs for FHWA or NHTSA. AASHTO adopted a formal goal of halving highway fatalities in 20 years while voluntarily the GHSA and NHTSA agreed in 2008 to a minimum set of 14 voluntary performance measures to be included in behavioral highway safety plans and programs. These earlier efforts clearly indicate that AASHTO, FHWA, GHSA, and NHTSA have been moving toward a formal performance-management approach for highway safety.

MAP-21 takes performance management further by incorporating it into federal law and ingraining it into the federal highway safety programs. MAP-21 Sec. 150 emphasizes that:

"Performance management will transform the Federal-aid highway program and provide a means to the most efficient investment of Federal transportation funds by refocusing on national transportation goals, increasing the accountability and transparency of the Federal-aid highway program, and improving project decision making through performance-based planning and programming."

The MAP-21 performance measures are listed in Table 1. As can be seen, they focus on critical outcomes such as reduced fatalities and serious injuries but also focus on important types of fatalities such as motorcyclists and contributing behavior such as impaired driving and helmet usage.

**Table 1 MAP-21 performance measures**

<table>
<thead>
<tr>
<th>Sec. 148 Highway Safety Improvement Program (FHWA) Measures</th>
<th>Sec. 402 Highway Safety Plan (NHTSA) Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of fatalities</td>
<td>Number of fatalities (3 or 5 year rolling average)</td>
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<tr>
<td>Number of serious injuries</td>
<td>Number of serious Injuries</td>
</tr>
<tr>
<td>Fatality rate</td>
<td>Fatality rate, reported for urban and rural</td>
</tr>
<tr>
<td>Serious injury rate</td>
<td>Number of unrestrained passenger vehicle occupant fatalities</td>
</tr>
<tr>
<td></td>
<td>Number of fatalities with alcohol-impaired driver</td>
</tr>
<tr>
<td></td>
<td>Number of speeding-related fatalities</td>
</tr>
<tr>
<td></td>
<td>Number of motorcyclist fatalities</td>
</tr>
<tr>
<td></td>
<td>Number of un-helmeted motorcyclist fatalities</td>
</tr>
<tr>
<td></td>
<td>Number of drivers under 20 involved in fatal crashes</td>
</tr>
<tr>
<td></td>
<td>Number of pedestrian fatalities</td>
</tr>
<tr>
<td></td>
<td>Observed seat belt use for front occupants in passenger vehicles</td>
</tr>
<tr>
<td></td>
<td>Number of seat belt citations during grant-funded activities</td>
</tr>
<tr>
<td></td>
<td>Number of impaired driver arrests during grant-funded activities</td>
</tr>
<tr>
<td></td>
<td>Number of speeding citations during grant-funded activities</td>
</tr>
</tbody>
</table>
Beth Alicandri of the FHWA Office of Safety said FHWA and the states will be in an environment in which they will say "we want to save this many lives" and then will report upon whether they achieved that target. Targets are intended to be meaningful and to not merely maintain the status quo. Congress expects that despite past substantial gains in highway safety that the Federal-aid programs will further reduce deaths and serious injuries with formal, focused investments that are subject to review. She noted that MAP-21 emphasizes public reporting of what are the state's crash trends, what are its targets, its strategies, its investments and its activities to address its crash trends.

As seen in Figure 1, MAP-21 follows a goal-setting and continuous-improvement framework that is common in performance-based programs. MAP-21 sets a broad national goal of achieving with the Federal highway program a significant reduction in highway fatalities and serious injuries. FHWA is given in MAP-21 four performance measures and NHTSA 14, three of which overlap. Funds from the FHWA and NHTSA programs flow to the states, along with the requirement to set state targets for the performance measures. The FHWA program is authorized through Sec. 148 and primarily focuses on engineering solutions. The NHTSA program comes from Sec. 402 and primarily focuses on behavioral strategies. Both programs are coordinated at the state level through the state's Strategic Highway Safety Plan, which Ms. Alicandri describes as an umbrella for the state's strategies, programs, projects and activities. The states then develop specific annual programs to achieve the targets. The state agencies deliver their coordinated engineering and behavioral programs and report periodically, probably annually, on their results. The results are reviewed by FHWA and NHTSA as well as by the states. The achieved results and lessons learned are used to provide feedback to update the Strategic Highway Safety Plan and the annual engineering and behavioral programs. The plans, programs and results will be published on a federal website and available for public review.

FHWA and NHTSA share three measures, which is part of an intentional strategy to increase the degree of linkage and cooperation between the engineering and behavioral programs. Even if a state transportation department does not have jurisdiction over the Sec. 402 behavioral program, its safety efforts will be coordinated with those programs through the common perfor-
Ms. Alicandri said some of the MAP-21 changes are subtle but important. They draw together the two prongs of the federal highway safety programs into closer alignment than ever before. For state highway executives, it is likely to mean that their engineering programs and projects will be more closely linked to the behavioral programs than in the past.

**Figure 2** The Strategic Highway Safety Program is depicted as an umbrella under which a state’s engineering and behavioral programs operate.

The state executives at the forum expressed minor concerns about details of how the review of their progress may occur but they expressed strong support for a performance-based safety program. Several said that the emphasis upon specific targets provides opportunities to galvanize public concern when those targets are not met, or when positive safety trends turn negative.

Illinois DOT Secretary Ann Schneider said her agency tracks crash statistics very closely and when they spot an increasing trend they seize upon it to crystallize action. Her agency has started quarterly meetings with multi-disciplinary teams to coordinate safety programs. They noticed an increase in crashes involving semi-tractor trailers and began meeting with the trucking industry to address them. They similarly aligned with motorcyclist groups to conduct events at the start of the summer to emphasize the need for motorcycle safety awareness.

Kentucky Transportation Cabinet Secretary Mike Hancock called the emphasis on specific fatali-
ty-reduction targets "hugely positive" and said it will keep agencies and the public focused on the ultimate vision of Towards Zero Deaths.

Nevada DOT Director Rudy Malfabon said targets in the safety programs and plans for specific crash types such as pedestrian deaths provide a focal point for organizing disparate groups such as metropolitan planning organizations, law enforcement, engineers and advocacy groups around a common goal. The target provides a clear sense of objective to unite their efforts.

"Are we ready for this?" asked Tom Cole of the Idaho Transportation Department. "I think we are." He said hitting aggressive safety targets will involve zeroing in on the crash data and determining region-by-region what are the major contributing factors and addressing them. In some cases, it may involve increased behavioral efforts, while in others it may involve additional proactive engineering ones. He said agencies can set meaningful, specific targets for actions that will guide their staff to deploy effective countermeasures. He also emphasized the need to analyze countermeasures once deployed to assess their effectiveness.

Targeting the Future: Leading Indicators to Increase Success

The highly visible and pro-active nature of the MAP-21 crash-reduction targets is likely to create new public expectations for executives. Each year they will review their targets, report to the federal government and are likely to engage with advocacy groups that want to see continued reduction in crashes.

The safety forum participants discussed how executives can "get ahead of the safety curve" with a robust performance management approach that culminates in a dashboard of both leading and lagging measures that provides "no surprises" for executives. Most of the required metrics to be reported are lagging measures that illustrate past performance but don't guarantee future success. Instead of waiting for annual crash data to confirm the effectiveness of their programs, they can monitor continuously their agency's actions to ensure that all units are effectively delivering their piece of the mosaic that comprises a department's safety program.

For instance, just delivering on time one effective safety engineering project may require the coordination of units of data-collection, crash analysis, programming, consultant selection, design, review, right of way, utility relocation, bidding, construction, inspection and acceptance. Maintenance crews are involved in many important safety efforts such as ensuring that signs and pavement markings are reflective, shoulders are well maintained, cable median barrier and signs are repaired when hit. Pavement inspection units play an important role in measuring surface friction, particularly on curves and in areas with high numbers of rear-end crashes. Information technology units are critical for collecting and analyzing data and helping to map crashes. The behavioral programs require the constant engagement with advocacy groups, the deployment of media and advertising campaigns and coordination with law enforcement. Overarching all safety programs is the need for sound data. Data is a significant challenge in many states because crash reports can come from hundreds of local law enforcement agencies whose submissions may vary in timeliness and quality.

A common practice in the corporate world is for executives to focus upon leading indicators so they can assess whether their organization's current activities are likely to achieve the future results for
which they will be held accountable. In an FHWA international scan report on the use of performance measures abroad, the concept of "tracking trajectory to target" was discussed. This report described tracking the intermediate steps and milestones of an effort continually to assess whether an organization is trending to achieve eventual success on its major targets.

Table 2: Factors contributing to crashes

<table>
<thead>
<tr>
<th>Selected Factors Related to Fatal Traffic Crashes</th>
<th>Related Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Collision with Motor Vehicle in Transport</strong></td>
<td></td>
</tr>
<tr>
<td>Angle</td>
<td>Roadway departure % of fatalities** 51.0</td>
</tr>
<tr>
<td>Rear End</td>
<td>Intersection related % of fatalities** 21.0</td>
</tr>
<tr>
<td>Sideswipe</td>
<td>Alcohol-impaired fatalities*** 31.0</td>
</tr>
<tr>
<td>Head On</td>
<td>Driving too fast for conditions**** 20.8</td>
</tr>
<tr>
<td>Other</td>
<td>Motorcycles as % of all crashes***** 1.1</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>Motorcycles as % of fatal crashes 10.8</td>
</tr>
<tr>
<td><strong>Collision with Fixed Object</strong></td>
<td></td>
</tr>
<tr>
<td>Pole/Post</td>
<td>Fatalities/MVT passenger cars 1.2</td>
</tr>
<tr>
<td>Culvert/Curb/Ditch</td>
<td>Fatalities/MVT motorcycles 25.7</td>
</tr>
<tr>
<td>Shrubbery/Tree</td>
<td>Change in motorcycle fatalities 2000-2011 59.6</td>
</tr>
<tr>
<td>Guardrail</td>
<td>Change in large-truck related fatalities 2000-2011 -27.8</td>
</tr>
<tr>
<td>Embankment</td>
<td>Pedestrian 13.8</td>
</tr>
<tr>
<td>Bridge</td>
<td>Failure to keep lane 9.2</td>
</tr>
<tr>
<td>Other/Unknown</td>
<td>Failure to yield 7.2</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>Distracted driving 7.1</td>
</tr>
<tr>
<td><strong>Collision with Object Not Fixed</strong></td>
<td>Reckless operation 6.0</td>
</tr>
<tr>
<td>Parked Vehicle</td>
<td>Vision obscured 3.0</td>
</tr>
<tr>
<td>Animal</td>
<td>Drowsy, asleep 2.6</td>
</tr>
<tr>
<td>Other</td>
<td>Wrong way 2.5</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>Pedestrian 2.2</td>
</tr>
<tr>
<td><strong>Noncollision</strong></td>
<td>Train 0.4</td>
</tr>
<tr>
<td>Rollover</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
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<tr>
<td><strong>All in this column from Table 24 NHTSA Traffic Safety Facts 2011</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Remaining in this column from Table 62 NHTSA Traffic Safety Facts 2011</strong></td>
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</table>

Dr. John Milton of the Washington State DOT told the participants that all of the MAP-21 measures are sound, but most are lagging measures. By the time an executive receives the crash statistics, the fatalities have already occurred. The executives can increase their likelihood of success by including on their internal dashboards additional measures of leading activities their departments are taking that contribute to safer highways. Such measures provide predictive insight of whether targets are more likely to be achieved, they demonstrate due diligence and they illustrate to internal work units how their efforts contribute to highway safety.

As shown in table 1, Dr. Milton noted that the AASHTO Strategic Highway Safety Plan ranks the importance nationally of contributing factors to highway deaths. After adopting strategies to address an agency's major contributing factors, an executive can build a dashboard to track whether each internal operating unit is achieving continuous progress toward delivering its components of the agency's overall strategy. Regular reporting by month or quarter allows an executive to know in advance of the year's conclusion whether crashes are being reduced and whether countermeasures are being deployed. Any lag in performance can trigger investigation and mid-course corrections.

Lane departure crashes are the most common type of crash and are likely to be addressed by almost all agencies. Reducing them involves a large number of activities each of which can be measured and used as an important leading indicator of whether the department is diligently deploying its crash countermeasures. Leading measures that could be tracked to reduce roadway departure crashes would include:

- Pavement striping maintenance;
• Raised/recess pavement marker maintenance;
• Pavement marking maintenance;
• Regulatory sign maintenance;
• Guide side maintenance;
• Guidepost maintenance;
• Guardrail maintenance;
• Traffic signal systems maintenance;
• Highway lighting systems maintenance;
• Intelligent Transportation Systems maintenance;
• Rumble strip application;
• Cable median barrier installation and repair;
• Pavement friction measurement and treatment;
• Shoulder treatments;
• Spot improvement projects.

Dr. Milton noted the importance of tracking how different agency operations work together. Seldom does only one work unit control all aspects of one complex issue, such as roadway departure crashes. A comprehensive understanding of crash-causation factors and an understanding of the need for comprehensive agency coordination to address those factors may lead executives to track activities and measures that are not thought of to be safety performance measures. Highway lighting upkeep traditionally is a maintenance activity but it also contributes to highway safety. Therefore, it may be important to include among safety performance measures the adequacy of highway lighting maintenance. A comprehensive focus on crash-causation factors may lead to tracking measures that are not narrowly thought of as safety performance measures but which contribute to crash-reduction success.

Outputs Leading to Outcomes

Although outcome measures are generally preferred to output measures, in some cases tracking outputs can be an effective leading performance measure. For instance, tracking whether the target for installing rumble strips is met ensures the reliable delivery of that important countermeasure that contributes to reductions in lane-departure crashes. If an agency sets as a strategy the delivery of a set of safety projects, the tracking of the interim milestones for those projects’ delivery can be a useful leading measure. If the interim project milestones are not met, it’s unlikely the safety projects will be delivered on time.

Other leading measures of critical safety outputs can be tracking the annual analysis of crash report data, completion of a targeted number of crash studies or the analysis of the top 50 high-crash intersections each year. Although each of these is an output, each also is a leading indicator of the likelihood that safety countermeasures will be delivered and that crashes will be reduced.

Several participants noted that the types of leading indicators for roadway departure crashes may be addressed in the agency’s maintenance management system. By including those within the broad umbrella of safety performance management it links the department’s frontline maintenance functions with the agency’s safety efforts.

Examples of maintenance performance measures from the Utah DOT that also serve as important leading safety indicators include its tracking of miles of the National Highway System that have
low skid values. High skid values indicate greater pavement friction that improves stopping distances and reduces the chance of lane departure crashes, particularly in curves. By keeping pavement friction at acceptable levels, an agency can reduce a significant risk factor for roadway departure and rear-end crashes. Other maintenance measures from the Utah DOT include its tracking of guardrail maintenance, repair and replacement of delineators, repair and replacement of signs, pavement markings and striping and shoulder work.

The Utah DOT Traffic and Safety Division tracks its percentage of Highway Safety Improvement Program funds that are obligated annually, the percentage of its High Risk Rural Roads funds that are obligated, its deployment of Safe Routes to School projects, its delivery of railroad crossing projects and the number of safety projects that are behind schedule. Each of these measures help keep different units within the DOT focused upon delivering its component of the department's overall safety program.

The Florida DOT already relies on a performance management process that resembles a state version of the Figure 1 performance management process and that includes several important leading indicators and components. The agency's process begins with a goal of "provide a safe and secure transportation system for all." From that flows the objective taken from the Strategic Highway Safety Plan to reduce by another 5 percent annually between 2013-2017 the number of fatalities and serious injuries. That objective influences the department's programming and resource-allocation for the five year period. Resources are allocated to the state's engineering and behavioral programs in 11 emphasis areas that reflect the major crash-reduction focus areas that are:

- aggressive driving
- intersection crashes
- vulnerable road users (pedestrians, bicyclists, and motorcyclists)
- lane departure crashes
- impaired driving
- at-risk drivers (aging road users and teens)
- distracted driving
- traffic data
- occupant protection
- commercial vehicles
- work zone safety

The coalition of agencies and organizations that coordinate on the Strategic Highway Safety Plan develop specific action plans for these 11 component focus areas. The DOT and its partners can track throughout the year as leading indicators whether the activities of these 11 focus areas are being achieved.
Florida DOT Director Ananth Prasad said the most important overall measures are the lagging measures of reducing fatalities and serious injuries. However, by focusing on the contributing factors and ensuring that the contributing factors are being addressed, it increases the likelihood that the various strategies will result in reduced fatalities. He said on one of the state’s turnpike’s, roadway departure crashes stood out as a specific problem. Installation of miles of guardrail addressed the problem. The ultimate goal was reducing roadway departure fatalities but it was achieved through the focused performance of the guardrail-installation countermeasure. On the behavioral side, a good leading indicator could be the number and success of community-based safety teams with broad representation, he said.

Dr. Milton illustrated through contacting the WSDOT performance management website how the department tracks both lagging measures such fatalities and deaths as well as activities that can be considered as leading measures, such as the roadway and roadside treatments that can reduce run off the road crashes.

He also illustrated in Figure 3 how the department has depicted the contributory nature of different crash causation factors. The department examined in detail three primary fatality causes, impairment, speed and intersection related crashes. Each is shown as a grey area and where two or more of these factors were contributory to a crash the area overlaps and is shown in darker

Figure 3 A Washington State DOT Venn diagram of factors related to intersection crashes.

The role of impairment, speed, and intersection-related, 2008-2011

Data derived from 1,930 total traffic fatalities; 74.4%, or 1,435 deaths involved driver impairment, speeding, or run-off-the-road (ROTR), or a combination of these behaviors.

Data source: Fatal Accident Reporting System (FARS) and WSDOT Statewide Travel and Collision Data Office (STCCO).
Note: 2011 FARS data is preliminary and may change until January 2013. Intersection-related crashes were identified using WSDOT collision data.
grey. For instance, 21.3 percent of the crashes were caused by a combination of impairment and speeding. All three factors combined in 3.4 percent of the crashes. This type of Venn diagram illustrates both through size of the area and the area's color how multiple factors can contribute to crashes. It also illustrates that a comprehensive approach is needed because of the overlapping contribution that various factors have upon fatal crashes.

Dr. Milton said other possible leading measures include behavioral ones such as increased motorcycle helmet use, or increased seat belt usage. While these are excellent objectives in their own right, their trends provide good leading indicators of whether crashes related to those causes are likely to decrease in the future. These are examples of how tracking contributing factors can provide insight into whether the overall fatality-reduction targets are likely to be met.

Anticipating Questions Prompted by the Data

Figure 4 illustrates U.S. trends in fatalities and fatality accident rates since 1994. Although it represents significant improvement, it also illustrates the types of questions that executives could face. MAP-21 includes a "continuous improvement" assumption that targets always will lead to still-lower numbers of crashes. So even an agency that has performed well, could face an expectation of further improvement. If a state's trend is not as good as the national trend, the agency is likely to face questions as to why. The increase in deaths in 2012 could bring questions about what the agency will do differently in 2013 and beyond to return to the downward trend of past years.

The granularity in reporting will make inherent trends clear, such as trends for crashes of motorcycles, pedestrians, young drivers, or impaired ones. Each separate trend line will reveal a set of highway traffic issues and strategies that are likely to be scrutinized.

*Figure 4. U.S. highway death trends have been generally positive but experienced a 5 percent increase in 2012.*
Several speakers noted the complexity caused for executives by the MAP-21 requirement that they report on all crashes, not just ones on the state highway system. This will require coordination with local jurisdictions and coordination with the many agencies and organizations that can influence behavior. This would include law enforcement, motorcycle and bicycle groups, local governments, schools, the media and advocacy groups.

Director Malfabon noted that executives will need to anticipate addressing weak areas in their agency's safety performance that will be highlighted by the granularity of the performance measures. Although Nevada's overall safety trend is good, the state has seen unacceptably high pedestrian deaths and injuries in Las Vegas. One cause is that bus stops tend to be in the middle of long blocks that do not include mid-block pedestrian crossings. Pedestrians may need to walk hundreds of yards to a crossing, but instead they cross mid-block near the bus top and are struck by vehicles. The specificity of performance reporting allows such trends to become apparent, he noted. Improving the trend, however, involves communicating with pedestrians, coordinating with the transit agency, working with the municipality and educating drivers of the need to look for pedestrians along the busy Las Vegas thoroughfares.

Secretary Ann Schneider of the Illinois DOT said her department provides local agencies with heat maps showing high-crash locations as part of a larger effort to provide local governments information for data-driven countermeasures. The Illinois DOT provides engineering advice to their local partners to help them improve the safety of local roadways.

The need to reduce crashes of all types on all roadway functional classes led to the other major topic of the forum which is creating a public consensus to reduce highway deaths.

**Leading the Way: Building Consensus as Well as Projects**

The third component of the CEO Safety Leadership Forum addressed the role that leadership, communication, consensus-building and other "soft" skills will play in a performance-based highway safety era. State DOTs' role traditionally has been to provide engineering and technical solutions. But increasingly essential are less-technical approaches that put a human face on highway fatalities. Combined, these "hard" and "soft" approaches can help state DOT leaders build a highway safety culture within their agencies and with key external partners.

Beth Alicandri told the participants they have made significant progress on improving highway safety in recent years. In the past, highway fatalities totaled more than 43,000 a year, or about 120 people a day. By 2011, road deaths had dropped to 32,367, or 89 people a day—the lowest level since 1949. “The good news is that 30 more people got to go home each day,” she said. But preliminary statistics for 2012 show that highway deaths increased to 34,080, or 93 people a day, the first year-to-year uptick in seven years. "Those four people won't get to go home today,” Ms. Alicandri said. “It's clear we need to continue to make a difference."

As the agencies seek to achieve the MAP-21 safety targets, there will be an acute need for transportation agencies to influence external attitudes, as well as to influence their own internal performance. The workshop participants were asked to share examples of the how they influenced public policy, worked with external groups or otherwise created partnerships for highway safety with groups outside of their organization. Their suggestions fell into seven categories including, leadership, employ-
Leadership

Leaders play a pivotal role in developing a safety culture in their organizations and influencing others to commit to high safety standards. The priority to pursue and achieve aggressive safety goals must come from the top and extend throughout the organization and beyond. “It takes leadership. That’s how you get to zero deaths,” said West Virginia Transportation Secretary Paul Mattox Jr. “Leadership needs to make sure safety gets the attention it deserves in our performance and risk evaluation,” said Bernard Arseneau, deputy commissioner and chief engineer of the Minnesota Department of Transportation.

Employee Empowerment

Fostering an organizational culture that lives and breathes safety requires an ongoing effort that is reinforced at every level of the organization. Staff members throughout the transportation agency, not just those in safety-related areas, can affect highway safety outcomes, but they need to be challenged to make safety part of their responsibility. At the same time, they need to have the flexibility to offer and implement solutions. Seeking input and suggestions from employees, particularly those on the front lines, can generate innovative ways to improve safety on the state’s highways. Applying staff ideas that are feasible and acknowledging employees’ contributions to the agency’s success in achieving safety goals build commitment that leads to further progress.

At the Arizona Department of Transportation, employees are encouraged to participate in a “Driving Safely Home” challenge. Employees are asked to sign a pledge to not text and to use only hands-free devices while driving. The pledge applies whether employees are driving state vehicles or their personal cars and trucks. "The genesis behind the employee challenge is that we have to be an example for our citizens and for our own families,” said John Halikowski, director of the Arizona DOT. “We have a large number of employees signing on."

The Pennsylvania Department of Transportation is tapping the collective wisdom and creativity of its employees through an online suggestion box. IdeaLink gives all staff members the opportunity to recommend ways to improve safety and efficiency at the workplace and on the state's highways. Transportation Secretary Barry Schoch reviews each submission personally after it undergoes a thorough evaluation by subject matter experts.

Among the safety suggestions submitted was one that stemmed from an employee's concern about workers in construction zones, especially their exposure to dangers posed by distracted driving. As a result, the Bureau of Driver Licensing, the Bureau of Maintenance and Operations and the Press Office decided to collaborate on a work zone safety video that will become part of the driver's education curriculum in schools across the state. The video will reinforce the message of work zone safety to prevent crashes and fatalities.

Communication

Clear, compelling communication of safety problems and solutions can help build support and produce results. By making targeted communication campaigns on key safety issues a priority and using
a variety of tools—including websites, social media, news media, public meetings and dynamic message signs on highways—to deliver messages, state DOTs are reaching audiences who can help make a difference. The most successful communication efforts include defined goals, benefits, tactics and messages that address the issues in terms that are the most meaningful to each audience, not just the data or engineering terms that technical audiences prefer.

State Success Stories

Examples from the CEO forum demonstrate the variety of ways executives use soft skills to save lives.

Several state transportation agencies are using a simple tactic to get a traffic safety message in front of drivers on a daily basis: They put fatality statistics on the dynamic message signs on their roadways. "The question is, is this too raw, too graphic? Those of us who have done it have decided no, this is reality and we're going to talk about it," said Rhode Island Department of Transportation Director Michael Lewis.

In addition to reminding motorists to drive safely, posting fatality numbers on highway signs can attract media attention which provides agencies with opportunities to communicate with reporters about their efforts to drive the numbers down. "It's good for us to communicate about this,” said Nevada’s Malfabon. "It's a controversial issue, but it brings it to light."

One way the Utah Department of Transportation communicates statistics on highway fatalities, down 42 percent in the state since 2000, is through a series of simple graphics on its Zero Fatalities website (http://ut.zerofatalities.com/statistics_utah.php). The site includes facts about major causes of traffic-related deaths in the state, including drowsy driving, distracted driving, aggressive driving, impaired driving and not buckling up. It also has an archive of safety-related news articles, including one from a local newspaper on a Utah Highway Patrol program at Clearfield High School that raised student seatbelt usage to 95 percent and won the school a $1,000 check from the Utah DOT.

The South Carolina Department of Transportation, another state highway agency that has adopted a "Toward Zero Deaths” goal, has begun communicating about "zero" achievements at the local level. The agency uses Twitter to publicly congratulate counties that have had no fatal crashes during the year, for example. At high schools, the agency installs signs similar to those used at construction sites and in workplaces stating how many days it has been since the last crash at that location. "We’re starting to heighten the awareness of achievement,” Transportation Secretary Robert St. Onge said. “It’s good to celebrate these achievements at a local level."

“Don’t become a zombie. Don’t drive distracted” was the message the North Carolina Department of Transportation used in an ad campaign to highlight the dangers of distracted driving. As part of the campaign, the agency produced public service announcements (www.youtube.com/playlist?list=PLKjJy00IE-UtXG7Twe9F68a3lB_FWc3&feature=view_all) to encourage motorists to focus on driving rather than multitasking when behind the wheel.

The videos begin with the passenger of a car traveling on a highway looking out of his window at passing drivers, who are holding cell phones and appear to have been transformed into the undead. The car passes the scene of a fender-bender with several zombies holding cell phones standing nearby. By the end of the video, the driver of the passenger’s car answers her ringing phone and is instantly transformed into a zombie. “Talking on a phone reduces more than 35 percent of your brain activity needed
for driving,” an announcer says. “This makes a good driver become a zombie.” The campaign received media play on several local television stations.

Stakeholder Engagement and Partnering

Working with other groups on common safety issues and goals creates synergy and can generate better results than an organization working alone. State DOTs are collaborating with safety stakeholders, including local governments, law enforcement, first responders, advocacy groups, educators and prevention specialists. They’re forming partnerships—both formal and informal—with public and private organizations to jointly solve problems, develop innovative programs, share information and resources, and reach broader audiences than they could individually. “One thing that has been successful from our perspective is corporate engagement,” said Illinois Secretary Schneider. “It has been extremely helpful for us.”

The Illinois Department of Transportation partners with the Ford Motor Company Fund, the Allstate Foundation and the GHSA on Operation Teen Safe Driving, a program credited with a 48 percent decline in teen fatalities in the state over five years. Under the program, schools identify traffic safety issues affecting teens and apply for funds to develop awareness programs (www.teensafedrivingillinois.org). After schools create their safety campaigns, five winners in each of seven regions are chosen to receive cash prizes to use at their post-prom events.

The winning schools also get an invitation to send students to the "Driving Skills for Life, Ride and Drive" event, at which they watch professional drivers demonstrate critical driving skills and then try the maneuvers themselves with the professional in the passenger seat to offer tips and assistance. “Operation Teen Safe Driving has proven to be a unique and impactful public-private partnership that utilizes the creativity of Illinois students to further boost traffic safety in schools and communities across the state,” said Schneider, the state’s transportation secretary.

The Arizona Department of Transportation partnered with the Arizona Department of Public Safety to publicize the state’s "Move Over AZ" law, which requires motorists to move over one lane—or slow down if it’s not safe to change lanes—when driving by any vehicle with flashing lights pulled to the side of a road. One of the tactics the agency uses to communicate with drivers about the law is dynamic message signs. The Department of Public Safety raised awareness of the law with a “Move Over Mondays” campaign in which patrol officers focused on enforcing it every Monday in March 2013. Fines for violating the law range from $150 to $650, depending on the jurisdiction.

The Rhode Island Department of Transportation teamed up with the Rhode Island Attorney General’s Office to bring AT&T’s "Txtng & Drivng . . . It Can Wait" awareness campaign to more than 5,000 students at 17 high schools throughout the state, which has a law prohibiting texting while driving for all drivers. The program challenges teens to pledge never to text and drive. “Partnering with AT&T and Attorney General Peter Kilmartin through this unique program has been extremely valuable as we work to tackle the dangers of texting and driving on our roadways,” said Lewis, Rhode Island’s transportation chief.

The Vermont Agency of Transportation established a Work Zone Working Group to raise awareness about work zone safety and reduce fatalities and serious injuries. The group includes the Federal Highway Administration, Associated General Contractors of Vermont, Vermont Occupational Health and Safety Administration, Vermont League of Cities and Towns, law enforcement, fire services and utility
companies. The group’s successes include bringing consistency to work zones across the state so both drivers and workers know what to expect when traveling through or working in a work zone. The group also created a clearinghouse and discussion forums for work zone issues.

The Utah Department of Transportation holds an annual Zero Fatalities Safety Summit to provide safety stakeholders with an opportunity to share experiences, opportunities and successes in improving safety in the state’s communities. The event features presentations and discussion on topics such as the state’s comprehensive safety plan, crash data usage, safety education programs, impaired driving, teen driving, safety restraint systems, engineering and enforcement opportunities. The summit attracts law enforcement personnel, county and state government officials, educators, traffic safety engineers, emergency responders, safety advocates and other stakeholders.

Public Outreach and Education

Addressing the behavioral aspects of road safety—such as speeding and distracted driving—can be more challenging than paving a road or delivering a safety project. Using strong messages and a variety of techniques to deliver them to target audiences raises awareness and can lead to behavioral changes that save lives. State transportation leaders are using interactive and experiential learning efforts such as impaired driving programs and seat belt challenges aimed at teens. Pedestrian and bicycle safety education campaigns seek to change the way drivers respond to vulnerable populations. Agency leaders are also holding public forums to foster dialogue and seek feedback from road users and other stakeholders on safety issues and solutions.

California, Texas and North Carolina are three of the states that use re-enactments of mock drunk-driving crashes to educate high school students about the perils of driving while impaired. “We saw we had teenagers dying at an alarming rate, so we reenacted crash scenes in football stadiums where all the kids could watch,” said North Carolina Department of Transportation Chief Engineer Terry Gibson.

In a typical reenactment at a school, students wear realistic-looking makeup to portray crash injuries and play roles in staged collisions, which can include simulated 911 calls and demonstrations of rescue workers extracting “victims” from vehicles and loading them into ambulances and hearses. Law enforcement officials talk with the students about the dangers of drinking and driving and texting or talking on cell phones while driving. The programs are joint efforts involving law enforcement, emergency responders, insurance companies, teachers, highway agencies and more.

To kick off its participation in the national “Click It or Ticket” campaign and emphasize the importance of wearing seat belts to young drivers, the Rhode Island Department of Transportation held a “Buckle Up Shuffle Relay” challenge. Four-person teams from eight high schools competed in the finals. Each team got in a vehicle, properly buckled up, unbuckled and exited the vehicle. The team members repeated the process, each time moving to the next seating position, until they returned to their original seats. The Coventry High School “Clicks,” with a winning time of 37.8 seconds, won the 2013 championship and a $1,000 prize courtesy of AAA of Southern New England.

The Florida Department of Transportation reached out to baseball fans during a pedestrian and bicyclist safety campaign in Tampa and Miami, where thousands gather to watch the national pastime. The agency targeted those cities for the “Alert Today Alive Tomorrow” campaign because they are two of the least pedestrian- and bicyclist-friendly areas of the state. During the campaign, the agency set up
display booths at baseball games, gave away T-shirts and stress balls showcasing the “Safety Doesn’t Happen by Accident” message and shared the message via signage throughout the games. It also conducted radio and television interviews and offered public service ads in English and Spanish (www.alerttodayflorida.com/Media.html).

“Curbside Haiku” is a New York City Department of Transportation safety education and public art campaign. The installation includes 144 artist-designed signs that mimic the style of traditional street safety signs. The signs are accompanied by a haiku poem that delivers a safety message, such as “Aggressive driver. Aggressive pedestrian. Two crash test dummies.” At some locations, the haikus are embedded in a QR code on the sign, readable with smart phone apps, making the messages interactive. At others, the signs are hung in pairs with the image and text from the accompanying haiku. Placed at eye level at high-crash locations near cultural institutions and schools, the signs draw attention to the importance of shared responsibility among pedestrians, bicyclists and motorists in keeping New York City’s streets safe.

Making Safety Personal

Enlisting individuals affected by highway fatalities to tell their stories—through such avenues as stories in the media, online videos, legislative hearings and public forums—makes statistics personal. Many state DOT leaders have found that highlighting the human aspects of highway safety can help achieve results in the public and legislative arenas, even when other approaches are falling short. “Behind each number is a story. There is an individual. There’s a family. There’s a community that’s affected,” said Hersman. “It’s not about the highway; it’s about the people who use the highway.”

Among the ways the Utah Department of Transportation maintains focus on its comprehensive zero fatalities program is by having the agency’s regional directors discuss major crashes and fatalities at monthly meetings of the state’s independent Transportation Commission. In some cases, they bring along individuals who have lost relatives or friends in a crash who can personalize the safety message to the commissioners.

When eight members of the University of Wyoming cross country team were killed in a drunk-driving crash, it was a watershed moment that drew widespread attention to the issue of impaired driving in the state. “It was then that we got a groundswell of support for doing something,” said Wyoming Department of Transportation Director John Cox. A push from team members’ parents and friends at the university helped strengthen the state’s impaired driving laws, including passage of measures lowering the legal limit for blood-alcohol level and banning open containers of alcohol in moving vehicles. "Those folks refused to go away,” said Cox. “Since then, we’ve seen a progressively stiffer approach to DUI and impaired driving."

Wyoming is also one of the more than 40 states that have passed a no-texting-while-driving law, and one lawmaker’s personal attention helped get it done. "That was the result of one legislator out of the entire body who simply wouldn’t take no for an answer," Cox said. Senator Floyd Esquibel finally succeeded in getting the law passed in 2010 after several failed attempts. “I hope it gets the message across that driving is serious business and you have to pay attention to the road,” he told reporters.

A North Carolina Department of Transportation video that was posted online featured a father talking about losing his 16-year-old daughter in a car crash. Ashley Johnson was killed when she lost control of her vehicle, crossed the center line and hit a pickup truck head-on. Although her father had
warned her about cell phone use behind the wheel, she was texting at the time of the crash. Amos Johnson, who now speaks to local teens about the dangers of distracted driving, relayed the story in the powerful video (www.youtube.com/watch?v=RcRTwKminbQ). “I’ve been telling kids to just wait to get where they’re going before they answer a text or talk on the phone,” he said. The video is also part of the U.S. Department of Transportation’s “Faces of Distracted Driving” series (www.distraction.gov/content/faces/index.html).

Summary

MAP-21 further advances a performance-based approach to reducing highway fatalities. It sets in federal statute an ambitious goal to significantly reduce highway fatalities and serious injuries with a renewed emphasis upon comprehensive strategies to improve the engineering of highways, increase the effectiveness of enforcement, enhance education and continue to improve emergency services.

Transportation executives can adapt to the MAP-21 era by emphasizing their performance-management approaches to their internal safety activities and by expanding their external partnerships with key constituencies. Internally, many diverse agency operations will need to operate in sync for agencies to promptly spot crash trends and then to deploy well-designed countermeasures. Externally, the executive and his or her agency will need to take to all segments of society a highway safety message that reaches motorists, motorcyclists, pedestrians, bicyclists and every agency, business and government that interacts with them.

The Sixth AASHTO State CEO Safety Forum highlighted the new challenges of MAP-21 and how transportation executives will be expected to achieve even greater results in addition to the impressive gains of recent years. The examples from the CEO Safety Forum illustrated that state transportation agencies are working internally and externally to create a safety culture in their agencies and in their communities. Expanding the strategies shared at the CEO Safety Forum will contribute to the ambitious goals in MAP-21 and help create a safer highways and communities.
Appendix 1: MAP-21 Requirements

Figure 5 illustrates the iterative, performance-based approach set out in MAP-21 for the two main highway safety programs, the Sec. 148 programs under FHWA and the Sec. 402 programs under NHTSA. MAP-21 sets a broad national safety goal to significantly reduce fatalities and serious injuries and then identifies 14 performance measures, three of which are common to both the FHWA and NHTSA programs. Funds from both programs flow to the states with the FHWA funds and programs flowing to the state's transportation agency and the NHTSA funds and programs flowing to the state's Highway Safety Office which includes the Governor's Highway Safety representative. In about half of the states, the Governor's Highway Safety representative is in the DOT. Both state entities then collaborate on the state's multi-year Strategic Highway Safety Plan, which identifies both engineering programs and projects and behavioral programs and activities.

For some state transportation agencies, the coordination with the NHTSA 402 programs has been common for many years. In others, silos are more common and the agencies are not closely aligned.

MAP-21 now requires the managers of both the Sec. 148 programs and the Sec. 402 programs to publish crash-reduction targets and to develop formal, public plans for how they will invest federal funds to achieve those targets. The plans are intended to be coordinated, and to both complement the state's umbrella plan, the Strategic Highway Safety Plan.

The degree of federal approval varies between the programs. Under MAP-21, the FHWA does not approve the state's multi-year Strategic Highway Safety Plan, but it does approve the state's process to develop the plan. Also, the state will need to produce periodic, probably annual, reports reporting the projects it pursued and their contribution to reducing serious and fatal injuries, preferably broken down by roadway functional classification. That report will be included on a federal website. The actual fatality and serious-injury targets will be set by the state as part of its performance-management pro-
program established in Sec. 150 of MAP-21. However, if the state's highway safety projects and programs
don't achieve progress toward achieving those targets, then the state needs to submit more detailed
strategies, projects and programs to FHWA until it makes progress towards its targets. Also, some fi-
nancial flexibility is constrained until the targets are met. The federal evaluation of the state's safety
program effectiveness is seen in the feedback loop in Figure 5 between the FHWA evaluation of progress
to targets and that evaluation's input back to the Strategic Highway Safety Plan and to the Highway
Safety Improvement Program, which is the annual program of projects identified by the state.

For the Sec. 402 programs, the Federal oversight is more direct. The state's Governor's Highway
Safety representative must submit annually by July 1 a Highway Safety Plan explaining how the Sec. 402
funds are invested to achieve progress toward the targets the state sets for the 14 national performance
measures. The states will set the targets, or the number it seeks to achieve for each individual perfor-
man ce measure.

These new MAP-21 requirements will affect states differently. There will be little change for
transportation agencies that already have responsibility for the Sec. 402 programs, and if they are accus-
tomed to producing and reporting on safety performance targets. If the agencies have not interacted
frequently with the state’s 402 program and have not produced safety performance targets before,
MAP-21 could represent a significant change. For all states, the MAP-21 provisions represent an eleva-
tion in federal emphasis upon setting formal crash-reduction targets, publishing those targets and then
reporting to U.S. DOT, and the public, on progress towards those targets.
Appendix 2: An Example Dashboard of Leading Indicators

Shown on the following two pages is an example dashboard of lagging and leading measures designed for the MAP-21 era. This is an example dashboard only and does not reflect any requirement by FHWA, NHTSA nor recommendation from AASHTO. However, it illustrates several key concepts including:

- The significant number of measures illustrates the complexity and coordination that is needed for an effective, statewide safety program.
- However, the effective use of "heat maps" and other visualization techniques can allow a reviewer to quickly identify areas needing attention.
- The tracking of key outputs can help predict whether key outcomes are more likely to occur. For instance, seat belt usage is more likely to increase if the supporting public awareness campaigns occur. A leading measure of seat belt usage can be the timely delivery of seat-belt awareness campaigns. Similarly, motorcyclist deaths are more likely to decrease if helmet usage increases.
- Public transparency can be increased with an effective dashboard that illustrates the primary causes of highway deaths and shows how key strategies are being directed to those causes. Progress, or its lack, is clear and transparent.

The following dashboard is set up to illustrate from left to right the key past trends, the contributing factors that caused those trends and the agency's efforts and targets to improve the trends.

In the upper left, the line chart illustrates the state's number of fatalities from 1999 to 2012 with the target for reductions shown in the red line from 2013 to 2017. As shown in the table immediately below the trend line, the agency's target is to achieve a further five percent reduction each year from the 2012 baseline for fatalities, serious injuries and the rate for both.

Shown below the targets is a histogram of the leading causes of crashes in the state. (In this example, they are taken directly from the AASHTO Highway Safety Plan, rather than from an individual state.) A graphic such as this illustrates the leading causes of crashes and their relative contribution to the overall trends. Because crashes often have more than one cause, the contributory percentages add up to more than 100.

Building from these trends, targets and causes, 43 categories of performance in 14 different emphasis areas are tracked. The 14 areas reflect the typical type of emphasis areas that could be found in an agency's Strategic Highway Safety Plan. Starting at the bottom of the left-hand page are three programmatic sets of measures. They deal with whether the critically important crash data are being collected, and from them, whether the crash analyses are being performed. They also measure the overall rate of delivery of the projects and activities within the two key programs, the Highway Safety Program and the Highway Safety Improvement program.

At the top of the right-hand page is the year-to-date number of monthly fatalities compared to the preceding year. Following that are metrics on year-to-date progress on the major program areas. Each program area corresponds to a major contributing crash factor, such as run-off-the-road crashes or lack of seatbelt usage. Color coding indicates whether the year-to-date performance corresponds to the -year-to-date target. This example represents the monthly report from September.
# Leading Indicators to Track Progress to Targets

Comparison of Month to Month Fatalities

<table>
<thead>
<tr>
<th>2013 Activities and Leading Indicators</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Run Off Road Focus Area Target Achievement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Cable-median barrier installation targets achieved</td>
<td>95</td>
<td>80</td>
</tr>
<tr>
<td>% Safety edge deployment targets achieved</td>
<td>95</td>
<td>88</td>
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<tr>
<td>% completed Surface Treatment Friction deployment program</td>
<td>95</td>
<td>100</td>
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<tr>
<td>% of Regulatory and Guide signs in &quot;Good&quot; condition target</td>
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<td>98</td>
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<tr>
<td>% of pavement marking striping program completed</td>
<td>95</td>
<td>100</td>
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<tr>
<td>Achievement of 5% reduction in roadway department fatalities YTD</td>
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<td>-3</td>
</tr>
<tr>
<td><strong>Seat Belt Usage Focus Area Target Achievement</strong></td>
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<tr>
<td>% of seat belt promotion campaigns completed</td>
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<td>% of targeted seat belt promotion enforcement completed</td>
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<td>85</td>
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<tr>
<td>5% reduction in unrestrained fatalities year to date</td>
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</tr>
<tr>
<td><strong>Impaired Driving Focus Area Target Achievement</strong></td>
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<tr>
<td>% achieved impaired driving enforcement efforts</td>
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</tr>
<tr>
<td>% achieved impaired driving education campaigns</td>
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<tr>
<td>5% reduction in fatalities involving BAC of &lt;=0.08 year to date</td>
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<td>-3</td>
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<tr>
<td><strong>Speed/Reckless Reduction Focus Area Target Achievement</strong></td>
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<tr>
<td>% of targeted speed enforcement campaigns completed</td>
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<td>98</td>
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<tr>
<td>% of targets speed education campaigns completed</td>
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<tr>
<td>% of speed-reduction countermeasures completed</td>
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<td><strong>Motorcyclist Fatalities Focus Area Target Achievement</strong></td>
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<td>% completion of motorcycle safety awareness campaign</td>
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<td>5% reduction in motorcyclist fatalities YTD</td>
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<td>-3</td>
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<tr>
<td><strong>Older Drivers Focus Area Target Achievement</strong></td>
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<td>% achieved of signage, pavement marking visibility enhancement</td>
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<td>5% reduction in fatalities among older drivers YTD</td>
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<td><strong>Intersection Crash Focus Area Target Achievement</strong></td>
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<td>% of hours achieved of targeted enforcement at top 25 intersections</td>
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<td>% deployment of systematic intersection safety improvements</td>
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<tr>
<td>% completion of pedestrian-safety intersection improvements</td>
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<tr>
<td>% completion of assigned signal-timing studies</td>
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<tr>
<td>% signal head modernization completed</td>
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<td>88</td>
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<td><strong>Distracted Driving Focus Area Target Achievement</strong></td>
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<tr>
<td>% achieved of distracted driving media, education campaign</td>
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<tr>
<td>Enactment of distracted driving penalty statute</td>
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<td></td>
</tr>
<tr>
<td>5% reduction distracted-driving fatalities</td>
<td>-5%</td>
<td>-3%</td>
</tr>
<tr>
<td><strong>Heavy Truck Focus Area Target Achievement</strong></td>
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<td></td>
</tr>
<tr>
<td>% of inspections of trucking firms with records of citations</td>
<td>95</td>
<td>90</td>
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<tr>
<td>% of truck targeted enforcement achieved</td>
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<td>96</td>
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<tr>
<td><strong>Bicyclist/Pedestrian Focus Area Target Achievement</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% accomplished of annual pedestrian safety improvement projects</td>
<td>95</td>
<td>100</td>
</tr>
<tr>
<td>% accomplished of annual bicycle safety messaging campaign</td>
<td>95</td>
<td>100</td>
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<tr>
<td><strong>Young Driver Focus Area Efforts</strong></td>
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<tr>
<td>% Accomplishment of young-driver targeted enforcement campaign</td>
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</tr>
<tr>
<td>% Accomplishment of young-driver messaging campaign</td>
<td>95</td>
<td>95</td>
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</tbody>
</table>


3 Tally, Robert, Carlos Braceras et al, Linking Transportation Performance and Accountability, an international scanning report published by the FHWA Office of International Programs., 2010 http://www.international.fhwa.dot.gov/pubs/pl10011/