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## SCAN TEAM REPORT

NCHRP Project 20-68A, Scan 12-03

# Advances in Safety Program Practices in Zero-Fatalities States

*Supported by the*

National Cooperative Highway Research Program

March 2016

The information contained in this report was prepared as part of NCHRP Project 20-68A U.S. Domestic Scan, National Cooperative Highway Research Program.

**SPECIAL NOTE:** This report IS NOT an official publication of the National Cooperative Highway Research Program, Transportation Research Board, or the National Academies of Sciences, Engineering, and Medicine.



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The purpose of each scan, and of Project 20-68A as a whole, is to accelerate beneficial innovation by facilitating information sharing and technology exchange among the states and other transportation agencies, and identifying actionable items of common interest. Experience has shown that personal contact with new ideas and their application is a particularly valuable means for such sharing and exchange. A scan entails peer-to-peer discussions between practitioners who have implemented new practices and others who are able to disseminate knowledge of these new practices and their possible benefits to a broad audience of other users. Each scan addresses a single technical topic selected by AASHTO and the NCHRP 20-68A Project Panel. Further information on the NCHRP 20-68A U.S. Domestic Scan Program is available at <http://144.171.11.40/cmsfeed/TRBNetProjectDisplay.asp?ProjectID=1570>.

This report was prepared by the scan team for Domestic Scan 12-03, Advances in Safety Program Practices in Zero-Fatalities States, whose members are listed below. Scan planning and logistics are managed by Arora and Associates, P.C.; Harry Capers is the Principal Investigator. NCHRP Project 20-68A is guided by a technical project panel and managed by Andrew C. Lemer, PhD, NCHRP Senior Program Officer.

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## Disclaimer

The information in this document was taken directly from the submission of the authors. The opinions and conclusions expressed or implied are those of the scan team and are not necessarily those of the Transportation Research Board or its sponsoring agencies. This report has not been reviewed by and is not a report of the Transportation Research Board or the National Academies of Sciences, Engineering, and Medicine.



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# Scan 12-03

## Advances in Safety Program Practices in Zero-Fatality States

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**American Association of State Highway and Transportation Officials**

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## ABBREVIATIONS AND ACRONYMS

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## Abbreviations and Acronyms

AASHTO	American Association of State Highway and Transportation Officials
CCRPC	Champaign County (Illinois) Regional Planning Commission
CTS	Center for Transportation Studies (University of Minnesota)
DOT	Department of Transportation
EMS	Emergency Medical Services (Maryland)
FHWA	Federal Highway Administration
GHSA	Governors Highway Safety Association
HSIP	Highway Safety Improvement Program (FHWA)
HSP	Highway Safety Program (FHWA)
IDOT	Illinois Department of Transportation
Iowa DOT	Iowa Department of Transportation
IPM	Implementation Process Model (FHWA)
ITD	Idaho Transportation Department
LTAP	Local Technical Assistance Program
MaineDOT	Maine Department of Transportation
MAP-21	MAP-21—Moving Ahead for Progress in the 21st Century (FHWA)
MDOT	Michigan Department of Transportation
MHSO	Maryland Highway Safety Office
MMUCC Guideline	Model Minimum Uniform Crash Criteria Guideline
MnDOT	Minnesota Department of Transportation
MPO	Metropolitan planning organization
MVA	Motor Vehicle Administration (Maryland)
NCHRP	National Cooperative Highway Research Program
NHTSA	National Highway Traffic Safety Administration
PennDOT	Pennsylvania Department of Transportation
PSA	Public Service Announcement
ROI	Return on Investment
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (FHWA)
SCDOT	South Carolina Department of Transportation
SCDPS	South Carolina Department of Public Safety
SHA	State Highway Administration (Maryland)
SHSP	Strategic Highway Safety Plan
SME	Subject Matter Expert
TRB	Transportation Research Board
TRCC	Traffic Records Coordinating Committees
TZ	Target Zero (South Carolina)
TZD	Toward Zero Deaths (AASHTO)
VMT	Vehicle Miles Traveled
WSDOT	Washington State Department of Transportation



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# Executive Summary

This document describes the results of Domestic Scan 12-03, Advances in Safety Program Practices in Zero-Fatalities States, conducted as part of National Cooperative Highway Research Program (NCHRP) Project 20-68A U.S. Domestic Scan Program, to investigate advances in safety program practices in states with a “zero-fatalities” philosophy or vision. The purpose of each scan and of the program as a whole is to facilitate information sharing and technology exchange among the states and other transportation agencies regarding effective new practices and thereby to accelerate innovation among agencies.

Reducing the numbers of fatalities and serious injuries incurred on the nation’s roadways is a continuing objective of state transportation agencies. A number of states in recent years have adopted as the basis for their safety programs the principle that no traffic-related fatalities are acceptable, that “zero deaths” on the state’s transportation system is their ultimate goal. Among other organizations, the U.S. Department of Transportation, the American Association of State Highway and Transportation Officials (AASHTO), and more than 40 states have endorsed a “Toward Zero Deaths” (TZD) terminology for communicating about this vision and programs designed to improve road safety. While none would argue that even one death on the roads is acceptable, some people remain skeptical of zero deaths as a viable management goal.

The Federal Highway Administration (FHWA) requires that each state develop a Strategic Highway Safety Plan (SHSP), a multiyear, statewide-coordinated, comprehensive framework for reducing highway fatalities and serious injuries on all public roads. While it is the state departments of transportation (DOTs) that are mandated by FHWA with the responsibility for the SHSP, development and pursuit of the SHSP are meant to bring together and engage the public safety, public health, law enforcement, and other agencies, as well as the transportation agency and the public, that together influence road safety. In this report the term “TZD” refers generally to those states and safety programs that have adopted a zero-deaths vision or goal, whether they use that specific term or another.

Scan 12-03 was undertaken to examine experience of states that have adopted a TZD, zero-fatalities vision in their SHSP development and implementation regarding (a) particularly effective road safety planning and programming practices and agency management strategies and (b) evidence of the influence that adopting TZD may have on overall safety management strategies, including SHSP development and implementation. The scan focused on the state DOTs and other state agencies, but considered as well local-agency activities and public engagement to reach consensus on the importance of road safety and means for enhancing it.

Each scan relies on a small team of experienced practitioners who interact with their peers in leading agencies to identify new practices that may be beneficially adopted by other agencies, then document those practices and their likely benefits, and finally participate in dissemination of this information to colleagues throughout the nation. The 12-03 scan team (Appendices A and B) conducted on-site visits with six DOTs that have adopted TZD: Idaho Transportation Department, Maine DOT, Maryland State Highway Administration, Michigan DOT, South Carolina Department of Public Safety, and Washington State DOT. The team interviewed a seventh state, Minnesota DOT, by telephone. Personnel at each state’s host agency were asked to consider—in advance of the scan team’s visit—a set of “amplifying questions” (see Appendix C) designed to articulate the scan’s objectives and scope and to motivate discussion.

Based on their discussions, the scan team drew conclusions in several topic areas about lessons to be learned and actionable ideas that DOTs might adopt regarding the use of TZD or a similar zero-deaths goal or vision



to improve overall road-system safety performance and the SHSP, which is most states' primary mechanism for funding safety efforts:

- **TZD Vision:** While road safety seldom appears in polls of Americans' most cherished values, there is no disagreement that reducing, if not eliminating, road fatalities is the primary objective of each state's SHSP and other safety management efforts. Nevertheless, the scan team observes that states may vary substantially in their strategies and preferences among activities to pursue this objective. Adopting a zero-fatalities goal or vision as a basis for safety program development and management becomes attractive and feasible when the various stakeholders in a state can be rallied around the principles that every life is important, and moving toward zero fatalities is the only morally acceptable goal. Commitment to this vision from the highest levels of state leadership facilitates its effective integration into the SHSP and implementation of SHSP components.
- **TZD and the SHSP:** As a mandatory foundation and framework for states' road safety programs, a well-developed SHSP facilitates safety improvements, using reliable data and well-defined outcome-oriented activities to pursue agency objectives. A zero-fatalities vision establishes clearly that fatalities are a principal measure of the state's road safety performance and supports agency efforts to (a) craft succinct and effective messages for program branding and marketing; (b) build partnerships among agencies that share responsibility for safety (for example, state police and emergency medical officials); (c) communicate with all stakeholders about road safety initiatives under an umbrella of TZD and raise public awareness of road safety as a matter of public policy; and (d) energize their SHSP process.
- **Leadership and Partnerships:** The scan team observed that TZD or other well-crafted statement of a zero-deaths vision does appear to enhance communication among SHSP participants and between public officials and stakeholders generally. All states participating in the scan had a person or group within the DOT with designated responsibility for SHSP implementation and functional partnerships with other governmental and nongovernmental organizations such as local police and emergency medical services. The unambiguous simplicity of a zero-deaths goal appears to be helpful in making road safety a political priority for top state government officials.
- **Data:** The scan team observed that all states reviewed rely on effective data collection and information management practices to advance fact-based SHSP development and implementation. All states visited emphasized the setting of specific targets for levels and timing of activities undertaken to enhance safety, prioritizing SHSP activities specifically to meet those targets, and periodically reporting progress. Some of the TZD states indicated that DOT data collection and performance reporting have helped the agency provide leadership, strengthened partnerships, and helped to identify programs that were not effective in pursuit of the zero-death vision.
- **Traffic Safety Culture:** The scan team found that some DOTs reported that adoption of a TZD philosophy has contributed to a cultural shift within their agencies and among their partners toward increased individual awareness of road safety concerns and greater individual acceptance of responsibility for improving road safety. These agencies suggested this cultural shift increased staff willingness to try new ideas and to recruit nontraditional partners to pursue safety improvements.

Going forward, states will consider opportunities to improve and strengthen their zero-fatalities efforts. Many programs are already expanding their focus, moving from one of state-level initiatives to include localized strategies, and addressing safety on rural roadways as well as in urban areas. Gaining and sustaining leadership attention in a world of competing priorities will also be key. Growing the base of stakeholders by reaching out to legislators and private sector industries is another opportunity to spread

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the zero-fatalities message. Addressing data integration issues and identifying strategic communications practices will also help all states move forward.

To help promote their findings and recommendations, scan team members developed a dissemination and implementation plan that includes both national- and state-level strategies. Beyond presenting the findings to the scan team's home and host agencies, scan participants plan to share the results at meetings and sessions sponsored by the Transportation Research Board, AASHTO, FHWA, and state DOTs as well as associations representing governance, engineers, and safety professionals. Journal and newsletter articles in print publications as well as online resources will also be considered.



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# Chapter 1 Introduction

The work described in this document was conducted as part of the National Cooperative Highway Research Program (NCHRP) Project 20-68A, the U.S. Domestic Scan Program. This program was requested by the American Association of State Highway and Transportation Officials (AASHTO), with funding provided through the NCHRP.

The purpose of each scan and of Project 20-68A is to accelerate beneficial innovation by facilitating information sharing and technology exchange among the states and other transportation agencies. A scan entails face-to-face demonstrations and discussions among peers, with visiting agency representatives learning from host agency practitioners who have implemented innovative practices. Each scan addresses a single technical topic selected by AASHTO and the NCHRP 20-68A Project Panel.

This report documents the results of Scan 12-03, Advances in Safety Program Practices in Zero-Fatalities States, which investigated the experiences of states that have adopted a “Toward Zero Deaths” (TZD), zero-fatalities vision in the development and implementation of their Strategic Highway Safety Plan (SHSP).

## Scan Focus Areas

The scan’s purpose was to examine:

- State and local practices in adopting and implementing a zero-fatalities vision for road safety planning and programming
- Ways in which the approach influences agency management philosophy and public attitudes
- The challenges faced in reaching consensus on the aggressive highway safety approach and how the challenges are met
- The practical impact for SHSP development, implementation, and performance monitoring

Specific topics of interest with respect to a zero-fatalities philosophy included:

- Identifying the agency’s leadership and management philosophy
- Collaborating with existing and nontraditional safety partners
- Reaching consensus with all stakeholders on an aggressive highway safety goal
- Developing a culture of safety and collaboration among partner agencies and associations
- Linking safety and the transportation planning process
- Developing, implementing, evaluating, and modifying SHSPs based on an aggressive goal
- Understanding how a zero-fatalities vision affects safety investment decisions
- Marketing a zero-fatalities goal to agency leadership and staff, safety partners, and the public

## Preparing for the Scan

To help identify agencies experienced with TZD program implementation and to provide additional

background and context for the scan topics to be explored, the project subject matter experts (SMEs) completed a desk scan that included a literature review, interviews with the 12-03 scan team (see Appendix A for scan team biographical sketches and Appendix B for scan team contact information), and interviews with additional individuals experienced with TZD in state or federal agencies. The desk scan identified five characteristics of successful TZD programs:

- An ambitious goal of eliminating traffic fatalities and serious injuries
- High levels of interagency cooperation, including among state departments of transportation (DOTs), public safety, health, and other relevant agencies, to pursue the TZD goal
- A comprehensive strategy addressing the impact of engineering, enforcement, education, and emergency response on safety
- A performance-based, data-driven system targeting resources and strategies where they have the greatest impact in reducing traffic fatalities
- Policy leadership from relevant entities, including the governor, state legislature, and heads of state agencies

The literature review produced general information about TZD implementation strategies. As part of the next steps, SMEs recommended that the scan begin to catalog specific strategies currently in practice and address areas where further research is needed.

In addition to the desk scan, the SMEs also conducted a survey of 18 DOTs in TZD states to document their experiences with TZD program development and implementation, including the role of agency leaders and stakeholders and the impact of TZD efforts on the safety culture in the agencies.

The results of the desk scan and survey were used to select leaders in TZD who could serve as host agencies for the on-site visits and to develop an extensive list of amplifying questions (see Appendix C) to guide the scan discussions. Scan team members and host agencies were chosen based on their experience and knowledge designing and implementing comprehensive programs that support the zero-fatalities vision.

## Scan Tour

The scan team conducted on-site visits with six agency hosts to examine zero-fatalities programs firsthand. Team members also contacted a seventh state by telephone. The scan team visited the host agencies over two weeks: from March 23 to March 29, 2014, and from April 27 to May 3, 2014. The data and information collected ultimately led to the findings included in this report.

The scan tour host agencies dedicated substantial time and resources to this endeavor, and the scan team is indebted to them for the informative and valuable presentations and discussions.

## Scan Team

Members of the scan team included state and regional transportation agency personnel, as well as personnel from the Federal Highway Administration (FHWA) and AASHTO. Scan team members, some of whom are present in Figure 1.1, include:

- Priscilla Tobias, PE, AASHTO Scan Chair, State Safety Engineer, Illinois DOT<sup>1</sup> (IDOT)
- Kelly Hardy, PE, Safety Program Manager, AASHTO<sup>2</sup>

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<sup>1</sup> Illinois Department of Transportation, <http://www.idot.illinois.gov/>

<sup>2</sup> American Association of State Highway and Transportation Officials, <http://www.transportation.org/Pages/Default.aspx>

- 
- Girish (Gary) Modi, PE, Division Chief, Pennsylvania DOT (PennDOT)
  - Rita Morocoima-Black, Transportation Planning Manager, Champaign County (Illinois) Regional Planning Commission (CCRPC)
  - Jeremy Vortherms, Design Engineer/North Area Engineer (District 1 Office), Iowa DOT<sup>3</sup>
  - Marie Walsh, PhD, Director, Louisiana Local Technical Assistance Program, Transportation Research Center
  - Jennifer Warren, SHSP Program Manager, FHWA Office of Safety
  - Susan Herbel, Subject Matter Expert; Principal, Cambridge Systematics
  - Whitney Faron, Assistant to Subject Matter Expert, Cambridge Systematics



**Figure 1.1 Scan team members**

Left to right: Kelly Hardy, Mike Wright (Arora and Associates, P.C.), Jeremy Vortherms, Rita Morocoima-Black, Priscilla Tobias, Girish (Gary) Modi, Whitney Faron, and Marie Walsh (not shown: Jennifer Warren and Susan Herbel)

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<sup>3</sup> Iowa Department of Transportation, <http://www.iowadot.gov/index.html#/services>











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## 2 Scan Tour Findings

The topic areas described below were highlighted by the scan states as critical to achieving a zero-fatalities philosophy or vision. A strong commitment in each of these areas has enabled the states to strengthen safety efforts and implement zero-based programs. Appendix E summarizes these elements and the key activities or indicators that demonstrate implementation success.

### Establishing a TZD Vision

The scan states use various methods for characterizing the zero-fatalities concept (e.g., goal or vision), which provides a unifying and compelling vision for all audiences and brings safety partners together under one umbrella. Safety partners coalesce around the idea that every life counts and moving toward zero is the only morally acceptable goal. It provides a mindset that energizes safety efforts, strengthens SHSP implementation, and places responsibility for safer roads on all transportation system users. Several of the scan states shared how they communicate this vision within their organizations and with partners:

- **Michigan:** “Moving towards zero deaths, allowing all roadway users to arrive safely at their destinations.”
- **South Carolina:** “Eradicate fatalities one fatality at a time, one day at a time.”
- **Illinois:** “Partnering for zero fatalities” to indicate that everyone plays a part in actions to reduce fatalities and serious injuries.

Although the scan states shared a high-level vision for improving safety, they recognized that a perfect zero-fatalities program cannot be defined. In other words, each state’s unique structure and environment requires a tailored program, both in terms of the activities and how those activities are communicated.

### SHSPs and TZD

SHSPs provide a foundation and framework for road safety planning in the United States. In 1997, AASHTO published an SHSP and encouraged states to develop data-driven and evidence-based SHSPs addressing the appropriate emphasis areas in the AASHTO plan. Some states had already produced an SHSP; others began work after the AASHTO plan was published. In 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA LU) required all states to develop SHSPs. Today each state has completed and is implementing an SHSP.

Subsequently, FHWA published the SHSP Implementation Process Model (IPM), which collected information and examples from the states. The IPM refers to four fundamental elements and four basic steps for successful SHSP implementation (called The Essential Eight). The fundamental elements are leadership, collaboration, communication, and data collection and analysis. The implementation steps are developing emphasis area action plans; linking the SHSP to other transportation and safety planning processes; marketing SHSPs to raise awareness and recruit more stakeholders; and monitoring implementation, evaluating effectiveness, and providing feedback to continually improve the process and document. The states view SHSPs as living documents that facilitate incorporating zero-fatalities approaches into SHSPs when the timing is appropriate.

The scan found that SHSP implementation serves as a vehicle for implementing a zero-fatalities philosophy. SHSPs provide not only a data-driven framework that allows for stronger integration of safety and planning documents, but also an effective mechanism for addressing a zero-fatalities philosophy. SHSPs bring leadership, champions, partners, stakeholders, action plans, and resources to the enterprise. Furthermore,

in most cases, the SHSPs become more strategic and focused over time. Having those elements in place eases the task of integrating a zero-fatalities philosophy into the existing structure.

### Scan State Examples: Integrating SHSP into Other Safety Documents

IDOT included a section on improving transportation safety in the most recent update of the long-range transportation plan<sup>8</sup> and tracks progress quarterly to ensure continued alignment with the SHSP. Success results in leveraging resources, recruiting additional partners and stakeholders, and ensuring that all state and local agencies with safety responsibilities are moving forward in harmony.

Maryland SHA’s business plan<sup>9</sup>, as well as the business plans for all the DOT modal elements, the Highway Safety Improvement Program<sup>10</sup> (HSIP), and the Highway Safety Program<sup>11</sup> (HSP), fully integrates SHSP<sup>12</sup> goals, objectives, and strategies. For example, HSIP projects are directly linked to the SHSP, and HSP programs and projects are required to correlate with SHSP strategies. The responsible state agencies, Maryland SHA and the Maryland Highway Safety Office<sup>13</sup> (MHSO), meet monthly to collaborate and ensure they are working in harmony. Regular collaboration also exists with the Commercial Vehicle Safety Plan program managers and the Motor Vehicle Administration’s<sup>14</sup> (MVA’s) driver safety program. Figure 2.1 illustrates Maryland’s SHSP integration model.



**Figure 2.1 Maryland’s SHSP integration model**

Maryland uses the requirement to coordinate the SHSP with other safety and transportation plans and documents to reach out to partners and encourage adoption of the zero-fatalities vision. For example, these Maryland entities have adopted the SHSP zero-fatalities vision:

<sup>8</sup> 2012 Long-Range State Transportation Plan, Illinois State Transportation Plan, <http://www.illinoistransportationplan.org/>  
<sup>9</sup> FY 2012-2015 SHA Business Plan, State Highway Administration, Maryland Department of Transportation, <http://www.marylandroads.com/oc/shabusinesstnl.pdf>  
<sup>10</sup> Highway Safety Improvement Program (HSIP), Federal Highway Administration, <http://safety.fhwa.dot.gov/hsip/>  
<sup>11</sup> Maryland SHA, Highway Safety Programs, <http://sha.md.gov/Index.aspx?PageId=684>  
<sup>12</sup> Maryland Strategic Highway Safety Plan 2011-2015, August 2011, <http://www.marylandroads.com/oost/SHSP.pdf>  
<sup>12</sup> Maryland Highway Safety Office, Motor Vehicle Administration, Maryland Department of Transportation, <http://www.mva.maryland.gov/safety/mhso/index.htm>  
<sup>14</sup> Motor Vehicle Administration, Maryland Department of Transportation, <http://www.mva.maryland.gov/>

- 
- Chiefs of Police Association<sup>15</sup>
  - Sheriffs' Association
  - Emergency Medical Services (EMS) Board
  - Association of County Health Officers

Governor Martin O'Malley has issued a proclamation endorsing zero fatalities, and local units of government also are beginning to align with the SHSP and the zero-fatalities vision. The SHSP is the guiding philosophy of several state agency business plans, including the Department of Health and Mental Hygiene, police departments, and all the modal administrations within the DOT. The Baltimore Metropolitan Council has been an active partner in the development and implementation of the SHSP, and Harford County has integrated the SHSP into its county safety plan and adopted the zero-fatalities vision.

## Leadership

Agencies implementing a zero-based philosophy have strong, committed, and visible leadership at various levels of management. The unambiguous simplicity of a zero-deaths goal appears to be helpful in making road safety a political priority for top state government officials. In the scan tour states, the responsibilities of those leading include influencing policy direction, setting priorities, defining performance expectations for agency staff, managing interagency relationships, and establishing accountability for actions and outcomes.

Zero-based implementation leaders have the ability to set direction and inspire others to follow them. They are risk takers, problems solvers, and creative thinkers, committed to doing what is necessary to advance the cause, which sometimes means breaking traditional institutional barriers. These attributes are essential for zero-based implementation, but leadership occurs at different levels within states. The fundamental leadership roles important for implementing a zero-based philosophy include:

- **State-Level Leadership:** These leaders have the ability to send clear messages across various agencies to stress the importance of an issue and the need to address it in a wide variety of programs and policies. They are generalists and may not be involved in the day-to-day management responsibility for program development and implementation; however, they are able to “move mountains” in terms of resource allocation and policy support. States that do not have the support of top-level leadership are at a disadvantage. It is necessary to continually educate leadership and promote their involvement.
- **Agency-Level Leadership:** These leaders inspire others to follow their direction. They provide leadership through their enthusiastic support of the zero-based philosophy and its implementation. They are credible, accountable, and have excellent interpersonal and organizational skills. They encourage commitment and participation from a diverse range of safety partners. They are highly respected within their own agencies and often work with SMEs.
- **Staff Leadership:** In some cases, an SHSP leader holds an important technical position, such as the State Safety Engineer or the Highway Safety Coordinator. These professionals have access to agency-level leadership and are able to influence outcomes because they are experienced and respected, not only by their peers, but also by upper management.

As agencies and organizations undergo staff changes, it is essential to continually identify and encourage new leaders. This can be accomplished by assigning leadership responsibilities for program implementation

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<sup>15</sup> Maryland Chiefs of Police Association, Inc., <http://www.marylandchiefs.org/HighwaySafety/TowardZeroDeath.aspx>

to newer stakeholders and ensuring all staff and stakeholders have opportunities to engage and lead during meetings and other activities.

### Scan State Examples: State-Level Leadership

Strong zero-fatalities and SHSP leadership exists at some level in all scan states. For example, in Maryland and Washington, the governors have been involved in leading implementation initiatives, as well as tracking progress and performance. Michigan, Louisiana, Idaho, and Washington have boards or commissions appointed by the governor playing a leadership role. For example, the seven-member Idaho Transportation Board committed to and adopted the zero-fatalities vision. The governor appoints members to the board; however, the governor cannot remove members.

A governor’s involvement is advantageous, not only from the authority-figure perspective, but also for raising visibility and awareness for the zero-fatalities vision. For example, in Maryland the zero-based program was institutionalized into the activities of the Executive Council, MHSO staff, district-level public information officers, regional transportation safety managers, law enforcement, and metropolitan planning organizations (MPOs). Additionally, many of the agencies the governor influenced (e.g., law enforcement) are now self-proclaimed champions of the zero-based philosophy. Figure 2.2 is an image of Maryland’s Governor Martin O’Malley discussing the zero-based goal at a meeting with law enforcement.



**Figure 2.2** Maryland’s Governor Martin O’Malley discussing the zero-based goal

To promulgate the zero-based philosophy further, the governor’s subordinates saw the need to create a part-time SHSP coordinator position. The position was created in response to the influx of zero-based, goal-related responsibilities throughout the state, as well as the desire to institutionalize zero-based goal implementation further in the various levels of government.

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## Scan State Examples: Agency-Level Leadership

In most states, the DOT leads the charge for implementing the SHSP and the zero-based vision. In some cases (e.g., Arizona, Illinois, Louisiana, and Maine), leadership comes from the very top of the organization (e.g., secretary or director level). However, in virtually all the scan states, strong safety champions exist throughout the DOT, as well as in other partner organizations.

In Maine, directors from both MaineDOT and the Bureau of Highway Safety became champions of the zero-based philosophy in their state after watching a man-on-the-street video at a safety conference. These leaders described the zero-based philosophy as a “unifying vision, theme, and goal” that they have committed to promoting throughout their state.

Maine’s directors obtained buy-in from a wide variety of transportation stakeholders, including an endorsement for the zero-based philosophy from their superiors at the commissioner level. They also obtained buy-in from SHSP emphasis area leaders, who ensure that the zero-based philosophy is included in their day-to-day tasks, meetings, and activities. Finally, the directors identified partners who could champion the philosophy due to their dedication to safety. These partners include local police, the Bureau of Motor Vehicles, MPOs, regional planning organizations, and AAA. The National Highway Traffic Safety Administration (NHTSA), FHWA, and Federal Motor Carrier Safety Administration are actively engaged federal partners.

In a few states, law enforcement and/or the State Highway Safety Office leads the effort. For example, in South Carolina, the law-enforcement agency redirected its deployment efforts to focus on the core violations most associated with fatalities and mounted an extensive campaign to raise public awareness of the zero-based philosophy and program. Other states, such as Louisiana, use crash data mapping to direct resources to locations experiencing abnormal or a higher-than-average number of severe crashes.

## Partnerships and Collaboration

Implementing a zero-based vision enhances communication among SHSP participants and stakeholders and contributes to a collaborative environment. It brings all the agencies and individuals together under a common theme and influences the goals and objectives of all the partner organizations.

Each of the scan states has designated a person or group with responsibility for SHSP implementation and set aside resources to support the effort. The scan states indicated that a full-time SHSP program manager would be ideal, but that they do not have sufficient resources to accomplish the objective. However, all recognize the need for continual oversight and collaboration with partners.

Multidisciplinary partnerships are prevalent in all the states the scan team visited. SHSP implementation teams often include many partners in leadership roles, and the scan team observed strong partnerships between behavioral (e.g., law enforcement) and engineering programs in the scan tour states. The scan states also recognize the need for additional partners in the decision-making process and use strategies such as safety summits and conferences to expand participation.

To implement zero-based program strategies fully, collaboration and partnerships with local agencies are key. These agencies include regional planning agencies, as well as counties, cities, and other local jurisdictions. The team found that collaboration on resources (e.g., cost sharing, technical support, and training) was common in the scan tour states.

## Scan State Examples: Partnership Activities

The states are increasingly assisting their partners in developing localized safety plans that align



with the state SHSPs and incorporate a zero-fatalities vision or goal. Depending on how the state is structured, this may mean working with counties, an approach Maryland, Minnesota, Illinois, and others are exercising; working with MPOs, which Illinois, Louisiana, Maryland, and others are using; or other relevant governmental structures. In some cases, like Louisiana, Washington, and Michigan, states have codified statewide road safety oversight committees. The structure is not as important as the impetus these commissions and boards provide for ensuring sustainability beyond changing environments. Maine has created a Transportation Safety Coalition<sup>16</sup> with a formal charter. This coalition provides a neutral unifying group where all have an equal voice.

To implement its zero-based program, MnDOT extended its stakeholder involvement by partnering with regional representatives and universities. MnDOT now funds full-time regional TZD coordinator positions at the county level throughout the state. Through regional workshops, regional coordinators engage local stakeholders in refining the state's SHSP to include zero-based goals and initiatives. The coordinators also provide data and technical assistance to local communities so they can create and refine their own local safety plans, which incorporate the zero-based philosophy.

MnDOT also implemented a zero-based program by partnering with the University of Minnesota's Center for Transportation Studies<sup>17</sup> (CTS) to bring local stakeholders and nontraditional partners to the zero-based program. The CTS provides administrative support to the statewide program, which includes building and maintaining the state's zero-based program website,<sup>18</sup> organizing and leading the annual statewide safety conference, and convening various stakeholder group meetings. One example of a meeting the CTS organizes is a quarterly TZD breakfast, which brings together private and public transportation representatives, including AAA, the Minnesota Safety Council, and the Minnesota Department of Health. Each breakfast features a presentation on a traffic safety-related topic as a learning event and provides time to discuss and share organizational updates. The events are webcast statewide to offer the opportunity to participate without having to travel.

South Carolina DOT (SCDOT) traffic safety leaders formed strong partnerships with law enforcement to inform locals about the state's commitment to the zero-based philosophy. Some of these initiatives include television and radio announcements, as well as enforcement signs during the holiday season. Other zero-based program strategies include printing high school prom tickets and citation holders that include safety messages regarding speed, DUI, and safety-belt use. With its Move Over<sup>19</sup> campaign, enforcement posted signage along state roadways telling motorists to leave plenty of space between their vehicles and others, to Move Over for emergency vehicles and first responders, and, in the case of a collision with no injuries, to move vehicles safely out of the traffic flow. All of these efforts support zero-fatalities implementation.

Collaborative statewide coalitions not only reach out to local agencies and organizations, but also may influence surrounding jurisdictions. For example, safety issues in the upper northeast part of the United States cross state boundaries. MaineDOT collaborates with other states in the region through a tri-state effort to reduce fatalities for the region 50% by 2030. The regional effort resulted in Vermont and New Hampshire creating transportation safety coalitions, which demonstrates how one state can have influence beyond its borders, especially when motorists travel between these areas.

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<sup>16</sup> Maine Transportation Safety Coalition, <http://www.themtsc.org/>

<sup>17</sup> Center for Transportation Studies, University of Minnesota, <http://www.minnesotatzd.org/>

<sup>18</sup> Safety Resources, Minnesota Department of Transportation, <http://www.dot.state.mn.us/safety/index.html>

<sup>19</sup> South Carolina Move Over Law, <http://www.moveoverlaws.com/south-carolina-move-over-law.htm>

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## Data

The importance of high-quality, timely, and accessible data was emphasized by each of the host scan states. Effective data collection and information management practices are necessary to advance fact-based SHSP development and implementation.

The scan tour states use a variety of data sources and increasingly sophisticated data analysis techniques to not only identify, develop, implement, and evaluate SHSPs, emphasis areas, and strategies, but also to develop and communicate a zero-fatalities message and philosophy. The scan states all demonstrated a commitment to continually improving data quantity, quality, linkage, and accessibility. This commitment has led to laws requiring electronic crash reporting (e.g., in Idaho and Maine); stronger Traffic Records Coordinating Committees (TRCC); increased data collection and support for emphasis area teams; a data liaison (e.g., in Louisiana and Maryland) to work with law enforcement on data quality improvements; and other initiatives.

### Scan State Examples: Electronic Data Capture

Michigan is one of the states that requires statewide use of a single/common crash report form by all law-enforcement agencies and has implemented an electronic crash system. Currently, 95% of all crash reports are submitted to the state electronically. These data are accessible online.<sup>20</sup>

The scan states are all moving toward electronic data capture. For example, in South Carolina, 70% of the collision data are recorded electronically, and it now takes only three days to enter a collision on a person's driving record, compared to the previous 60-day time lag. Furthermore, the state plans to conduct a beta test on electronic citations next year.

Scan states encourage local agencies to join the electronic data-capture program, often providing them with free software and laptops. The states use a variety of funding sources to support program implementation.

Extensive law-enforcement training is used to explain the purpose of crash reporting and methods for improving accuracy and reliability. The agencies increasingly understand how the data are used to establish priorities and make funding decisions. In some cases, agencies previously thought that the data were being collected only to meet insurance company needs.

South Carolina has added a bar code to vehicle registrations to help with data collection; purchased global positioning system units for law enforcement to aid in data collection; and hired a retired law-enforcement officer to help local law-enforcement agencies with training, equipment acquisition and installation, and other tasks related to more-accurate crash reporting. Accurate location data enables law enforcement to deploy resources on road segments where crashes are higher than the statewide average.

### Scan State Examples: Minimum Model Uniform Crash Criteria

The scan states consider data sharing with additional agencies and parties—even the public—to encourage a focus on data-driven highway safety planning. Maine is exploring strategies for allowing the public to conduct queries on certain crash data by the end of 2014. It has met with interested parties to learn their data needs and wants, and has published a Request for Proposal to design a public access portal to the crash data. As mentioned previously, Michigan allows public access to crash data, including redacted crash reports.

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<sup>20</sup> Michigan Traffic Crash Facts, The Office of Highway Safety Planning, University of Michigan, <http://www.michigantrafficcrashfacts.org/datatool/reports.php>

Not only is state data quality improving, but the quantity of available data is also becoming more extensive. States are using the Model Minimum Uniform Crash Criteria (MMUCC) Guideline to improve the amount of data available for analysis. In Maine, a cooperative effort between the state police and members of a TRCC led the implementation of the MMUCC. The activity also included the Bureau of Highway Safety, MaineDOT, local police, the Federal Motor Carrier Safety Administration, and the Bureau of Motor Vehicles. The system now captures data elements to which users did not previously have access, such as distracted driving and driving while impaired by drugs, alcohol, or medication.

Having this data allows crossover strategies among emphasis areas and other analyses that lead to more-effective strategies and programs. All of these and other data improvements lead to SHSPs and zero-fatalities strategies that are more explicit, transparent, and measurable.

### Scan State Examples: Performance Management

Linking performance measures to an agency's priorities or strategic direction and the availability of high-quality data is critical to successful measurement. Measures track the accomplishment of goals and objectives and evolve over time as data sources, tools, and the state-of-the-practice advances. MAP-21—Moving Ahead for Progress in the 21st Century codifies the need for states and regions to set targets for a core group of performance measures, including the number and rate of fatalities and serious injuries based on vehicle miles traveled (VMT).

States typically set targets based on fatality and serious trend data together with other considerations, such as future funding, population, and VMT growth. Ultimately, of course, leadership determines the targets or goals and may adjust the numbers up or down for a variety of reasons, regardless of the data analysis results. It may be difficult to adopt a zero goal or target based solely on the data; rather it is more likely adopted as a long-range vision (e.g., This is where we hope to be in the future.). Strong encouragement from national organizations, such as AASHTO, led many states to adopt a zero-based vision rather than the analytic strategies used to develop specific, quantitative goals or targets.

Measuring performance is not new or unique in the safety arena. Data issues may prevent the desired level of accuracy or completeness for measuring performance; however, all the scan states are rigorously tracking and measuring their progress. They are vigorously measuring performance, some down to the emphasis area level. This not only helps the states understand what is working as intended and what is not, it also helps them make difficult decisions on programs to eliminate because they are not contributing to the achievement of a zero vision.

Importantly, some states, such as Maryland, are integrating the safety performance measures into agencywide business plans, which provide a higher- and broader-level focus on safety performance. Moreover, some states are measuring performance not only at the SHSP level, but also within their emphasis areas, which provides a clearer picture of where progress is being made, as well as where it might be lagging behind. For example, Washington and Idaho have developed SHSP evaluation plans that include emphasis-area goals and objectives and the output and outcome performance measures used to help measure progress.

The knowledge provided by using performance measures is critical for setting goals and objectives, evaluating programs and strategies, providing feedback into further iterations of safety plans, and communicating with leadership and the public.

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<sup>21</sup> Model Minimum Uniform Crash Criteria Guideline, <http://www.mmucc.us/>

<sup>22</sup> Bureau of Highway Safety, Department of Public Safety, State of Maine, <http://www.maine.gov/dps/bhs/>

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## Noteworthy Practices: WSDOT

WSDOT is well-known for its data sources and analytic capabilities. It has long published The Gray Notebook,<sup>23</sup> which is an advanced quarterly analysis publication (illustrated in Figure 2.3).



**Figure 2.3** WSDOT's The Gray Notebook

This effort affects all areas of transportation, including safety. For nearly a decade, the Washington safety community has used data to develop quarterly reports, which are presented to the governor and made available to all citizens via television. Therefore, a continual focus on data and analysis improvements is a well-integrated objective of the Washington transportation enterprise.

The WSDOT crash-data system has been a collaborative effort among the DOT, Washington State Patrol, and the Departments of Labor & Industries and Health for a long time. The effective multiagency TRCC includes executive participation and a subcommittee on data integration. The group meets regularly for open and transparent discussions regarding data definitions, data analysis methods, data presentations, and priority and goal setting.

The original SHSP priority areas were based on the percentage of fatalities. Currently, the analysis, which four data analysts conduct jointly, incorporates serious injuries. A high level of collegiality and mutual trust and respect exists among these data analysts.

The data are made available to agencies such as law enforcement and public works for their own analysis purposes. In the latest SHSP update, the SMEs were expected to link their decisions ever more rigorously to the data.

## Communications and Marketing

The scan tour states agreed that effective and continuous internal and external communication and marketing are critical for promoting the TZD vision, branding road safety programs, educating stakeholders about TZD initiatives and impacts, and raising awareness of road safety as a matter of public policy.

Communications strategies include monthly, quarterly, or periodic executive and steering committee meetings, emphasis-area team meetings, statewide and regional safety summits, periodic newsletters,

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<sup>23</sup> Gray Notebook Subject Index, Washington State Department of Transportation, <http://www.wsdot.wa.gov/Accountability/GrayNotebook/SubjectIndex.htm>

variable message signs, posters, brochures, and other mechanisms. Agencies can also encourage employees to become zero-fatalities ambassadors, leveraging additional support through their personal networks (i.e., friends, families, and co-workers).

### Scan State Examples: TZD Communications Strategies

SCDOT incorporates the Target Zero (TZ) logo (see Figure 2.4) on employee e-mail signatures, quarterly newsletters, televisions in SCDPS and Department of Motor Vehicles lobbies, employee login screens, SCDPS ceremonies and events promoting TZ to employees, and other communications.



**Figure 2.4** SCDOT's TZ logo on employee email signatures

Many state road safety collaborations host annual or biannual safety summits. This is an efficient and effective method for informing large groups of safety stakeholders about zero fatalities and recruiting additional participation and support. Nearly 1,000 people attended the 2013 Minnesota Safety Summit. The conference planning committee made attendance more feasible and desirable by scheduling training and education workshops before and after the summit, offering scholarships through waived or reduced conference fees, providing meals and refreshments (paid for by registration fees), and highlighting nationally recognized speakers.

MDOT posts the monthly fatality and serious injury numbers on Twitter (see Figure 2.5) and other social media, a practice that has received positive feedback. MDOT hangs fatality posters in Transportation Service Centers, conference rooms, welcome centers, and maintenance garages. It plans to begin asking partner agencies such as the Office of Highway Safety Planning, to include the TZD logo on all their materials.



**Figure 2.5** MDOT's Twitter posting



MDOT's Bay Region has taken great strides to spread the zero-fatalities message among nontraditional stakeholder groups. The effort began with a request to present safety information at a local Rotary Club meeting. To date, the presentation has been given at over 30 venues around the region as well as at statewide events.

Arguably the most comprehensive approach to branding and marketing viewed on the scan tour was presented by SCDOT. The campaign began in 2012 with a media kickoff led by the governor. Subsequently it became the umbrella for all of the state's safety initiatives (e.g., Operation SOS: Sober or Slammer!<sup>24</sup> and Buckle Up South Carolina<sup>25</sup>). SCDOT's TZ communications goal is saturation: place the TZ logo everywhere (e.g., on radio, in media releases, on websites). For example, SCDPS provides tablecloths with the TZ logo for press conferences, and the logo appears on items ranging from prom tickets to safety simulators.

Each SCDPS law-enforcement division has a community relations officer who works with the media locally and promotes TZ in all media interviews. The community relations officers conducted 5,000 media interviews in 2013 alone.

Finally, Team DPS, the TZ implementation team in South Carolina, publishes a quarterly newsletter, Team DPS Hi-Lights (illustrated in Figure 2.6), to promote outreach activities and enforcement efforts. A director's column highlights upcoming TZ activities.



**Figure 2.6 South Carolina's Team DPS Hi-Lights newsletter**

SCDOT also communicates externally about TZD by:

- Posting information on social media (e.g., Facebook and Twitter)
- Handing out materials at rest areas, safety fairs, and child passenger safety events
- Placing ads on the back of tractor-trailers (e.g., moving assets) and billboards

<sup>24</sup> Operation SOS: Sober or Slammer!, South Carolina Department of Public Safety, <http://www.scsoborerslammer.com/sos.htm>

<sup>25</sup> Buckle Up South Carolina, Target Zero, South Carolina Department of Public Safety, <http://www.buckleupsc.com/>

- Providing small print media or articles that can be copied and pasted into newspapers, newsletters, and other print media
- Conducting a military campaign at Fort Jackson, where soldiers in basic training are provided with TZD materials prior to being released for the Christmas holidays. The campaign buys advertising space in the state’s annual Fallen Trooper calendar, which memorializes troopers who have lost their lives in the line of duty.

Materials from the 2013 South Carolina State Fair are illustrated in Figure 2.7.



**Figure 2.7 TZD materials at the 2013 South Carolina State Fair**

## Traffic Safety Culture

The scan states indicated that adopting a zero-fatalities goal or vision has contributed to a shift in the overall safety culture within their agencies and among their partners. This shift includes an increased awareness of the role of personal responsibility for road user behaviors. In other words, drivers, pedestrians, bicyclists, motorcyclists, and other road users accept responsibility for not only their own safety, but also the safety of those with whom they share the road. Changing the traffic safety culture has also contributed to an overall willingness to embrace change by adopting innovative practices, supporting policy reforms, and recruiting nontraditional partners.

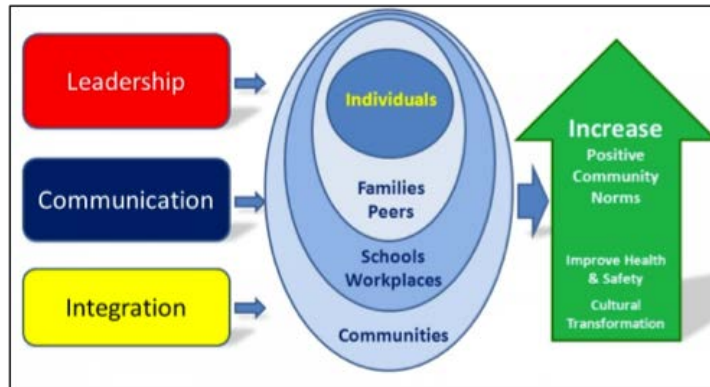
### Scan State Examples: Safety Culture Transformation Strategies

WSDOT and its partner agencies have implemented a vigorous evaluation program for their traffic safety efforts, including calculation of return on investment (ROI) for the dollars spent. This unique approach includes communication with both legislatures and the public about safety activities and outcomes, and supports transparent comparison among all programs to ensure safety is balanced with other statewide initiatives and programs.

One such ROI evaluation was completed on a high-visibility impaired-driving enforcement program that involved three of the more urban and densely populated counties in the state. The activities included funding overtime enforcement hours as well as a number of actions to make the public aware of the effort (e.g., billboards, bus signage, decals on enforcement vehicles, public service announcements (PSAs), and media outreach and interviews). The \$6 million initiative was expensive by behavioral highway safety campaign standards, but fatalities were reduced by 109, and the 115:1 ROI proved its effectiveness.



ITD uses a prevention model to transform the public safety culture. The Courageous Voices<sup>26</sup> program involves research, program development, implementation, and evaluation. The positive community norms framework upon which this program is based is illustrated in Figure 2.8.



**Figure 2.8 Positive community norms framework**

Research has shown that 60% of Idaho’s citizens strongly agree that they should try to prevent a stranger from driving after drinking. It also showed that:

- 79% did not think most adults felt the same way
- 69% didn’t strongly agree that they had the knowledge necessary to intervene
- 84% indicated that they lacked the confidence to implement an intervention
- 68% did not feel that most people around them would support their efforts

To address these issues and begin to transform attitudes and behaviors, the Idaho safety partnership implemented a program to engage local community leaders in the project. The Courageous Voices program is being piloted in three communities—Twin Falls, Lewiston, and Blackfoot—for 24 months. One activity involves constructing billboards that highlight positive social norms about drinking and other behaviors. Figure 2.9 illustrates a billboard posted in Twin Falls supporting strong enforcement of DUI laws.



**Figure 2.9 Twin Falls positive social norms billboard**

Transformation strategies can also focus on specific problem areas. Maryland has a high safety-belt use rate and a low rate of impaired driving fatalities. On the other hand, pedestrian safety is a serious concern in the state, with an alarming number of pedestrian serious injuries and deaths.

<sup>26</sup> Courageous Voices Create Safe Roads, Idaho Transportation Department, <http://www.itd.idaho.gov/ohs/CourageousVoices.htm>

Activities in Baltimore City, Harford County, and other areas within Maryland are attempting to change the culture in terms of sharing the road with vulnerable road users, specifically pedestrians. The idea is to encourage passenger vehicle drivers to recognize pedestrians as legitimate and equal road users by increasing public awareness and educating drivers, pedestrians, and bicyclists about safe use of roadways, especially along high-crash corridors, to help reduce the number of pedestrian and bicycle injuries and deaths.

Individual approaches vary, but generally the campaigns include enforcement, radio and television PSAs, outdoor advertising (e.g., billboards and gas-pump toppers), slogans on transit vehicles, online and social media, special events (e.g., Healthy Harford Day), and street teams along high-crash corridors. The street teams educate pedestrians, drivers, and bicyclists on the rules of the road and remind citizens that crashes can easily be avoided if everyone puts safety first. The street teams have been deployed in Harford, Anne Arundel, and Baltimore counties, as well as in Baltimore City.





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# 3 Potential Program Opportunities

Below are the needs and opportunities identified by the scan tour host agencies in each of the key topic areas addressed. The states will consider these as they work toward improving and strengthening their zero-fatalities programs.

## SHSPs and TZD

The scan state programs are evolving from focusing on state-level initiatives to emphasizing more localized and tailored strategies. They are integrating counties, regions, MPOs, and other jurisdictional entities into their zero-based programs using different formats and strategies. These processes should be continually examined to identify noteworthy funding mechanisms and effective practices. Furthermore, the scan tour host agencies would benefit from a best practices review for integrating SHSP and zero-fatalities support programs into the regional and local levels.

Expanding the reach beyond state agencies includes addressing rural road safety, which is particularly challenging in some areas. Many of the zero-based program implementation strategies focus on urbanized areas and may not apply or transfer easily to rural roadways. Additional experience is necessary to identify proven and effective strategies for reducing fatalities and serious injuries on rural roadways.

## Leadership

Safety practitioners and stakeholders have made great gains in safety improvement; however, the major advances in many, if not most, of the scan states required at least leadership approval if not action to accomplish the results. Leaders in DOTs and other agencies often come into office under great pressure to address specific issues, such as funding deficits and shortages. It is quite easy for road user safety to get lost among competing priorities. It would be useful to document noteworthy practices and strategies for gaining sustained leadership attention and support for zero-fatalities goals and programs.

## Partnerships and Collaboration

Scan tour host agencies identified opportunities to include legislators and private sector organizations among their stakeholders. Guidance on integrating legislators into the process would be useful, such as developing brochures, presentations, and symposia tailored to elected officials to provide them with data, information, and materials that they can use to educate their constituents.

It also would be beneficial to identify and target messages to private sector organizations and industries, as well as appropriate methods for reaching out to these organizations. Potential organizations include major shippers (e.g., United Parcel Service, Federal Express, and the U.S. Post Office); the media; and automobile manufacturers. It may be advantageous to identify the major private sector industries located in the states and recruit their participation.

## Data

To implement zero-based programs, states are challenged to transform numerous and disparate data sources into knowledge that supports critical transportation decisions aimed at reducing traffic fatalities and serious injuries. Identifying and documenting effective strategies and experiences for addressing the data

integration issues would help all states move forward.

Scan tour states expressed confusion on data sharing with local organizations, other transportation agencies, and the public. They are uncertain about the data they should be sharing and how to protect the data they choose to share. Zero-based programs would benefit from further examination of data accessibility as it relates to zero-based program implementation.

Scan states noted a lack of funding resources for zero-based program data collection. Documenting examples of successful resource leveraging as it relates to funding zero-based program data collection would be useful.

Because many of the zero-based programs were developed in the recent past, states struggle with measuring the program's performance and determining whether it is successful. Information about monitoring progress and making decisions toward a zero-based goal is needed, as well as methods for tracking and forecasting the impact of transportation investments on zero-based implementation strategies.

As states reduce fatalities, progress generally slows and levels off (i.e., as states come closer to zero fatalities, further reductions become more difficult and costly). States will need to identify methods for adjusting performance expectations and measurement so that states with the best records are not criticized for not making progress as quickly as the states that have further to go.

### **Communications and Marketing**

A common challenge among the scan tour host agencies was identifying and implementing strategic communications and marketing programs. It would be helpful to identify and document best practices for developing and implementing strategic communications plans, as well as training and technical assistance programs for SHSP coordinators and their partners.

Using the strategic communications plan posted on the Toward Zero Deaths website<sup>27</sup> is a potential solution. The plan was developed to ensure that a consistent message is relayed to a variety of audiences, including public information officers, media professionals, government agencies, MPOs, private sector organizations, public relations firms, and community groups. This approach would prevent competing messages and coordinate efforts across various stakeholders.

### **Traffic Safety Culture**

To justify and expand on road safety culture transformation efforts, more research is needed to identify both qualitative and quantitative methods for measuring results, in addition to self-reported surveys. Decision-makers, oversight agencies, and the public demand proof that transformation strategies effectively and efficiently reduce fatalities and serious injuries.

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<sup>27</sup> Toward Zero Deaths, American Association of State Highway and Transportation Officials, <http://www.towardzerodeaths.org/home.php>







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# 4 Scan Dissemination and Implementation Plan

The scan team developed a dissemination and implementation plan with strategies and actions to help promote the findings and advance the recommendations from the scan. These strategies are outlined below.

## Host and Scan Team State Presentations

Disseminating the scan team's findings and promoting the recommendations among the scan team's home agencies and scan host agencies is a practical way to spread the word. The scan team also plans to share the findings during state safety summits and in peer exchanges. Meetings within AASHTO, FHWA, state DOTs, and other associations offer valuable opportunities to disseminate the information as well.

## National Presentations

The committee meetings and sessions sponsored by the Transportation Research Board (TRB) provide many opportunities to have the scan findings presented to a broad audience. These opportunities may occur at the TRB's annual meeting, held each January in Washington, D.C., or at the summer meetings of the various TRB entities. Examples of the committees that would be relevant to this topic include:

- TRB Committee ANB 10 Transportation Safety Management
- TRB Committee ANB 25 Highway Safety Performance
- TRB Towards Zero Death Subcommittee

AASHTO has standing committees and subcommittees that cover the precise topic areas of this scan. As such, members of these bodies should be exposed to the scan findings. The following include specific committees, subcommittees, and other entities that would be appropriate for presentations:

- AASHTO Standing Committee on Highway Traffic Safety
- AASHTO Standing Committee on Highway Traffic Safety Subcommittee on Safety Management
- AASHTO Annual Meeting
- AASHTO Safety Leadership Forum
- Mid-America Association of State Transportation Officials
- Northeast Association of State Transportation Officials
- Southeastern Association of State Highway and Transportation Officials
- Western Association of State Highway and Transportation Officials

Numerous opportunities exist to present the findings and recommendations of this scan to many national-level associations of governance, engineers, safety professionals, and others whose members and participants would benefit from the presentation, for example:

- American Public Works Association
- American Society of Highway Engineers
- American Traffic Safety Services Association
- Association of Metropolitan Planning Organizations
- Association of Transportation Safety Information Professionals
- Governors Highway Safety Association
- International Association of Chiefs of Police Highway Safety Committee
- Lifesavers National Conference on Highway Safety Priorities
- MINK (MO, IA, NE, KS) Local Road Meeting
- National Association of Counties
- National Association of County Engineers
- National Association of Regional Councils
- National League of Cities
- National Local Technical Assistance Program

Many of these national organizations, including AASHTO, also have regional associations. For example, the state DOTs meet at least annually in a regional format to share information and address issues that reflect some of their unique geographic needs. These regional meetings offer valuable opportunities to share the scan findings.

When contacting any organization, the scan team champion may consider investigating other opportunities for information sharing, such as posting an update on the organization’s website or social media feed or inquiring about a story in a newsletter or other publication.

### Articles and Papers

A traditional means of sharing information in the transportation industry is through the periodicals widely read by professionals. Suitable articles regarding the scan will be prepared for national publications and websites. Examples of these publications include Safety Compass (FHWA), Innovator (FHWA), TZD Quarterly Newsletter (CTS), Roads & Bridges, ITE Journal, and the Roadway Safety Foundation.

### Websites

Because the final scan report will be published as an e-document, creating a link to the final report through the national TZD website and FHWA’s TZD page can assist in publicizing the findings.

The scan team plans to make efforts to incorporate the scan findings and recommendations into AASHTO’s Toward Zero Deaths: National Strategy on Highway Safety and FHWA’s Roadway Safety Noteworthy Practices Database. The team will also provide social media feeds through FHWA’s Facebook page regarding the scan findings.

### Additional Communication and Outreach

To promote the culture change of supporting a zero-fatalities goal, the scan team plans to communicate the

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scan findings with the FHWA Office of Planning, AASHTO chief engineers, AASHTO executives, and the AASHTO Research Advisory Committee.



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# Appendix A: Scan Team Biographical Sketches

**PRISCILLA A. TOBIAS (AASHTO CHAIR)** is a licensed professional engineer and state safety engineer for the Illinois Department of Transportation (IDOT). She has been with IDOT for 23 years and has a broad range of experience in planning, design, policy development and implementation, and safety. Based on her experience, initiative, and leadership, in 2004 she was appointed to lead IDOT's newly created Bureau of Safety Engineering. During this time, she has provided strategic vision and leadership in building and advancing Illinois' safety program. She has developed strong collaborative partnerships with multidisciplinary safety stakeholders to lead the development, implementation, and management of the Illinois Strategic Highway Safety Plan (SHSP). She oversees all infrastructure safety for IDOT and, as part of her responsibilities, administers IDOT's Highway Safety Improvement Program and Safe Routes to School Program, and directs safety efforts and resources to state and local roadways. She has been instrumental in developing and implementing new and innovative safety programs. These include incorporating safety into the overall planning and programming process, improving safety data and data analysis tools and procedures, integrating the 4E (Engineering, Enforcement, Education, and EMS) approach into the crash analysis and safety strategy implementation, and expanding safety programs for all Illinois roadways, including the local roadways. She has been responsible for developing and implementing a safety research program with the Illinois Center for Transportation that addresses both behavioral and infrastructure safety needs and has had key projects that have an impact at the state and national level in influencing safety investment decision-making. Tobias represents Illinois and American Association of State Highway and Transportation Officials (AASHTO) Region III on the AASHTO Standing Committee for Highway Traffic Safety and has provided input into federal legislation for transportation reauthorization and federal rulemaking. She is a member of the AASHTO Subcommittee on Safety Management and chairs the Task Group on Technical Safety Publication Oversight and Coordination, which oversees the AASHTO Highway Safety Manual. Tobias has served on National Cooperative Highway Research Program (NCHRP) projects as chair and as a panel member, and has served on Transportation Research Board committees and subcommittees.

**KELLY K. HARDY** joined AASHTO in July 2009 as the safety program manager. In this role, she serves as the liaison to AASHTO's safety-related committees. She works with the state departments of transportation (DOTs) and AASHTO's many highway safety partners to help achieve the AASHTO Toward Zero Deaths vision and to promote a comprehensive approach to improving highway safety on all public roads. Hardy provides technical support for the AASHTO Highway Safety Manual, the national Toward Zero Deaths effort, and other key safety issues. Prior to joining AASHTO, she was a consultant, serving as a project manager on highway safety-related Federal Highway Administration (FHWA) and NCHRP projects. Hardy is a licensed professional engineer in Virginia.

**GIRISH (GARY) N. MODI** is chief of Highway Safety, Risk Management, and Crash Data and Analysis within the Bureau of Maintenance and Operation at the Pennsylvania Department of Transportation. He has been in charge of the National Highway Traffic Safety Administration (NHTSA) behavioral safety program as well as FHWA's infrastructure safety program for over 15 years. He has over 45 years of engineering and executive management experience, ranging from bridge to nuclear power plant design and construction to being chief executive officer of a large, publicly traded company with than 500 employees. He has been actively involved in AASHTO, NHTSA, Governors Highway Safety Association (GHSA), and many NCHRP panels, and has won many safety awards, such as the AASHTO Pathfinder Award, the National Highway Safety Award, and the GHSA Peter K. O'Rourke Special Achievement Award. He holds a master's degree in structural engineering from Mississippi State University.

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**RITA MOROCOIMA-BLACK** is the transportation planning manager for the Champaign Urbana Urbanized Area Transportation Study at the Champaign County Regional Planning Commission. She has over 25 years of experience in transportation planning and engineering. Her past 14 years with the Champaign-Urbana Metropolitan Planning Organization (MPO) have resulted in significant recommendations and ensuing changes to the local area transportation system in terms of incorporating safety into the metropolitan planning process and integrating safety into complete street projects. Morocoima-Black has worked at the MPO level in transportation and land-use integration and modeling, and development impact measurement. Her past and current work includes the development of the 2008 Champaign County Comprehensive Highway Safety Plan and the completion of several Highway Safety Improvement Program applications on behalf of local agencies. In 2007, she developed a partnership with State Farm Insurance to increase the level of safety awareness in central Illinois communities through the creation of the State Farm Embedded Safety Specialist Initiative. The initiative created a local safety committee that includes representatives from local agencies, including planners, engineers, law enforcement, emergency management, school personnel, and a county judge, and works toward reducing the severity and frequency of auto collisions. Morocoima-Black has participated as a safety engineer in several Road Safety Assessments conducted on rural and urban roadways for county highway departments and cities. She has been the project manager for several long-range transportation plans and corridor studies, including IL 130, US 45, St. Mary's Road, Staley/Rising Road, and the University Avenue Corridor, which has been integral to resolving land-use and transportation problems in important arterials of the Champaign-Urbana urbanized area.

**JEREMEY J. VORTHERMS** is the District 1 design engineer for the Iowa Department of Transportation (Iowa DOT). In this position, he serves as the lead specialist on design and pavement preservation matters for central Iowa. Before joining the District 1 Office, he served as the state safety engineer for Iowa DOT. Vortherms graduated from Iowa State University and is a licensed professional engineer in Iowa.

**MARIE B. WALSH, PhD**, has served as director of the Louisiana Local Technical Assistance Program (LTAP) since 2004. She managed the Louisiana Local Road Safety Program in partnership with the Louisiana Department of Transportation and Development from its inception in 2007 until 2015. She is a member of Louisiana's SHSP planning and implementation teams, and served as the co-chair of the state's Occupant Protection SHSP Focus Team and as a member of the Traffic Records Coordinating Committee Executive Committee. Walsh was a panel member for NCHRP 17-51, Development of a Strategy on Highway Safety, Towards Zero Death, and on NCHRP 17-64, Guidance for the Implementation of the TZD National Strategy on Highway Safety. She serves as a panel member for NCHRP 17-69, Development of a Strategic Plan for Transforming Traffic Safety Culture. She participates on AASHTO's Safety Management Subcommittee, National Local Technical Assistance Program Association's Safety Work Group, and the national Towards Zero Death Steering Committee. Walsh earned a master's degree in environmental engineering in 1985 and a doctorate in human resource education and workforce development in 2003, both from Louisiana State University.

**JENNIFER WARREN** is a transportation specialist for the FHWA Office of Safety. She is the program manager for State SHSPs and provides technical assistance to states, FHWA division offices, and other safety partners in the development, implementation, and evaluation of SHSPs. Warren has worked with the U.S. Department of Transportation for 10 years. Prior to joining FHWA, she worked with the NHTSA in the Office of Traffic Injury Control. She holds a master's degree in public health and has worked in the area of traffic safety and injury prevention for close to 15 years.

**SUSAN B. HERBEL, PhD (SUBJECT MATTER EXPERT)**, a principal with Cambridge Systematics (CS), provides leadership and support to the multidisciplinary, multimodal CS safety team. She has more than three decades of experience conducting safety research, using the results to improve safety programs at the federal, state, and local levels and in the private sector, and creating user-friendly products to disseminate research results in formats helpful to practitioners. She has been leading and providing technical assistance to the CS safety team, advising on developing, implementing, tracking, and evaluating strategic transportation safety plans in more than two dozen states and MPOs as a contractor and in several others through professional meetings and conferences. She also has assisted in regional efforts to develop comprehensive safety plans. Herbel has been instrumental in developing and implementing strategies associated with integrating safety as a priority planning factor in the transportation planning process. This is a requirement in the Transportation Equity Act for the 21st Century and reaffirmed by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, and MAP 21—Moving Ahead for Progress in the 21st Century. Safety integration focuses on safety as a public health issue and integrates health and transportation issues.

**WHITNEY FARON (ASSISTANT TO THE SUBJECT MATTER EXPERT)** is a transportation planner at CS. She has almost a decade of experience in transportation planning, specializing in safety, Title VI, and transit planning. Faron has assisted half a dozen states in developing and implementing their strategic transportation safety plans. She assisted the NHTSA in establishing a national certification/accreditation process for motorcycle rider training (now NHTSA's Model National Standards) and is currently providing technical assistance to states that are seeking to adopt these standards. Faron has assisted numerous DOTs and MPOs in updating their Title VI and Limited English Proficiency policies and procedures so that they comply with federal requirements. She also provides on-call transit planning and research support for various states and counties throughout the country.





## APPENDIX B : SCAN TEAM CONTACT INFORMATION

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# Appendix C: Amplifying Questions

**1. Strategic Highway Safety Plan (SHSP) and the Zero-Fatalities Goal**

- a. How long has your SHSP been in place?
- b. When did you decide to establish a zero-fatalities goal?
- c. What motivated your agency to choose a zero-fatalities goal?
- d. Who was involved in the process and how long did it take to agree on the goal?
- e. Were specific materials used to convince leadership to establish a zero-fatalities goal?
- f. What steps were taken during a review of the existing SHSP to reflect the new zero-fatalities goal? Were any data reviewed?
- g. Did you establish any interim goals in the process of getting to the zero-fatalities goal? If so, what method was used?
- h. How did adopting a zero-fatalities goal influence your SHSP (e.g., funding)?
- i. How do you review and enhance the SHSP?

**2. Implementation Strategies and Results**

- a. Did you identify specific strategies or action steps (e.g., budgeting or partnerships) to implement the zero-fatalities goal?
- b. How were the strategies selected?
- c. Does your plan include measurable objectives and performance measures to track the progress of each strategy or action step?
- d. What have the results been since the establishment of the zero-fatalities goal?
- e. How much decline in traffic fatalities has occurred since the implementation of the zero-fatalities goal?
- f. Have any new partners been identified since establishing the zero-fatalities goal? If so, are the new partners truly involved? (Please provide examples.)
- g. Have any new strategies been identified to support the more-aggressive zero-fatalities goal?
- h. Have you invested in research to support development or expanded use of new or unproven strategies? If yes, please explain.

**3. Safety Investments**

- a. How do you determine the safety investments needed to achieve the zero-fatalities goal?
- b. Has your level of investment in safety strategies changed since establishing a zero-fatalities goal?
- c. Have the processes you use to prioritize emphasis areas or strategies changed?
- d. Do you have specific effective methods that you use to measure goal achievement?

**4. Leadership and Agency Coordination**

- a. Who has championed the zero-fatalities goal?
- b. Has leadership support of the goal changed over time?
- c. Do you involve other agencies in the process of achieving zero fatalities? How are they involved?
- d. Do you share resources related to zero fatalities across different agencies and disciplines?
- e. Has your level of involvement in safety activities with neighboring states, regional coalitions, or at the national level changed since adopting a zero-fatalities goal?

**5. Linking Safety and the Planning Process**

- a. A significant and noticeable void exists in the development of planning tools that integrate safety into the long-range planning process. How do you make the zero-fatalities goal part of



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- the long-range transportation planning process?
- b. How do you ensure the MPOs understand the safety impacts of their plans and align their plans with the zero-fatalities goal?
  - c. Do you have a methodology (quantitative evaluation) of the safety impacts of alternative transportation plans that can be applied to the MPO transportation plans?
  - d. How do you coordinate safety with the traditional planning process to ensure safety-related goals are considered in project and plan selection, as well as communication with local governments and planning stakeholders?
  - e. What is your vision in terms of the future status of transportation safety? How was the decision made?
  - f. How does your zero-fatalities goal influence your agency's planning process? Are safety activities coordinated with planning/Transportation Improvement Planning programming?
  - g. How does your agency determine trade-offs between infrastructure and noninfrastructure projects to achieve your zero-fatalities goal? How do you share or link data to influence the decision-making process?

## APPENDIX D : HOST AGENCY CONTACTS

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# Appendix D: Host Agency Contacts

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# APPENDIX E: CHARACTERISTICS OF A SUCCESSFUL ZERO-FATALITIES STATE



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Theme	Indicator #1	Indicator #2	Indicator #3	Indicator #4
Philosophy	Unifying and compelling vision that resonates among all audiences	Mindset that energizes safety efforts and strengthens SHSP implementation		
Strategic Highway Safety Plan (SHSP)	Vehicle for zero-fatalities implementation	Data-driven framework	Allow stronger integration of safety plans	Dedicated SHSO staff more likely to implement
Leadership	Strong, committed, and visible leadership	Occurs at different levels within a state	Decision-making capacity at various levels	
Partnership	Multidisciplinary	Increased partnership	Need for additional partners	
Local Agencies	Must be involved	Regional planning organizations, counties, cities, etc.	Requires collaboration, partnership, and resources	
Collaboration	Strong collaboration among the key stakeholders	Willingness to participate in nontraditional roles	Strong relationships between behavioral and engineering programs	
Marketing	Need for better branding and marketing to the public and stakeholders	Willingness to participate in nontraditional roles	Strong relationships between behavioral and engineering programs	
Safety Culture	Adopting a zero fatalities philosophy is a leading indicator of a change in safety culture	Changing safety culture involves innovation in research, demonstrations, education, persistence, and willingness to change		
Resources and Investments	Need for investment in research, personnel, data and information development, and training			
Performance Tracking	Goal setting is the key	Goal alignment among safety plans		
Sustainability	Well-documented zero fatalities ensures sustainability	Institutionalization ensures success, despite changing political and administrative priorities		





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