Guidance for Safety Management at the Local Level

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Contents

Appendixes

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Acronyms

4Es	engineering, enforcement, education, and emergency medical services
100VMT	100 million vehicle miles traveled
AASHTO	American Association of State Highway and Transportation Officials
DOT	department of transportation
FARS	Fatality Analysis Reporting System
FAST Act	Fixing America's Surface Transportation Act
FHWA	Federal Highway Administration
GHSA	Governors Highway Safety Association®
GIS	geographic information system
GPS	global positioning system
HSIS	Highway Safety Information System
ISTEA	Intermodal Surface Transportation Efficiency Act of 1991
MAP-21	Moving Ahead for Progress in the 21st Century Act of 2012
MPO	metropolitan planning organization
MMUCC	Model Minimum Uniform Crash Criteria
NCHRP	National Cooperative Highway Research Program
NHS	National Highway System Designation Act of 1995
NHTSA	National Highway Traffic Safety Administration
NSC	National Safety Council
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users of 2005
SHSP	strategic highway safety plan
SMS	safety management system
STIP	State Transportation Improvement Program
TEA-21	Transportation Equity Act for the 21st Century of 1998
TIP	Transportation Improvement Program
TRB	Transportation Research Board

USC   United States Code

I. Summary

Introduction

With responsibility for more than 80 percent (3.25 million miles) of the nation's roadways, local transportation agencies (which include counties, municipalities, metropolitan planning organizations [MPOs], and townships, as well as tribal governments and park and forest authorities) have the enormous task of operating and maintaining the non-state-owned road transportation system. Consequently, providing for the safety of the traveling public is a big responsibility. The challenge posed by transportation safety can be even more daunting given local agencies' limited resources and extensive roadway networks compared to state highway agencies. Constraints can include a lack of readily available in-house highway-safety expertise; a lack of data or inability to collect complete data; difficulty in identifying all stakeholders; insufficient funding; difficulty in identifying high risk crash sites or sites of concern; or an inability to develop projects and implement countermeasures and safety programs.

Statement of the Problem

In 2006, 41 percent of all traffic fatalities in the United States occurred on roadways not owned by a state department of transportation (DOT), and 57 percent of all traffic fatalities occurred on rural roadways. With local agencies responsible for 78.8 percent of the rural roadways in the United States, providing appropriate safety solutions that are specific to local needs has become a necessity.

Cities and counties outside major metropolitan areas face many challenges to implementing transportation safety improvements, especially when their resources are limited. Improving transportation safety on local roads can be a complex task that often is not supported by the resources more common and available to state DOTs and the larger MPOs. These challenges may include the following:

- Lack of readily available in-house highway-safety expertise

- Lack of data or ability to collect complete data

- Difficulty in identifying or securing funding

- Difficulty in implementing crash countermeasures and safety programs, including those that are not related to roadway design or construction

- Lack of political backing

Purpose and Goals of This Guidance

Until recently, most research and safety organizations have provided guidance and safety strategies specific only to state DOTs. The purpose of this guide is to provide direction to small MPOs and governments that want to develop and implement a transportation safety management plan. The specific goals of this guide are to:

- Describe the challenges faced by local agencies as they attempt to incorporate safety into transportation planning and implement safety strategies.

- Identify resources and opportunities for local agencies to begin breaking down the barriers to implementing safety projects and programs.

- Present a safety management process that can be used by local governments and small MPOs to incorporate identified safety strategies.

- Provide an overview of current regulations and traffic-safety technical publications.

Overview and Regulatory Background of Safety Management

In 1998, the American Association of State Highway and Transportation Officials (AASHTO) published the *Strategic Highway Safety Plan*, identifying 22 key safety emphasis areas, or crash scenarios, that affect roadway safety. Subsequently, the National Cooperative Highway Research Program (NCHRP), in their *Report 500* series, addressed these 22 safety emphasis areas and developed safety strategies for neutralizing or eliminating the safety concerns associated with them. The target audience for the *NCHRP Report 500* series of guides prepared to date has been state DOTs and large MPOs and cities. Because of the size of the average agency in the target audience, many of the safety strategies developed are resource intensive, requiring large amounts of time and capital. Implementing the strategies can be cumbersome for agencies with limited budgets and staff.

Improving traffic safety has long been a concern of government agencies at all levels. Major transportation legislation was first enacted in 1998. New legislation continues to be enacted, the most recent being the Fixing America's Surface Transportation Act of 2015 (FAST).

Challenges Faced by Local Government

The challenges to transportation safety faced by small jurisdictions include several constraints that are common to local agencies. Appendix A addresses many of these concerns by offering solutions to alleviate the challenges.

Limited Available Trained Personnel

Often, small cities, towns, or counties (especially in rural areas) do not have a traffic engineer or planner permanently on staff. Even when this is not the case, one person often performs the responsibilities of several positions, across different departments, and the scope of responsibility may be beyond the technical background and expertise of that one person.

Funding Opportunities

Small or rural communities often have a smaller tax base due to smaller populations. With limited financial resources, it is difficult put safety improvements above other traffic concerns, such as congestion and stakeholder interest.

Data Collection

Small government departments often lack the resources for developing a locally maintained crash database. Crash data reporting and analysis are not always feasible because staff time is already heavily taxed by other responsibilities. Also, the software to track and analyze crash statistics can be expensive to procure and requires training to produce accurate, useful results.

If crash data are not managed locally, obtaining crash statistics from national databases can also be challenging. In many cases, state DOTs now serve as clearinghouses for receiving and organizing crash data. However, a request by a local government to obtain the crash data for its jurisdiction may result in unusable data due to incompatibility or lack of software. In other cases, due to the complexity of the data, it can be extremely difficult to manipulate and analyze. Additionally, the data reported may not be accurate or consistent, limiting a local government's ability to understand the complete scope of the issues.

Prioritization

Governmental bodies are often driven to reactionary policymaking after an emergency occurs, instead of promoting proactive policies. Often, it takes a high-profile crash and public will to create an awareness of highway safety issues. In smaller communities with lower traffic volumes, this may be because these fatal incidents are not regular occurrences and transportation safety concerns are not easy to identify, particularly if crash data collection is not a priority or is incomplete. Additionally, this apparent lack of safety awareness may be the result of other competing priorities and limited funding.

Implementation Process

The seven-step safety process establishes a framework that small governments may use to incorporate safety into everyday practice. The steps can be readily tailored to meet the needs and current practices of individual communities. The seven steps of a successful safety process for local agencies are as follows:

1. Decide to make safety a priority

2. Define safety issues

3. Illustrate the results

4. Establish crash reduction goals

5. Find solutions to safety concerns

6. Put safety strategies into action

7. Monitor outcomes

Local agencies can be in various stages of development in the realm of traffic safety management. This seven-step framework provides the flexibility for a local agency to integrate anywhere in the process, or incorporate elements or items into the existing process the agency currently follows, according to their situation.

The objective of the local safety program is to obtain the maximum safety benefit using available safety funds and resources. Accomplishing this is the key to reducing severe crashes and saving lives.

Step 1 – Decide to Make Safety a Priority

The high percentages and the frequency of crashes, injuries, and fatalities occurring on locally owned roads have brought to light the need to develop guidance at the local level that previous efforts have not been able to achieve. To accomplish this safety initiative, it is critical to gain the support of local decision-makers. Once community leaders are in agreement to make safety a priority, they must empower transportation staff to use this guidance to implement a safety process that meets the community's needs.

Step 2 – Define Safety Issues

Several resources can assist in effectively identifying safety issues and needs, but two are key to the process. One is the use of crash data, and the other is to obtain and consider firsthand knowledge from stakeholders.

Step 3 – Illustrate the Results

Once the data have been collected and organized, one of the best methods for illustrating crash data results is to map the crashes, preferably using geographic information system (GIS) software. By mapping each crash that occurs within the transportation network, as well as mapping the type of crash, a complex, multivariate analysis can be presented in a relatively simple format. Strong data samples should point to several key intersections and roadway segments, driver populations, or system-wide safety emphasis areas, such as head-on crashes or collisions with trees, all of which would require attention in the safety management system.

Step 4 – Establish Crash Reduction Goals

Developing crash reduction, or safety, goals is critical for selecting and evaluating safety strategies. A safety goal must be well defined, realistic, and measurable. Goal setting also serves to communicate the extent of a safety issue to the community in a quantitative manner, and can make a department accountable to its stakeholders and policymakers. Goals must be based on safety data, or a data-driven process, and they must also reflect the desires of the community. In addition, goals should be straightforward, data driven, convey what the desired outcome is (which will help to focus efforts toward selecting the most effective safety strategies), and multimodal (automobile, bicycle, pedestrian, and mass transit) in focus. The safety strategies should also fit with context, available funding, training, and resources.

Step 5 – Find Solutions to Safety Concerns

Strategies should be selected based on their appropriateness to address safety concerns and goals. The details of the crash results should determine the selection of these safety strategies. A list of locally specific safety strategies has been assembled and is ready for easy application, eliminating the need for local governments to engage in developing strategies themselves. The following identified strategies are low cost, easy to implement, and, in most cases, have been proven to be effective:

- Reduce intersection crashes
- Keep vehicles on the roadway
- Reduce lane-departure crashes
- Reduce pedestrian and bicycle crashes
- Improve enforcement and education programs
- Improve emergency medical services
- Innovative safety techniques

While each crash is a safety concern and undoubtedly warrants attention, limited funding restricts some projects and requires prioritization of safety issues and strategies. Ultimately, prioritization of safety concerns remains a local decision, but understanding and being consistent with the state DOT's Strategic Highway Safety Plan (SHSP) or an MPO's long-range strategic plan might help in the decision-making process, promote coordination, or may open avenues to added funding from these agencies. Specific considerations for evaluating safety strategies include:

- Budget constraints
- Time constraints
- Training and available personnel
- Applicability of the strategy
- Compliance with existing legislation and policies

Step 6 – Put Safety Strategies into Action

The safety strategies identified in Step 5 can be integrated into the local planning process in several ways. One option is to codify the strategies into legally binding regulations. A second method is to incorporate the strategies during the planning and design of new and retrofit construction projects.

Step 7 – Monitor Outcomes

Once safety strategies are put into action, they should be monitored over the life of the program to evaluate the effectiveness of the projects and to understand whether it is necessary to adjust specific strategies and safety emphasis areas. The monitoring process will measure the success of the strategies to meet safety goals and objectives. Reevaluation of the performance measurements should be made throughout, and at the end of, the program timeframe to understand the magnitude of the progress that was achieved.

Conclusion

The incorporation of safety strategies into local transportation planning is a time-intensive process, but the outcome is rewarding and improves roadway safety for all stakeholders.

II. Introduction

With responsibility for more than 80 percent (3.25 million miles) of the nation's roadways, local transportation agencies have the enormous task of operating and maintaining the non-state-owned road transportation system (FHWA, 2007; NCHRP, 2016). Consequently, providing for the safety of the traveling public is a big responsibility. But for local agencies, which include counties, municipalities, metropolitan planning organizations (MPOs), and townships, as well as tribal governments and park and forest authorities, this is only one of their many challenges. The challenge posed by transportation safety can be even more daunting given local agencies' limited resources and extensive roadway networks compared to state highway agencies. Constraints can include a lack of readily available in-house highway-safety expertise; a lack of data or inability to collect complete data; difficulty in identifying all stakeholders; insufficient funding; difficulty in identifying high risk crash sites or sites of concern; or an inability to develop projects and implement countermeasures and safety programs.

Although state-level highway agencies face many of these challenges to varying extents, states and large municipalities and MPOs traditionally have access to a wider range of safety-improvement programs on a larger scale than is feasible for or available to the smaller local agencies. To overcome these challenges and to aid local agencies with their safety programs, this document was created as a companion to the *National Cooperative Highway Research Program Report (NCHRP) Report 500* series.

The purpose of this document, *Guidance for Safety Management at the Local Level,* as the newest volume in the *NCHRP Report 500 series*, is to provide direction to small MPOs and governments (or local agencies) who need to address a specific traffic safety issue in their community or develop and implement a more comprehensive transportation safety management plan as part of a short-term or long-term planning process. The guidelines contained herein are intended to be compatible with local planning practices and consistent with the requirements of state-level safety-planning guidelines and programs.

II-2   Statement of Problem

In 2006, 41 percent of all traffic fatalities in the United States occurred on roadways not owned by a state department of transportation (DOT) *(NHTSA, 2006)*, and 57 percent of all traffic fatalities occurred on rural roadways *(NHTSA, 2009)*. With local agencies responsible for 78.8 percent of the rural roadways in the United States, providing appropriate safety solutions that are specific to local needs has become a necessity. For instance, in Minnesota approximately 70 percent of all fatal crashes occurred on rural roadways, and approximately 50 percent of all fatal crashes occurred on local roads (county, township, and city) (Commission, 2007*)*. While such statistics are well known to individuals who are active in the safety industry, the general public likely would be surprised that these high crash-fatality percentages occur in the less populated areas of some of our states.

Demonstrating the need to promote safety at the local level, a community can be affected directly by deaths, injuries, and property damage resulting from vehicle crashes. The economic impact of crashes in the United States in 2000 totaled $230.6 billion (NHTSA, 2002). In many instances, particular locations become well known to local residents due to the frequency of crashes. New housing or commercial development can tax existing transportation infrastructure, potentially aggravating an already known safety issue or creating a new one. The desire to implement safety measures into transportation planning exists, but the appropriate guidance and resources often remain too abstract for small governments to be able to engage in this process effectively.

Cities and counties outside major metropolitan areas face many challenges to implementing transportation safety improvements, especially when their resources are limited. Improving transportation safety on local roads can be a complex task that often is not supported by the resources more common and available to state DOTs and the larger MPOs. These challenges, discussed further in Chapter III of this guide, may include the following:

- Lack of readily available in-house highway-safety expertise

- Lack of data or ability to collect complete data

- Difficulty in identifying or securing funding

- Difficulty in implementing crash countermeasures and safety programs, including those that are not related to roadway design or construction

- Lack of political backing

II-3   Purpose and Goals of This Guidance

With the American Association of State Highway and Transportation Officials (AASHTO) goal to reduce vehicle fatalities to one fatality per 100 million vehicle miles traveled (100VMT), the renewed emphasis on roadway safety by transportation agencies across the country is not surprising. However, until recently, most research and safety organizations have provided guidance and safety strategies specific only to state DOTs, which own approximately 20 percent of the nation's roadway network. This means that the safety of 80 percent of the remaining roadway network has been largely neglected, and guidance specific to smaller agencies is needed.

The NCHRP, in its most recent effort to promote safety at the small government level, has examined the safety strategies identified in the *NCHRP Report 500* series and synthesized them into 42 strategies and techniques considered appropriate for small governments in Volume XX: *Guidance for Safety Improvements on Local Roads*. These strategies are considered low cost, easy to implement, and in most cases, have proven to be consistently effective. In some cases, the strategies are still experimental and do not have results that can be reported, but they are considered promising and relevant to local agencies.

The purpose of this guide is to provide direction to small MPOs and governments that want to develop and implement a transportation safety management plan. The guidelines contained herein are intended to be compatible with local planning practices and consistent with the requirements of state-level safety-planning guidelines.

The specific goals of this guide are to:

- Describe the challenges faced by local agencies as they attempt to incorporate safety into transportation planning and implement safety strategies.

- Identify resources and opportunities for local agencies to begin breaking down the barriers to implementing safety projects and programs.

- Present a safety management process that can be used by local governments and small MPOs to incorporate identified safety strategies.

- Provide an overview of current regulations and traffic-safety technical publications.

II-4 Overview and Regulatory Background of Safety Management

Overview

AASHTO, in cooperation with state departments of transportation, is a policy-setting body that publishes specifications, protocols, and guidelines used in highway design and construction. In 1998, AASHTO published the *Strategic Highway Safety Plan*, identifying 22 key safety emphasis areas, or crash scenarios, such as collisions with trees, aggressive driving, and seatbelt use, that affect roadway safety (AASHTO, 2005*)*. Subsequently, the NCHRP, in their *Report 500* series, addressed these 22 safety emphasis areas and developed strategies for neutralizing or eliminating the safety concerns associated with them. The comprehensive framework for implementing a safety program is provided in NCHRP Report 501, *Integrated Safety Management Pr*ocess *(*NCHRP, 2003*)*.

The target audience for the *NCHRP Report 500* series of guides prepared to date has been state DOTs and large MPOs and cities. Because of the size of the average agency in the target audience, many of the safety strategies developed are resource intensive, requiring large amounts of time and capital. Implementing the strategies can be cumbersome for agencies with limited budgets and staff. Because of this, few small governments or local agencies have attempted to implement the strategies intended for larger entities. Nonetheless, thanks to advances in technology and collaboration, promotion of traffic safety is becoming a more data-driven process, and the utility that would be achieved by bringing local agencies into this process is undeniable. It is for this reason that the NCHRP Report 500, Volume XX: *Guidance for Safety Improvements on Local Roads,* was developed.

Regulatory Background

Improving traffic safety has long been a concern of government agencies at all levels. The first major federal legislation to recognize the need for a systematic approach to safety management procedures was the Highway Safety Act of 1966. This Act created a federal highway safety grant under Section 402 and required each state to have a highway safety program approved by the U.S. Secretary of Transportation. The Act set forth minimum requirements for state highway safety programs, such as upgrading traffic record systems, collecting crash data, and encouraging the use of safety belts (USC, 1998*)*.

The Highway Safety Act of 1973 introduced a federal mandate for roadway safety, requiring each state to create and maintain a database of all highways in order to identify high-hazard locations.

A renewed emphasis on safety emerged with the passage of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA). This legislation mandated that states develop and implement a safety management system (SMS). An SMS is an integrated collection of processes, procedures, and programs that ensure a formalized and proactive approach to safety. It is designed to assist decision makers in selecting effective approaches for improving the efficiency and safety of the transportation network (ISTEA, 1991*).*

In 1995, the National Highway System Designation Act made implementation of these safety management systems optional (NHS, 1995). Nevertheless, understanding their utility, many states continued to implement them. The Federal Highway Administration (FHWA) and various research organizations, including the National Safety Council (NSC), AASHTO, and the Transportation Research Board (TRB), supported SMS implementation, with research and guidance documents providing best practices and methods of implementation. An example of this research is *Safety Management Systems: Good Practices for Development and Implementation* (FHWA, 1996).

Then, in 1998, Congress passed the Transportation Equity Act for the 21st Century (TEA-21). For the first time, DOTs and MPOs were required to actively promote safety as a priority into their respective transportation planning processes and projects. Prior to TEA-21, safety was only occasionally a prominent factor in project development and design, but this legislation required safety consciousness in a more system-wide, multimodal context. It promulgated collaboration with the highway safety and motor carrier safety communities, transit operators, local jurisdictions, and others.

In 2005, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) was passed, requiring that each state DOT develop its own strategic highway safety plan (SHSP), using a safety program and project development approach that includes the 4Es (engineering, enforcement, education, and emergency medical services) of highway safety. Such an SHSP would ensure that states take a multidisciplinary and multi-agency approach to highway safety issues, strategies, and countermeasures (safety solutions) on all public roads, including the local road system. Sharing resources to implement data-driven countermeasures that will be most effective in reducing deaths and serious injuries, states were to adopt performance goals in their SHSPs that focus resources on areas of greatest need based on safety data for severe crashes.

In 2012, the Moving Ahead for Progress in the 21st Century Act (MAP-21) was passed, providing over $105 billion in funds for surface transportation programs for fiscal years 2013 and 2014. MAP-21 is the first long-term highway authorization enacted since 2005. MAP-21 is a milestone for the U.S. economy and the nation's surface transportation program. By transforming the policy and programmatic framework for investments to guide the system's growth and development, MAP-21 created a streamlined and performance-based surface transportation program and built on many of the highway, transit, bicycle, and pedestrian programs and policies established in 1991. To allow more time for the development and consideration of a long-term reauthorization of surface transportation programs, Congress enacted short-term extensions of MAP-21.

On December 4, 2015, the Fixing America's Surface Transportation Act (FAST Act) was signed into law. The legislation authorizes federal surface programs through fiscal year 2020 and provides $305 billion for roads, bridges and mass transit for 5 years. It is the first law enacted in over 10 years that provides long-term funding certainty for surface transportation, meaning states and local governments can move forward with critical transportation projects, like new highways and transit lines. Overall, the FAST Act largely maintains current program structures and funding shares between highways and transit. It is a down-payment for building a 21st century transportation system, increasing funding by 11 percent over 5 years. The law also makes changes and reforms to many federal transportation programs, including streamlining the approval processes for new transportation projects, providing new safety tools, and establishing new programs to advance critical freight projects.

III. Challenges Faced by Local Government

As noted in the Introduction, the challenges to transportation safety faced by small jurisdictions include several constraints that are common to local agencies. Although not exhaustive, the following is a summary of those that frequently exist for small and rural governments. Appendix A addresses many of these concerns by offering solutions to alleviate the challenges.

III-1 Limited Available Trained Personnel

One of the challenges confronting small jurisdictions is the limited number of personnel available to work on implementing safety improvements. Often, small cities, towns, or counties (especially in rural areas) do not have a traffic engineer or planner permanently on staff. Even when this is not the case, one person often performs the responsibilities of several positions, across different departments, and the scope of responsibility may be beyond the technical background and expertise of that one person. Aside from being limited by the amount of time they can dedicate to roadway safety issues, staff might not be familiar with current traffic safety methods and technologies or be able to identify basic roadway safety hazards and solutions. (Appendix A offers solutions for small jurisdictions with personnel who have limited training in Section A-1.)

III-2 Funding Opportunities

Any government, large or small, must work within its budgetary constraints. Large governments usually have a wider tax base from which they can allocate funds for the development of new safety projects and programs, while small or rural communities often have a smaller tax base due to smaller populations. With limited financial resources, it is difficult put safety improvements above other traffic concerns, such as congestion and stakeholder interest. It is even more difficult to convince lawmakers to allocate funds for pilot safety projects, for they often require a guaranteed return on the investment. While other funding sources exist to augment local apportionments, including state and federal monies, it remains difficult for small governments to identify these resources because they are scattered across several allocations. (Appendix A offers solutions to funding in Section A-2.)

III-3 Data Collection

Small government departments often lack the resources for developing a locally maintained crash database. Crash data reporting and analysis are not always feasible because staff time is already heavily taxed by other responsibilities. Also, the software to track and analyze crash statistics can be expensive to procure and requires training to produce accurate, useful results. Even when crash data and related roadway data are locally maintained, this is usually in separate, mission-focused databases, each kept by a different department, such as

the police, county sheriff, traffic engineering, or public works. If the data are housed by several different departments, those departments may not communicate well enough with each other, resulting in a lack of coordination and consistency in reporting. Unfortunately, when the need arises, it can be difficult to condense the data from the different sources into useful information.

If crash data are not managed locally, obtaining crash statistics from national databases can also be challenging. In many cases, state DOTs now serve as clearinghouses for receiving and organizing crash data. However, a request by a local government to obtain the crash data for its jurisdiction may result in unusable data due to incompatibility or lack of software. In other cases, due to the complexity of the data, it can be extremely difficult to manipulate and analyze (USDOT et al, 2002).

Additionally, the data reported may not be accurate or consistent, limiting a local government's ability to understand the complete scope of the issues. For example, if multiple crashes occur at one intersection, but crash statistics are underreported, listing only fatal crashes instead of all crashes, then data for injury to persons and property may be incomplete or not reported. Underreporting limits the ability to identify safety trends, especially in rural areas where there might be relatively few fatalities and even injury crashes per year. Incomplete reporting, data entry errors, and incorrect or inaccurate descriptions also lead to poor data integrity.

Consistency and uniformity are critical in reporting crash data. Coordination by local traffic engineering, law enforcement, and state DOT officials to record crash data accurately, in a format that is easily presentable, is the key to educating all stakeholders. Without adequate data to illustrate a need, it remains difficult to obtain sufficient funding. (Appendix A offers solutions to data collection in Section A-3).

III-4 Prioritization

Governmental bodies are often driven to reactionary policymaking after an emergency occurs, instead of promoting proactive policies. Often, it takes a high-profile crash and public will to create an awareness of highway safety issues. In smaller communities with lower traffic volumes, this may be because these fatal incidents are not regular occurrences and transportation safety concerns are not easy to identify, particularly if crash data collection is not a priority or is incomplete. Additionally, this apparent lack of safety awareness may be the result of other competing priorities and limited funding.

At a 2006 meeting with local agencies that was set up as research for this guidance, a focus group identified the difficulty in making safety a priority because it is difficult to document trends in crash data due to so few fatalities per year (NCHRP, 2006). Even when adequate data-collection methods are in place, if the analysis is based on crash results and few crashes are recorded, data trends indicating deficiencies and safety issues can be inconclusive. Thus, staff and officials will not have enough evidence to make policy changes. Until a need for traffic improvement becomes evident, the status quo will likely prevail in many jurisdictions. (Appendix A offers resources to help prioritize highway safety in Section A-4.)

IV. Implementation Process

This chapter outlines seven steps toward implementing a successful safety management system. The seven steps establish a framework that small governments may use to incorporate safety into everyday practice. The steps can be readily tailored to meet the needs and current practices of individual communities. This process draws from the *NCHRP Report 500* series' 11-step safety management process, condensing it into a guidance structure relevant to small and rural communities. This is not meant to be a one-size-fits-all approach for integrating safety practices, but it identifies key stepping-stones toward achieving a safe transportation system. The seven steps are listed in Exhibit IV-1 and shown graphically in Exhibit IV-2.

EXHIBIT IV-1
Key Steps in a Safety Process for Local Agencies

Step	Action
1	Decide to make safety a priority
2	Define safety issues
3	Illustrate the results
4	Establish crash reduction goals
5	Find solutions to safety concerns
6	Put safety strategies into action
7	Monitor outcomes

The process of safety management is not simply a series of steps that once completed is the end of the tasks and efforts to achieve a reduction in crashes. Achieving success in roadway safety requires a continuous effort and is an ongoing process that requires updates to reflect new strategies and programs to address changing safety needs.

When embarking on the seven steps to roadway safety, local agencies can be at any stage in the development of traffic safety management. For example, a local agency could be at the beginning of its efforts to improve safety and currently have no safety process or management in place. Conversely, another agency may be at an interim stage and have an ongoing process that needs only to be updated to select new strategies or programs.

The framework of the seven steps provides the flexibility for a local agency to integrate itself anywhere in the process and to incorporate the elements or methods of an existing process. For example, an agency may already have a crash database (part of Step 2 – Define Safety Issues), have developed a stakeholder process (Step 2), and mapped crash data (Step 3 – Illustrate the Results). However, they may not have completely accomplished Step 1 – Making Safety a Priority, or established crash reduction goals (Step 4). Using this model, the

agency can fit new pieces into their current safety management system or adjust it accordingly.
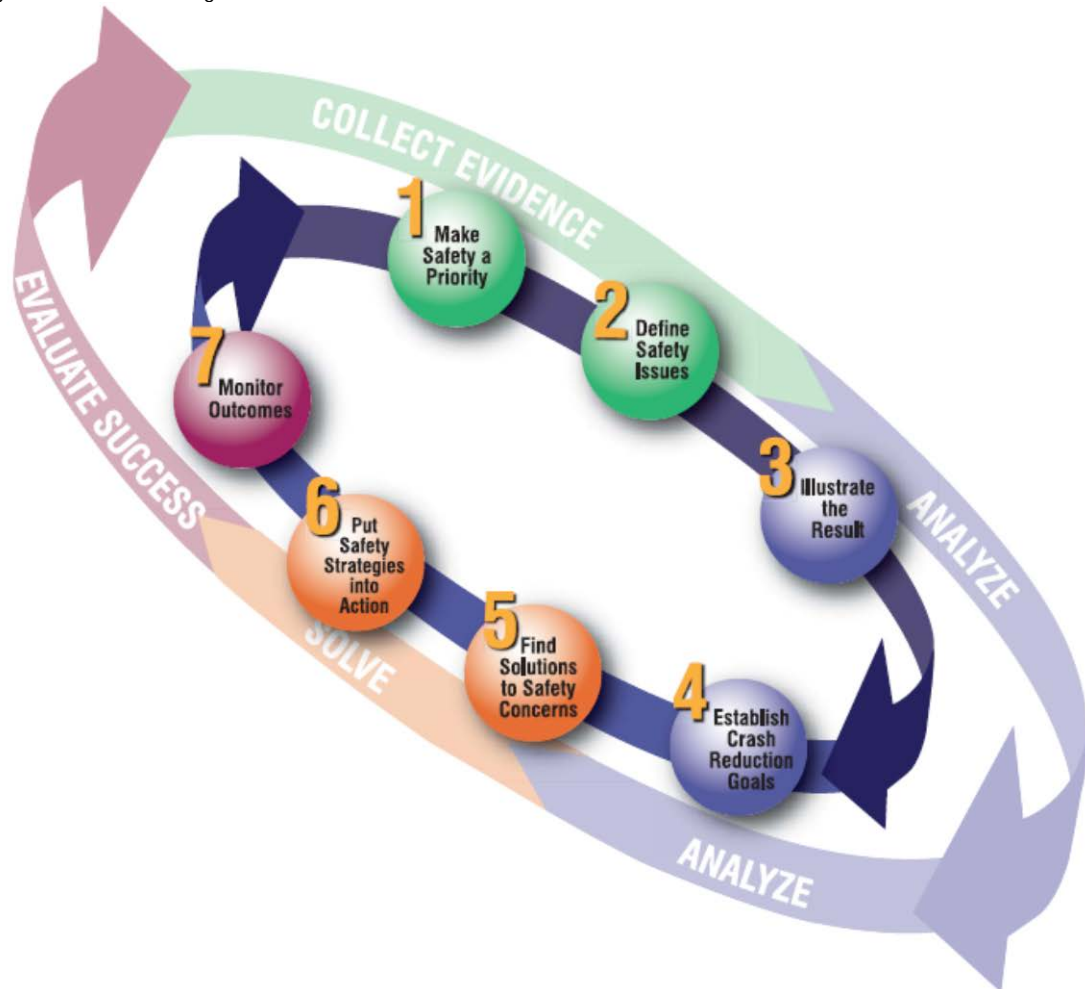
NCHRP Report 500, Volume XX: *Guidance for Safety Improvements on Local Roads*, provides specific guidance for creating a safety program in response to specific local issues. The objective of the local safety program is to obtain the maximum safety benefit using available safety funds and resources. Accomplishing this is the key to reducing severe crashes and saving lives. The following discussion presents some techniques that can be used by local agencies to help make safety an integral part of the overall transportation network.

The traffic safety industry has developed an approach to addressing safety issues known as the "4E" process. This process involves the use of four components of sound safety design—engineering, enforcement, education, and emergency medical services—to develop cost-effective approaches to addressing safety concerns at specific locations. The guidance that follows and the specific safety strategies presented in NCHRP Report 500, Volume XX are all based on the 4E approach.

Step 1 – Decide to Make Safety a Priority

The adoption of safety strategies and the safety management process itself must first begin with the desire to make roadway safety a priority. Until now, most guidance and recommended practices for improving safety have been targeted for state DOTs and large MPOs and cities. However, the high percentages and the frequency of crashes, injuries, and fatalities occurring on locally owned roads have brought to light the need to develop guidance at the local level that previous efforts have not been able to achieve. To accomplish this safety initiative, it is critical to gain the support of local decision-makers. Elevating highway safety begins first with awareness and a commitment from policymakers to correct highway safety concerns.

Once community leaders are in agreement to make safety a priority, they must empower transportation staff to use this guidance to implement a safety process that meets the community's needs.

Appendix B provides a synopsis of the Maryland Department of Transportation's *Local Government Safety Initiatives*.

Step 2 – Define Safety Issues

Several resources can assist in effectively identifying safety issues and needs, but two are key to the process. One is the use of crash data, and the other is to obtain and consider firsthand knowledge from stakeholders. The following subsections discuss the methods for understanding the safety concerns a community faces using both of these methods.

Identify Available Crash Databases

Crash databases provide a record that can help identify safety issues and trends on local roads. The best place to begin is with the various departments in an agency to see if crash databases are already developed and maintained. The police department, public works, geographic information system (GIS) department, or traffic engineering might all individually maintain some form of a database.

If a local crash database is not currently maintained, compiling information from other agencies' crash information is feasible as well. In most cases, local governments are now required to submit crash data to the state DOT, and states are required to submit crash data for all fatalities to the National Highway Traffic Safety Administration (NHTSA) so that the information may be uploaded to the Fatality Analysis Reporting System (FARS) database. Quality and consistency in reporting crash data will ensure usable data sources for future analysis. In addition to the DOT and FARS databases, possible data sources include:

- Highway Safety Information System (HSIS)
- Regional MPOs
- State highway patrol
- University safety-related departments
- Emergency medical responders
- Department of motor vehicles (or similar department)

The data requested should be as detailed as possible to allow full understanding of the scope of the issue. Examination of crash data will identify the circumstances of an crash, the type of crash, and the severity, as well as the location of the crash; time of day; weather and road conditions; number of vehicles involved; driver information, including age and driver impairment; and roadway geometry and related information such as posted speed and traffic control. Exhibit V-3 illustrates the various components of crash data and shows what sort of information is pertinent to meaningful analysis.

EXHIBIT IV-3
Framework for Categorizing Highway Safety Phenomena
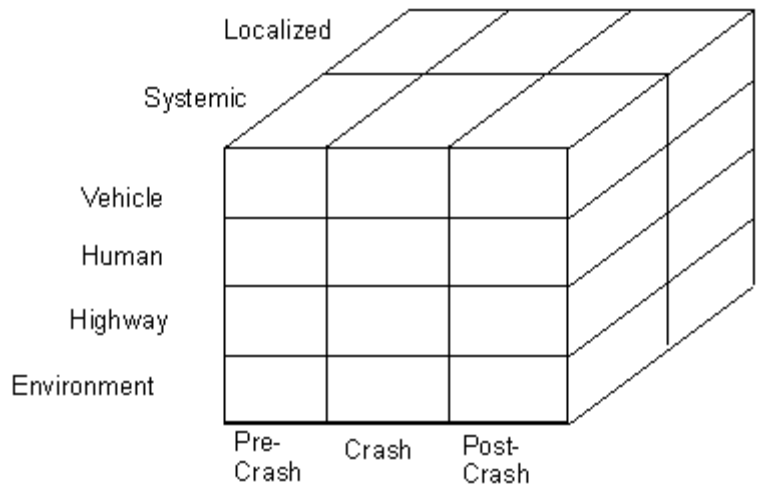
Source: Haddon, 1972

A crash occurs through a series of conditions and events, not at one finite moment, and knowledge of all of these events is important to understanding how to prevent future crashes and reduce their severity. For example:

- Pre-crash events could include drinking or failing to perform routine maintenance on a vehicle.
- Post-crash events are the secondary events that transpire due to the crash itself.
- Contributing factors can help explain why the crash occurred (wet or icy pavement, for instance).
- Determine whether the crash that occurred is indicative of a system-wide pattern or is simply localized.

Develop a Local Crash Database

If another reliable crash database is not readily available, then one of the best resources to develop at the local level is a local crash database. Developing a local crash database will take several years, but it is a worthwhile endeavor and can reduce the need to request information from other agencies, and ensure the integrity of the data when properly reported and entered as well.

The first step toward developing a crash database is to organize a meeting of the all departments that will be using the database. This will enhance communications and help the database creator to fully understand the data needs of each department and to know the extent of the information that needs to be collected. If resources are available, the database will be most useful if crash-location information can be easily located on maps. The use of handheld GPS units to collect specific crash-location information and recording that information in a GIS database is an effective way of accomplishing this goal. Many agencies already have GIS capability, which can permit the integration of crash data with other system data.

The second step is to train personnel to use a standardized reporting method. This will ensure accurate and consistent results. Data reporting and data entry must be consistent for an accurate accumulation of crash hot spots to be understood. If data is consistent, pertinent information will not be missed during queries and analyses.

The Model Minimum Uniform Crash Criteria (NHTSA and GHSA, 2008) provides a model approach for collecting consistent, reliable crash data that are effective for identifying traffic safety problems, establishing goals and performance measures, monitoring the progress of programs, and allocating resources for enforcement, engineering and education.

Using consistent data-entry practices is important to obtaining accurate, useful information. For example, results of a standard database query on all crashes that occurred on North Main Street might not include entries containing "N. Main St." or "No. Main Street," even though those entries could be pertinent. The variance in reporting data (in this case, how the street name was spelled for each entry) can create confusion and may cause errors in analysis. Consistent data-entry practices are important for all fields in the database to ensure the most complete and accurate analysis of potential safety issues.

Another consideration is the length of time that records should be kept. To identify trends in traffic safety, it is necessary to evaluate data over a sufficiently long period of time. It is difficult to obtain a good indication of the safety issues at an intersection or segment of roadway with only one or two years of data. After a crash database is well developed, it will be possible to compare the crash results with other databases maintained in other departments, such as roadway conditions or traffic counts, to better understand the complexity of a problem.

Ensuring the quality of the crash data is important. Data entered into the database needs to be checked for quality as much as possible. This quality control process includes identifying potential errors in the data and determining processes to correct these errors.

Consult Stakeholders

Improving safety for the traveling public cannot be successfully and efficiently accomplished by one group, but takes coordinated efforts from all of the 4E communities. In addition to acquiring crash data, it is beneficial to consult stakeholders who frequently use the transportation network and understand firsthand the shortcomings of the system. Consulting with local stakeholders can provide anecdotal observations that might not necessarily be available from the crash data.

Potential stakeholders to participate in defining safety issues and needs could include the following:

- State DOT
- MPOs
- State highway patrol
- Health department
- Governor's Office of Highway Safety
- Neighboring jurisdictions
- Local traffic engineers
- Local transportation planners
- Local land use planners
- GIS staff
- Local public works maintenance, snow removal, and street sweeping
- Law enforcement officials
- Emergency responders
- Automobile drivers
- Pedestrians
- Bicyclists
- Elderly
- Youth
- Persons with disabilities
- Transit users
- Transit authorities
- Utility companies
- Elected officials
- Insurance companies
- Advocacy/interest groups: Mothers Against Drunk Driving (MADD), American Automobile Association (AAA), etc.
- General public, residents, and business owners
- Media

Once a stakeholder group list is developed, organize small group meetings to secure community input. Present available crash data and identify gaps in the data when such data does not provide the necessary information for identifying safety issues. Allow the small groups to present their anecdotal observations of unsafe and problematic areas within the transportation network. Each one of these parties will provide a unique and helpful insight into understanding the deficiencies the transportation facilities. Additionally, a summary report of the stakeholder meetings should also be generated to document all comments and make sure that any action items are accurately recorded.

Appendix B provides the *Maryland Traffic Safety Leadership Summit: Summit Report,* which includes a list of attending agencies.

Step 3 – Illustrate the Results

Once the data have been collected and organized, one of the best methods for illustrating crash data results is to map the crashes using GIS software. By mapping each crash that occurs within the transportation network, as well as mapping the type of crash, a complex, multivariate analysis can be presented in a relatively simple format. Strong data samples should point to several key intersections and roadway segments, driver populations, or system-wide safety emphasis areas, such as head-on crashes or collisions with trees, all of which would require attention in the safety management system.

If GIS software is not available, another method is to simply use a map, chart, or bar graph to show crash hot spots, types of crashes, and/or driver populations involved. If traffic data are available, it is useful to calculate crash rates as well as numbers of crashes, particularly the number of fatal and injury crashes. The crash rates and initial crash data can serve as baseline readings for monitoring and evaluating the success of safety strategies that will be developed in later steps. In any case, the importance of crash rate and crash data presentation lies in effectively communicating the analysis to stakeholders, especially lawmakers, to justify and assess the need for directing resources toward safety management.

Step 4 – Establish Crash Reduction Goals

Developing crash reduction, or safety, goals is critical for selecting and evaluating safety strategies. Furthermore, establishing goals, especially when publicly announced, can make a department accountable to its stakeholders and policymakers to ensure that progress is made. Goal setting also serves to communicate the extent of a safety issue to the community in a quantitative manner. Goals must be based on safety data, or a data-driven process, and they must also reflect the desires of the community.

A safety goal must be well defined, realistic, and measurable. Goals should be straightforward, data driven, and convey what the desired outcome is, which will help to focus efforts toward selecting the most effective safety strategies. Results from the crash-data analysis should suggest reasonable safety strategy alternatives. These alternatives will help guide the decision toward which safety emphasis areas and strategies to target. See the companion document to this guide, *Guidance for Safety Improvements on Local Roads*, for more details. These goals should also be quantitatively analyzed to measure implementation progress.

Additionally, since the safety strategies address multiple aspects of the transportation network, the goals should be multimodal in focus—addressing automobile, bicycle, pedestrian, and mass transit. The safety strategies should also fit with available funding, training, and resources.

Performance measurements should accompany each goal in order to evaluate the progress of a strategy. These measurements can include percentages, rates, and timeframes. It is helpful to use the crash data analysis as a baseline against which to compare changes brought about by the safety strategy.

The FHWA, AASHTO, NHTSA, and state and federal DOTs all set goals for transportation safety and are good agencies to refer to when making goals. In recent years, the FHWA has encouraged goals that reduce severe crashes, such as fatal and injury crashes. AASHTO's goal of reducing fatalities also serves as a great starting point for local governments to begin the goal-setting process. Additionally, nearly all state DOTs and regional MPOs include safety goals in their long-range transportation plans or state SHSPs and related highway safety programs.

Goals should be derived for each safety emphasis area that was identified as a safety concern in the data analysis process. Because the 4Es are critical to transportation safety planning, the goals, where possible, should embrace safety emphasis areas and strategies in all four areas—engineering, enforcement, education, and emergency medical services. For goals that address vehicular crashes, severity and type of crash should be considered. The goals can be for the entire system or for a particular corridor or segment of roadway.

Examples of goals include:

- Reduce severe crashes
- Reduce the number of fatalities resulting from head-on crashes
- Reduce the number of pedestrian fatalities and injuries
- Reduce the total number of crashes
- Minimize the response time for emergency medical services
- Increase seatbelt usage by XX percent
- Reduce crashes at T-intersections
- Establish XX number of educational programs aimed at reducing drunk driving

Once a set of draft goals have been created, present them to the stakeholder group and have them confirm, modify, or add to the draft goals. A successful goal can be achieved if the appropriate level of funding, timeframe, degree of challenge, and legal and public support work together to facilitate accomplishment.

Step 5 – Find Solutions to Safety Concerns

Strategies should be selected based on their appropriateness to address safety concerns and goals. The details of the crash results should determine the selection of these safety strategies. In *Guidance for Safety Improvements on Local Roads* (NCHRP Report 500, Volume XX), a list of locally specific safety strategies has already been assembled and is ready for easy application, eliminating the need for local governments to engage in developing strategies themselves. The strategies identified are low cost, easy to implement, and, in most cases, have been proven to be effective. (Some strategies are still in the experimental stages and have not yet been proven or tried, but are included because they are promising for local agency use.)

The strategies described in *Guidance for Safety Improvements on Local Roads* are organized by the following objectives:

- Reduce intersection crashes
- Keep vehicles on the roadway
- Reduce lane-departure crashes

- Reduce pedestrian and bicycle crashes
- Improve enforcement and education programs
- Improve emergency medical services
- Innovative safety techniques

Safety strategies either target site-specific areas with a high number of severe or total crashes, or they target a particular safety emphasis area and may be adopted as improvements to the overall transportation system. Remember that not all safety strategies involve reengineering the geometric alignment or engineering changes to a roadway segment or an intersection. Several low-cost and effective strategies also address education programs, traffic enforcement, and emergency medical services.

While each crash is a safety concern and undoubtedly warrants attention, limited funding restricts some projects and requires prioritization of safety issues and strategies. Ultimately, prioritization of safety concerns remains a local decision, but understanding and being consistent with the state DOT's SHSP or an MPO's long-range strategic plan might help in the decision-making process, promote coordination, or may open avenues to added funding from these agencies. Specific considerations for evaluating safety strategies include:

- Budget constraints
- Time constraints
- Training and available personnel
- Applicability of the strategy
- Compliance with existing legislation and policies

Selection might involve ranking intersections or roadway segments with the highest crash numbers and identifying strategies that are appropriate for mitigating the safety impacts at the specific site. Another way is to rank safety strategies by safety emphasis area, giving priority to the most cost-effective, easily implemented, or politically supported strategy. These safety strategies would provide viable solutions for the overall transportation system. Above all, the strategies should relate to the established goals and objectives and be data driven.

Appendix B provides the *Maryland Traffic Safety Leadership Summit: Summit Report,* which includes selected safety emphasis areas and strategies.

Step 6 – Put Safety Strategies into Action

The safety strategies identified in Step 5 can be integrated into the local planning process in several ways. One option is to codify the strategies into legally binding regulations. A second method is to incorporate the strategies during the planning and design of new and retrofit construction projects. The following subsections provide guidance on how to facilitate these processes.

Locally Designed Criteria and Guidelines for Implementation of Safety Strategies

Safety strategies may be integrated into local practices by using various methods. Incorporating strategies into transportation engineering design standards or long-range plans offers one option, although it often requires approval from a lawmaking body. Many

municipal codes also include traffic engineering standards and could serve as a platform from which to integrate safety strategies. It is also possible to create a separate set of transportation design guidelines for evaluating future development. When considering the types of strategies to implement (based on the 4Es of highway safety), it might also be appropriate to incorporate them into other sections of the municipal code under the law enforcement and traffic safety section. Any of these methods of incorporation into a legal document ensures that all future development and decisions within the jurisdiction satisfy the standards of safety as adopted by policymakers.

Local Funding Options

It is feasible to approach a city council or county commissioners to request or petition for additional funding for a specific project or program. If the request is for infrastructure improvements, it may be prudent to include more than just safety as a concern to be addressed, or it is sometimes possible to add safety improvements at minimal cost to projects already planned. For example, a project has a better chance of approval from decision makers if it also mitigates congestion, improves safety, and enhances connectivity.

It is also possible to solicit the decision-making body for funds to expand education programs, especially on seatbelt use or driving while impaired. Additional funds could be allotted to the police department for better traffic-safety enforcement on local roadways, especially if the safety data indicates the need to do so (data-driven process).

Funding by State DOTs and Regional MPOs

Federal legislation instructs transportation planning organizations to formally integrate safety into the planning process. As a result, state DOTs and regional MPOs now include safety as a goal in their long-range transportation plans. Short-range plans allow for the funding of transportation projects to further the goals of the long-range transportation plan. For a state DOT, the short-range plan is called a State Transportation Improvement Program (STIP), and for a MPO, such a plan is called a Transportation Improvement Program (TIP). The long-range transportation plan forecasts improvements to the transportation network over the next 20 years; the short-range programs are an assembly of improvements for the next 6 years and are updated every 2 years. Since federal funding is the primary financial source for major projects and all projects receiving federal funding must be included in the STIP and TIP, it is critical and usually required to get improvement projects adopted in the TIP or the STIP.

Both state DOTs and regional MPOs are developing or have developed criteria for objective evaluation of projects by a technical advisory committee and board. For example, the Denver Regional Council of Governments, under its Evaluation Criteria for Highway Improvements, allots six points out of one hundred for improvements to safety in a project (DRCG, 2008). A project that includes safety improvements in the design can receive the full six points, thus is that much closer to being included in the TIP.

Step 7 – Monitor Outcomes

Once safety strategies are put into action, they should be monitored over the life of the program to evaluate the effectiveness of the projects and to understand whether it is necessary to adjust specific strategies and safety emphasis areas. The monitoring process will measure the success of the strategies to meet safety goals and objectives. Reevaluation of the performance measurements should be made throughout, and at the end of, the program timeframe to understand the magnitude of the progress that was achieved.

Once a program, such as an awareness campaign, has come to an end, it is helpful to have tracked its progress to know whether to take similar action in the future. For evaluating a safety program, the following questions should be answered:

- Was this program worthwhile?
- Should it or something similar to it be implemented in the future?
- Did it come in under or over budget?
- Was it cost effective and efficient?
- What should be changed?
- What should be retained?
- Did it help to meet the crash-reduction goals?

Regular, comprehensive progress reports of how a strategy performs can provide a local government or policymakers with the information to make one of the following decisions:

- Continue the strategy in perpetuity without modification
- Continue the strategy for a limited time
- Continue the strategy with changes
- Discontinue the strategy

Conclusion

The incorporation of safety strategies into local transportation planning is a time-intensive process, but the outcome is rewarding and improves roadway safety for all stakeholders. The seven-step process assumes that safety processes and tools, such as a crash database, could already be in place. If the steps do not fit with a community's own priorities, the steps should and may be tailored to meet local needs. If tools are not already in place, take the time to develop them. It is never too late, and the resources identified in this report are useful for more than just the seven steps.

It may take years to get the political support, funding, and evidence in place to complete the process, but transportation safety never stops being important. It does not have an end date.

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Resources and Opportunities Available to Local Governments

Resources and Opportunities Available to Local Governments

Appendix A provides guidance for overcoming the four challenges identified in Section III of the main text. Although not comprehensive, it provides the groundwork for exploring potential solutions, and many of the resources here open the door to other options.

A-1. Limited Available Trained Personnel

For local government to overcome staff limitations and benefit from a safety management process, the following list offers various ways to compensate for constraints related to staff qualifications and availability.

- Contact state department of transportation (DOT) safety professionals for potential technical support and to obtain information about programs that provide safety-management assistance and support.

- Create internships for students from local colleges or universities. Students from engineering, planning, or information technology courses of study may be suitable to provide additional manpower.

- Agreements (formal or informal) with local higher learning institutions and with other local agencies to gather and process data on a cooperative basis.

- Advertise internally for help on your safety initiative; many individuals could have related experience and will see this as an opportunity to assist their community.

- Recruit retired employee volunteers to help out with your safety management needs. Retired employees often bring with them a wealth of knowledge, the right skill set, and a familiarity with the geographic area. Retired employees may be interested in returning to share their knowledge and participate in the opportunity to work on a safety management initiative. With current technology, it may be possible to recruit beyond your local area and widen the pool of interested retired employees with the kind of skills you are seeking.

The Federal Highway Administration (FHWA) identifies several organizations that offer assistance to local agencies on its Local and Rural Road Safety website. These organizations can assist local governments in identifying, developing, and delivering safety programs and products. A number of these resource and professional organizations are described below.

American Public Works Association (APWA)

http://www.apwa.net

- Members include public agencies, private-sector companies, and individuals who join to exchange ideas, improve professional competency, increase the performance of their agencies and companies, and bring important public-works-related topics to public attention in local, state, and federal arenas.

Center for Excellence in Rural Safety (CERS)

http://www.ruralsafety.umn.edu

- Provides citizen-centered research, training, and outreach to enhance rural safety and to meet online seminar training needs of rural transportation practitioners and policymakers
- Conducts research to explore policy, behavior, and technological approaches, such as projects addressing safety-conscious planning, intelligent transportation systems and rural emergency response, integrated policy approaches and related human factors, societal trends, and stakeholder need analysis

Governors Highway Safety Association® (GHSA)

http://www.ghsa.org

- Represents state and territorial highway safety officers that implement programs to address behavioral issues, including occupant protection, impaired driving, speeding, aggressive driving, distracted driving, motorcycle safety, and pedestrian and bicycle safety

Local Technical Assistance Program (LTAP)

http://www.ltapt2.org

- Enables local counties, parishes, townships, cities, and towns to improve their roads and bridges by supplying them with training programs, information clearinghouses, new and existing technology updates, personalized technical assistance, and newsletters

National Association of Counties (NACo)

http://www.naco.org

- Publicizes grants and provides training and technical assistance through publications, workshops, and best practices to improve local services and address county needs
- Assists rural county officials' participation in the statewide transportation planning process, as well as in the latest developments in intelligent transportation systems technology

National Association of County Engineers (NACE)

http://www.countyengineers.org

- Provides a forum for an exchange of ideas and information aimed at improving service to the public
- Tracks legislation at the federal level

Rural Planning Organizations of America (RPO America)

http://www.ruraltransportation.org/pages/page.asp?page_id=59530

- Professional association for rural transportation planning professionals, practitioners, policymakers, and other stakeholders
- Enhances professional and organizational development of rural transportation planners and others by providing information, peer networking, and resource initiatives

National Highway Traffic Safety Administration (NHTSA)

http://www.nhtsa.dot.gov

- Oversees and enforces safety, fuel economy standards, licensing for vehicle manufacturers and importers, safety-regulated vehicle parts, the Vehicle Identification Number system, and the dummies and test protocols used to test vehicles
- Provides grants to state and local governments for local highway safety programs. The NHTSA helps states and local communities reduce the threat of drunk drivers, promotes the use of safety belts, child safety seats, and air bags; investigates odometer fraud; establishes and enforces vehicle antitheft regulations; and provides consumer information on motor vehicle safety topics
- Conducts research on driver behavior and traffic safety to develop the most efficient and effective means of bringing about safety improvements

Roadway Safety Foundation (RSF)

http://www.roadwaysafety.org

- Provides a technical assistance program to support worthy candidates seeking assistance from a national public education campaign on road safety

A-2. Funding Opportunities

There are two major agency sources for federal funds for traffic safety, NHTSA and the FHWA (USDOT and NHTSA, 2007). Between 2005 and 2009, $5.0 billion was authorized for state highway safety (FHWA, 2005). These grants are intended to provide support to identify and mitigate highway safety concerns; set goals and performance measures for improvements; start new programs; support existing programs; and fund analyses for determining the progress of safety improvement.

Rural Safety Innovation Program (RSIP)

http://safety.fhwa.dot.gov/local_rural/innovate_prgm.cfm

The U.S. Department of Transportation (USDOT) Rural Safety Initiative was announced in February 2008 to help states and local communities develop ways to eliminate the risks that drivers face on America's rural roads and to highlight available solutions and resources. This initiative seeks to refocus the USDOT's extensive safety programs in a comprehensive way to help state and local leaders expedite implementation of solutions in rural areas. The new endeavor addresses five key goals: 1) safer drivers, 2) better roads, 3) smarter roads, 4) better-trained emergency responders, and 5) improved outreach and partnerships. The

FHWA and NHTSA will aid in aggressively promoting solutions, educating the public, and working with local officials to reduce injuries and fatalities on rural roads.

The Rural Safety Innovation Program (RSIP) is a one-time opportunity and a subset of the Rural Safety Initiative which deals with infrastructure and smart solutions for improving rural safety. The goal of the Rural Safety Innovation Program is to improve rural road safety by providing rural communities the opportunity to compete for grant funding to address pressing highway safety problems. The program will allow rural communities to develop data-driven, creative, locally crafted solutions to their roadway safety problems, document their efforts and outcomes, and share the results with other communities across the country.

The primary objectives of the Rural Safety Innovation Program are to:

- Improve safety on local and rural roads using innovative approaches in which rural communities develop and design local solutions to their roadway safety problems.

- Provide best practices and lessons learned on innovative infrastructure safety technologies to assist local and rural road owners and operators in the development and implementation of infrastructure-based rural safety countermeasures that compliment behavioral safety efforts.

- Promote national awareness and interest in the local and rural safety issues.

- Promote the use of Intelligent Transportation Systems (ITS) technologies to improve safety on local and rural roads.

State and Local Funds

In addition to the NHTSA and FHWA funds discussed previously, states and local governments have funding mechanisms that may apply to safety programs and projects. There are three primary types of funds at the state and local levels: bonds, general funds, and special assessments. These are briefly described in the following subsections.

Bonds

A municipal bond is a funding mechanism issued by a state or local government. These bonds may be used to finance the construction of infrastructure that typically requires long-term, large-capital expenditures. Bonds generally allow the issuer to acquire assets or develop construction programs that otherwise could not be afforded on a "pay as you go" basis.

One example of a bond designated for transportation is California Senate Bill 286, amended January 2008. Senate Bill 286 established a procedure for allocating the $2 billion of bond money for transportation that had been set aside for cities and counties. This allowed local communities to decide what improvements were needed in their jurisdictions. Each city, for example, was guaranteed at least $400,000 for road improvements (California, 2008).

City General Funds

The general fund is typically the primary operating fund of a city. Its principal revenue sources usually include property taxes, sales or gross-receipts taxes, utility taxes, business licenses and franchise taxes, user fees, and certain general purpose revenues allocated by the

state. Staff, police, and fire services often account for the bulk of expenditures in the general fund, with the balance going to a variety of programs, such as parks and recreation, urban forestry, public works, maintenance, planning and economic development, and general government.

The transportation fund is generally housed within the public works or traffic engineering budget and is used to maintain and operate the local streets. The transportation fund can also receive transfers from the general fund for certain projects. Other related transportation fund categories may be dedicated for the city's transit system, airport, vehicular fleet, pedestrian and bicycle facilities, and traffic safety. For example, in the City of Modesto, California, revenue received from traffic fines and forfeits replenishes the traffic safety fund (Modesto, 2007).

Special Assessments

A special assessment is a fee local governments can assess against real estate parcels for certain public projects. This charge is levied in a specific geographic area known as a special assessment district. A special assessment may only be levied against parcels of real estate that have been identified as having received a direct and unique benefit from a public project. The most universally known special assessments are charges levied against lands when drinking water lines are installed, when sewer lines are installed, or when streets are paved. However, special assessment tax levies can be made for other purposes, such as police or fire protection, parking structures, street lighting, and many of the other purposes permitted by state and local government statutes.

There are variations between state governments as to what constitutes a benefit under special-assessment laws. In general, the benefit must result directly, uniquely, and specifically from the public project. The term benefit most frequently means an increase in the market value of the benefited property. However, some states historically have defined the term benefit to mean more than an increase in market value. For example, benefit could mean a special adaptability of the land or a relief from some burden.

In summary, when a government unit funds a public project that directly, uniquely, and specifically benefits certain parcels of real estate, it may levy a charge against each specifically benefited property to compensate for the benefit. In some states, it is possible for one government unit to levy a special assessment against another. This is true in cases where the public health, safety, and welfare are being promoted by the project (repairs to a dam, for example). While the research conducted for this guide did not identify the use of special assessments for highway safety improvements, it is conceivable that special assessments could be used for roadway safety projects, but would need to be allowed in state and local statutes and codes. Local governments should investigate this as one of many possibilities for safety program funding.

The Transportation Equity Act for the 21st Century of 1998 (TEA-21)

Under TEA-21, enacted June 9, 1998, grants were made available for traffic safety improvements. However, all TEA-21 funding was allocated by fiscal year 2005. The following lists some of the funding opportunities that were offered.

- Section 130 – Railway/Highway Crossings Program
- Section 152 – Hazard Elimination Program
- Section 153 – Use of Safety Belts and Motorcycle Helmets
- Section 154 – Open Container Requirements
- Section 157 – Safety Incentive Grants for Use of Seatbelts
- Section 163 – Safety Incentives to Prevent the Operation of Motor Vehicles by Intoxicated Persons
- Section 164 – Minimum Penalties for Repeat Offenders for DWI or DUI
- Section 411 – State Highway Safety Data Improvements

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users of 2005 (SAFETEA-LU)

SAFETEA-LU provided earmarks for surface transportation projects, including highway, transit, pedestrian and bicycle, and freight railroad systems. The following grants provide an example of funding priorities:

- Section 402 – State and Community Highway Safety Programs
- Section 405 – Occupant Protection Incentive Grant
- Section 406 – Incentive Grants to Support Increased Safety Belt Use Rates
- Section 408 – State Traffic Safety Information System Improvements Grants
- Section 410 – Alcohol Impaired Driving Countermeasures
- Section 2010 – Motorcyclist Safety Grants
- Section 2011 – Child Safety and Child Booster Seat Incentive Grants

Moving Ahead for Progress in the 21st Century Act of 2012 (MAP-21)

Under MAP-21, enacted July 6, 2012, funding apportionments were made available for traffic safety improvements. The following lists some of the funding opportunities that were offered:

- Section 154 – Open Container Requirements
- Section 164 – Minimum Penalties for Repeat Offenders for Driving While Intoxicated or Driving Under the Influence
- Section 402 – Highway Safety Programs
- Section 403(b) – Occupant Protection Grants
- Section 403(c) – State Traffic Safety Information System Improvements
- Section 403(d) – Impaired Driving Countermeasures
- Section 403(e) – Distracted Driving Grants
- Section 403(f) – Motorcyclist Safety
- Section 403(g) – State Graduated Driver Licensing Incentive Grant

Fixing America's Surface Transportation Act (FAST Act)

The FAST Act, enacted December 4, 2015, provides long-term funding surface transportation, such as new highways and transit lines, and traffic safety improvements. The following lists some of the funding opportunities that will be available:

- Section 1108 – Railway-Highway Grade Crossings
- Section 1109 – Surface Transportation Block Grant Program
- Section 1113 – Highway Safety Improvement Program

A-3. Data Collection

Informed decision-making by highway engineers and government administrators concerning the design and operation of a highway system requires an understanding of how safety is affected by the geometric design of a roadway; the selection and placement of roadside hardware; the use of traffic control measures; the size and performance capabilities of the vehicles; and the needs and abilities of the users. This understanding can be developed through sound analysis of data about crashes. This data is most effective when it is present in computerized files that can be easily linked so that the data can be rapidly assembled and prepared for analysis.

Fatality Analysis Reporting System (FARS)

While numerous public and private organizations publish fatal crash data, the primary and, in most cases, best source of fatal crash data is provided by NHTSA via their Fatality Analysis Reporting System (FARS). FARS is NHTSA's primary database for highway safety analysis and was created to provide an overall measure of highway safety, to inform decisions on safety countermeasures, and to help provide an objective basis for evaluating the effectiveness of motor vehicle safety polices, research, and highway safety programs.

FARS contains data on a census of fatal traffic crashes within the fifty states, the District of Columbia, and Puerto Rico. NHTSA has a cooperative agreement with an agency in each state government to provide information on fatal crashes. To be included in FARS, a crash must involve a motor vehicle traveling on a roadway customarily open to the public and must result in a fatality (occupant of a vehicle or a non-occupant) within 30 days of the crash. FARS has been operational since 1975 and has collected information on more than 1 million motor vehicle fatalities. It collects information on more than 100 different elements that characterize the crash, the vehicle, and the people involved.

Highway Safety Information System (HSIS)

The Highway Safety Information System (HSIS) is a multistate database that contains crash, roadway inventory, and traffic volume data for a select group of states. The HSIS is operated by the FHWA. In 1987, five states were chosen by the FHWA to be included in the HSIS: Illinois, Maine, Michigan, Minnesota, and Utah. The primary criterion used to select the states was data availability (the range of data variables collected), quantity of data, and data quality. In 1995, the states of California, North Carolina, and Washington were added to increase the amount of data available and provide better geographic coverage. In 2002, Ohio was added to the HSIS database. One limitation of the HSIS data is that HSIS states

only provide data on state-maintained roads, not on locally maintained roads. Therefore, while HSIS data is useful in many situations, FARS data may be better suited for local and rural governments to access relevant crash information.

A-4. Prioritization

The guidance manuals described in this section include most current industry practices and can provide valuable information when safety strategies must be prioritized. They also can be helpful when presenting traffic safety concerns to local decision-makers.

NCHRP Report 500 Series, *Guidance for Implementation of the AASHTO Strategic Highway Safety Plan*

The NCHRP Report 500 series, *Guidance for Implementation of the AASHTO Strategic Highway Safety Plan,* is considered by the highway safety industry as one of the first steps for implementing AASHTO's 1998 *Strategic Highway Safety Plan* (SHSP). The Report 500 series addresses the 22 safety emphasis areas identified in the SHSP and provides associated safety strategies. To some degree, the Report 500 series resulted from safety practitioners requesting an organized effort for conducting and publishing the latest thinking on highway research (Umbs, undated). With the assistance and feedback of hundreds of technical experts, the Report 500 series has been prepared to provide sets of safety emphasis areas, along with objectives and countermeasures. The following are AASHTO's 22 safety emphasis areas:

- Aggressive Driving
- Unlicensed Drivers
- Trees in Hazardous Locations
- Head-On Collisions
- Unsignalized Intersections
- Run-off-the-Road Collisions
- Horizontal Curves
- Utility Poles
- Older Drivers
- Pedestrians
- Seatbelt Use
- Signalized Intersections
- Heavy Trucks
- Drowsy and Distracted Drivers
- Rural Emergency Medical Services
- Alcohol-Related Collisions
- Work Zones
- Young Drivers
- Bicyclists
- Speed
- Head-On Collisions on Freeways
- Motorcycle Safety
- Data Collection and Analysis

NCHRP Report 501, *Integrated Safety Management Process*

NCHRP Report 501, *Integrated Safety Management Process* (part of the NCHRP Report 500 series), addresses the need to create a more effective safety management process, particularly for state DOTs. The process presented in Report 501 is a tool to assist in the integration of safety-related solutions by proposing a method for bringing together agencies within a jurisdiction that are responsible for highway safety. Report 501 begins by stating that although many state organizations implement independent safety initiatives to help reduce injuries and fatalities on highways, most states do not have a comprehensive strategic approach, that is, "…a coordinated, comprehensive management approach to integrating engineering, education, enforcement, and emergency service efforts… to more effectively address major crash problems and achieve a greater reduction of overall injuries and deaths." All states, using published information such as the Report 501 and information from the Report 500 series, have begun programs to prepare and implement a safety management process and develop their own strategic highway safety plans, as mandated under SAFETEA-LU and MAP-21.

NCHRP Synthesis 322, *Safety Management Systems*

In 2004, NCHRP published the report Synthesis 322: *Safety Management Systems*. NCHRP researchers conducted a literature review of national studies and reports, as well as state and local guides that address the safety management system (SMS) process. As documented in Synthesis 322, national studies reveal that the SMS process has resulted in many benefits, especially the enhancement of coordination, cooperation, and communication among key highway safety stakeholders. The research concluded that successful SMS state initiatives continue to thrive, even though a legislative mandate is absent. From the findings of this research, it is reasonable to expect that if an SMS approach is beneficial at the national and state level, so, too, would SMS approaches benefit small MPOs and local governments.

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Maryland Department of Transportation
Safety Initiatives

Maryland Department of Transportation Safety Initiatives

Appendix B contains the following documents:

- A synopsis of Maryland Department of Transportation's *Local Government Safety Initiatives*

- *Maryland Traffic Safety Leadership Summit: Summit Report*

Synopsis of Maryland Department of Transportation's
Local Government Safety Initiatives

Maryland has utilized many of the key components of a successful safety management system (SMS) that were identified in the 2003 NCHRP synthesis on SMSs (Depue, 2003). They have buy-in from senior management; identified a lead agency in the effort; established interdisciplinary coalitions; used data-driven problem analysis and gap identification; developed strategic plans; and implemented, monitored, and revised those plans. Maryland has used a series of traffic safety summits as the cornerstone of their approach. They have built several structural processes to ensure ongoing assistance to decision makers to improve efficiency and safety in the transportation system.

In 2003, the Governor of Maryland designated the Maryland Department of Transportation, State Highway Administration (SHA) as the lead agency in the development of the Maryland Strategic Highway Safety Plan. They formed an Executive Committee and a Steering Committee to ensure top officials would remain involved in the safety process. The SHA recognized that they needed to pull together an interdisciplinary group of stakeholders to address the safety needs of the state. They did so by holding a series of structured traffic safety summits. Invitations were sent by the head of the Maryland Department of Transportation and the Maryland State Police to every county executive and mayor in the state. Each political leader was asked to send a team to the traffic summit. Specific information was supplied to describe the team make-up to include representation from the local administration, legislation, state and local traffic engineers, state and local police, health department, emergency medical services, and the local Comprehensive Traffic Safety Program (CTSP). Representatives at the summits were separated into work groups to define safety emphasis areas of concern to be addressed based on their analysis of data and their judgments formed by their individual expertise. Proposed safety emphasis areas were refined by the steering and executive committees, and a Maryland Strategic Highway Safety Plan (SHSP) was published in 2003. At later summits, representatives were split into regional teams (SHA, 2007). The regional teams allowed the representatives to work with the interdisciplinary group that was dealing with the most similar problems to their own local issues. It was quite likely that the issues facing the rural counties in western Maryland were different than the issues faced in the Baltimore Metropolitan region. Each regional team was supplied a data package for each of 14 safety emphasis areas. Each region was tasked to develop strategies to address the safety emphasis areas that were most important to their region. A new SHSP was published in 2006 and later summits were used to refine the safety strategies and reinforce a sustained approach to the traffic safety process (MDOT, 2006). This statewide approach has led to legislative successes when the summits identified key issues of relevance for the entire state.

The SHA has built several systems to ensure safety is always considered while seeking improved efficiency in the transportation system. Each county in the state has established a Comprehensive Traffic Safety Program coalition. These coalitions look at the local traffic safety issues from a four E approach and determine which strategies should be pursued. Each CTSP is involved in the State strategic planning process. The CTSP then establishes local needs that are consistent with the regional and state plans. Maryland grant funds are provided for local needs based on the priorities established by the local CTSP. The SHA has

supplied analysts and police liaisons to assist the local agencies with local problem identification and strategy development.

The State of Maryland has developed a process that leverages statewide expertise and clout to support better informed local, regional, and statewide decision making.

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MARYLAND TRAFFIC SAFETY LEADERSHIP SUMMIT

SUMMIT REPORT

Introduction

On November 30, 2007 more than 340 safety stakeholders attended the Maryland Traffic Safety Leadership Summit held at the Maritime Institute of Technology in Linthicum, MD. The Summit was a follow on to the Strategic Highway Safety Plan (SHSP) Summit held in July 2006 where safety stakeholders provided input into the content of the SHSP.

The focus of this Summit was leadership and the implementation of the SHSP at the regional, county, city, and municipal levels. Mayors, County Executives, and County Boards were asked to form county teams from Maryland's 23 counties and Baltimore City comprised of representatives from the following:

- The County Executive/Mayor or a designee
- The Chair or a representative from the County Legislative Task Force
- Representatives from local municipalities
- The SHA District Engineer
- The Commander of the State Police Barracks
- Representatives from each county and Baltimore City law enforcement agency
- The County Community Traffic Safety Program (CTSP) coordinator
- A representative from the county/City CTSP coalition/task force
- A County/City engineer and planner from the local Department of Transportation or Public Works agency
- Representatives from county Emergency Medical Services
- Representatives from metropolitan planning organizations (MPO) in Maryland
- Representatives from the local Health Department

These county teams were then grouped into five regions in the state; some of which were led by representatives from state metropolitan planning organizations and other regional planning groups. The goal was to determine who owns the problem of traffic safety. Over the past year and half, safety stakeholders have been working hard to develop and implement the SHSP on a state level – the objective was to translate that commitment and energy to local level through regional SHSP programs and activities. During breakout sessions, the regional teams reviewed data, selected the top four or five priority areas for their region, and began working as a group to determine the action steps they would undertake to implement the SHSP.

Results

Since the Summit, a number of regions and counties have been moving forward to begin implementation of the SHSP. Following are some of the activities that have occurred since November 30, 2007.

Baltimore Region

- Baltimore Metropolitan Council (BMC) technical committee will meet on January 8 to consider a resolution that will formalize the Baltimore Regional SHSP team under the direction of the BMC.

- BMC will hold a vote to adopt a resolution at their January 22, 2008 meeting to formalize the regional safety team.

- The Anne Arundel County Police Department offered to work with neighboring jurisdictions in developing a multi-jurisdictional targeted enforcement motorcycle campaign with both local and state law enforcement agencies.

- Anne Arundel County volunteered to conduct a road safety audit on local intersections in the county.

Washington, DC Region

- Prince George's County DPW&T asked SHA to share its crash information with the county. In addition, they requested SHA help in collecting traffic volumes and crash information and to develop crash rates for local roads (county and municipal). Montgomery County is working with the University of Maryland to enhance the utility of crash data by local engineering agencies.

- The Metropolitan Washington Council of Governments (COG) will be discussing a possible greater role in assisting with implementation of the Washington, DC Region SHSP plan.

- The Montgomery County Department of Public Works has asked for RSA training.

Southern Maryland

- The Tri-County Council in Southern Maryland discussed the regional SHSP at their meeting on December 12. TCCSMD Director Wayne Clark told the council, safety in our area will "only be as good as the regional implementation effort." The Council agreed to form a Task Force that would work with the state Community Traffic Safety Coordinators (CTSPs) and county contacts because the group did not get down to assignments at the Summit. TCCSMD will serve as facilitator of this task force and will post the safety data distributed at the Summit along with any additional data on their web site.

- The Charles County Sheriff's Department will be instituting a program to contact parents when their children are cited for a traffic violation. The Department will also be intensifying enforcement of young drivers.

- The Charles County Board has proposed a ban on drive-through liquor stores.

- Calvert County will be piloting the National Safety Council's "Alive at 25" as a sentencing option for young drivers following traffic offenses. The program was presented to Calvert County's District Court Judge and the Department of Juvenile Services on December 8, 2007, who agreed that this national program will be used as a sentencing option beginning April 1, 2008.

- The Director of the Tri-County Council of Southern Maryland Wayne Clark, SHA District Engineer Greg Welker and Southern Maryland CTSP Coordinators met on January 8, 2008 to discuss regional SHSP efforts. A presentation will be given to the Council's Executive Board on January 30, 2008.

- Since Summit, Calvert County has discussed the possibility of using the National Safety Council's (NSC) youth program "Alive at 25" program with Maryland NSC contact Dave Madaras as part of a sentencing option in lieu of community service if supported by other necessary partners. The National Safety Council offered this as a regional pilot during the SHSP Summit on 11/30/07. The program is also being presented to Judge Clagett in Calvert County by CTSP coordinator Debbie Jennings, Sgt. Titus and Dave Madaras. The program is not intended to replace MVA's Driver Improvement Program, but rather is to be used as an additional tool.

Western Maryland

- Bob Fisher, SHA District 6 engineer, plans to hold a kickoff meeting to facilitate getting the local government entities more involved with the implementation of SHSP. An email blast is being sent to all of the attendees at the Summit from Western Maryland to organize this meeting.

Eastern Shore

- The Eastern Shore decided not to implement a regional plan but rather use the individual CTSP plans in each county. The counties in the area, however, would meet on a regular basis to share information on the status of the county plans, to get ideas from one another, and to coordinate on requests to the state, e.g., requesting data from the State. Dan Blevins from WILMAPCO will be setting up a meeting with the CTSPs in the near future to begin this regional coordination process.

Summit Proceedings

Speakers at the opening session included John Porcari, Secretary, Maryland Department of Transportation; Col. Terrence Sheridan, Secretary, Maryland Department of State Police; Neil Pedersen, Administrator, State Highway Administration and the Governor's Highway Safety Representative, and Vernon Betkey, Director of the Maryland Highway Safety Office and Maryland's Highway Safety Coordinator.

Mr. Betkey welcomed the audience and described the Summit as an opportunity to ensure the SHSP is successfully implemented through the involvement of a broad range of state, regional, and local agencies, as well as private sector partners. Secretary John Porcari told the audience of the commitment of Maryland's Governor and Lt. Governor to preserve the exceptional quality of life Marylanders expect and deserve, and noted improving traffic safety is a critical component of achieving that goal. He reported that someone dies every 14 hours on a Maryland road and every 9.5 minutes someone is injured.

Traffic crashes, he said, increased from 614 in 2005 to 652 in 2006 and the outlook for 2007 is not favorable. These crashes are not accidents, but can be predicted, and through implementation of the right strategies can be prevented, and the Secretary charged the attendees to get involved to ensure that valuable scarce resources are targeted to the areas where they are needed most. In terms of crashes, he reported, that the state maintains 17 percent of the center-lane miles; the remaining 83 percent is county and municipal owned. More than half of the crashes are occurring on local roadways. Finally Secretary Porcari announced a new internal campaign directed at state employees because traffic safety starts at home. The cornerstone of the program is driver improvement training and campaign materials that will be distributed throughout the state government.

Col. Terrence Sheridan, Superintendent of the Maryland State Police, emphasized the importance of law enforcement in successful implementation of the SHSP. He reaffirmed his commitment and the commitment of the other members of the SHSP Executive Committee because something has to be done about the problem of traffic safety. "If you are wondering why so many people are getting involved in this issue – the numbers tell the story. Nationally, more than 42,000 people died last year in traffic crashes. That is equivalent to a passenger plane crashing every day." He urged law enforcement agencies from across the state to make a commitment to solve this problem by ensuring police officers are doing all they can to focus on traffic safety. "Maryland motorists need to know we are serious about highway safety. Police departments prove they are serious about highway safety through visible, targeted, continuing, enforcement," he said. Secretary Sheridan urged participants to use the statewide SHSP and adapt it for their regions.

SHA Administrator Neil Pedersen provided more detailed information on the Summit and why metropolitan planning and other regional organizations were used as organizing tools for the regional breakout sessions. "These organizations," he said, "have expertise in transportation planning and meet regularly with elected officials to brief them on transportation matters and can include safety in those briefings. They also conduct public outreach and can highlight the importance of traffic safety."

He went on to provide specific examples on ways the regional teams could implement the strategies in the statewide SHSP. Some of those examples included the following:

- The state plan recommends every county and city law enforcement agency participate in the Checkpoint Strikeforce campaign. Find out if all the city and county police departments participate and if so, how often do they conduct a sobriety checkpoint and what are the locations. If not, determine the reasons and develop solutions to overcome those barriers.

- Run-off-the road crashes are a particular problem in the Eastern Region. In 2006, there were over 1400 of these types of crashes. Center and edge-line rumble strips have been shown to be highly effective in keeping vehicles on the roadway. Mr. Pedersen recommended the region work with the SHA District Office to find out the high-crash locations for run-off-the road crashes that have been identified on state roads in your area and prioritize them for installation of center and edge line rumble strips.

- Recent reports, he noted, clearly demonstrate the need to improve the safe driving habits of our younger drivers. In Southern Maryland, crashes involving drivers age 16-20 increased from 1,319 in 1997 to 1,503 in 2006 and the number of fatalities have remained virtually

unchanged for the last ten years. Maryland's Graduated Driver Licensing Law requires parents or another adult to provide 60 hours of supervised driving for novice drivers. In each region the MPO or the Tri-County Council provides an excellent vehicle to get information out to parents about the importance of this requirement. Work with the elected officials on the boards of these organizations who can talk about the issue with their constituents.

Administrator Pedersen noted everyone owns the problem of traffic safety equally and that applies whether you are the Administrator of the State Highway Administration or an engineer in your county Public Works Department. He reminded local public officials that they should be vitally interested in the SHSP because traffic crashes are costing counties and cities a great deal of money. "Funding," he said "that could be better invested elsewhere."

Before adjourning to work in their respective regional teams, Vernon Betkey reminded participants the focus for the remainder of the Summit is implementation of the SHSP in the local and regional areas. Facilitators, he said, will assist the regions in determining the following:

- The most serious problems in your region;
- How you will work together to solve these problems; and
- The specific steps you will take.

Each region also had an individual who volunteered to help lead the effort forward and keep people working together once the Summit is over. The regional breakdown included the following:

- The Eastern Shore which includes the counties of Dorchester, Wicomico, Worcester, Somerset, Cecil, Kent, Queen Anne's, Caroline, and Talbot.
- The Baltimore Metropolitan area, which includes Baltimore City, and the counties of Baltimore, Harford, Anne Arundel, Howard, and Carroll.
- Washington, DC Metro, which includes Montgomery, Prince George's, and Frederick counties.
- Southern Maryland, which includes the counties of Charles, St. Mary's, and Calvert.
- And Western Maryland, which includes Garrett, Allegany, and Washington counties.

During the afternoon work sessions, each region met for several hours to lay out a course of action appropriate to their area. While all of the groups followed the same process, the end result varied based on the needs and concerns for each area and the views from the participants on how the SHSP should be implemented. At the conclusion of the work sessions, each region selected a representative to report out on their individual implementation approach, and the actions the region plans to take in the future.

Regional Team Reports

At the beginning of each breakout session, participants reviewed data charts showing the breakdown of fatalities and injuries for each region in each of the 14 statewide emphasis areas. The purpose of the data was to assist the regional teams in determining the four or five critical emphasis areas for their area based on the number of fatalities and serious injuries.

Baltimore Metropolitan Region

Counties - Anne Arundel, Baltimore City, Baltimore County, Carroll, Harford, and Howard
Facilitator – Pam Beer, Cambridge Systematics
Team Leader – Bala Akundi, Baltimore Metropolitan Council (BMC)
Recorder – Carrie Gentile, MVA

The Baltimore Region meeting was the largest group at the Summit and included a good mix of state and local agencies. State agencies that participated included the Maryland Department of Health, SHA, State Police, Maryland Transit Administration, Department of Public Safety, District Court of Maryland, National Study Center at University of Maryland, MVA, Maryland Insurance Administration. Other statewide organizations included AAA Mid-Atlantic and Millennium Health. Local agencies that participated included Baltimore County Department of Public Works, Anne Arundel Traffic Engineering, Baltimore City Department of Transportation, Carroll County Health Department, Johns Hopkins University, Baltimore City Fire Department, Anne Arundel Fire Department, Anne Arundel Department of Public Works, and the Anne Arundel County Public Schools. From law enforcement participants included Carroll County Sheriff's Office, Baltimore City Police, Baltimore County Police, Howard County Police, Anne Arundel Police, Harford County Sheriff, Aberdeen Police Department, and the MdTA Police.

The group determined additional data was needed on crash data and citation data and trends involving speeding. Other data may be needed as the group moves forward. The team also requested that crash information be provided to the team on a regular basis by the State Highway Administration.

Emphasis Area Selection

After a review of the data, the regional team went through several voting processes to narrow the emphasis areas to the following:

- Reduce Impaired Driving;
- Improve Safety at Intersections;
- Develop Safe Young Drivers;
- Improve Motorcycle Safety; and
- Curb Speed and Aggressive Driving.

The participants were randomly divided into five task groups for each of the selected emphasis areas. Each group was asked to look at the Strategies and Action Steps developed for their emphasis area in the statewide plan as a starting point, but to develop action steps that made sense for the Baltimore Region Shore specifically. The results of the task group meetings, which form the basis of the Baltimore Regional SHSP implementation plan, are as follows.

Note: BR stands for Baltimore Region and AS stands for Action Step

State EA #3b – Improve Safety at Intersections

State Strategy #3b.1   Obtain SHA help to move forward with a high crash intersection list on local roads

    BR AS 3b.1.1   Develop method to determine rates on local roads.

BR AS 3b.1.2	Determine if SHA is able to accept count data from local jurisdictions and maintain high crash location information on both state and local roads
BR AS 3b.1.3	Assist counties and provide information to improve safety for pedestrians, cyclists,
BR AS 3b.1.4	Conduct road safety audits and collaborate with counties on road safety audits. *(Anne Arundel County has volunteered to do the first audit.)*
BR AS 3b.1.5	Distribute information on local road crashes; night versus day, signalized, etc.
BR AS 3b.1.6	Look at regional intersections to see if crash data has changed as a result of improvements such as red light cameras.
State Strategy 3b.5	Conduct a public information and education campaign targeting intersections.
BR AS 3b.1.5	Educate motorists and pedestrians on safety at intersections.

State EA #5c – Develop Safe Young Drivers

State Strategy 5c.1	Review, evaluate, and improve driver preparation programs.
BR AS 5c.1.1	Change the driving test and ensure it matches real world driving, i.e. use simulators *(referred to State EA team)*.
BR AS 5c.1.2	Determine possibility of conducting licensing program similar to the one conducted in Virginia, i.e., judges give license to parent/guardian at licensing ceremony (*This is also an action step in state plan. Because Baltimore team will be recruiting judges to be part of their effort, Baltimore Region could serve as a pilot site for this effort*).
BR AS 5c.1.3	Provide for additional parent participation in education of young drivers.
	a. Ensure parental notification of traffic violations is conducted by law enforcement agencies in all the counties in the region. *(Howard County already conducts this program. They will call parent/guardian by phone and if unable to reach, they send a letter indicating the teen has received a violation. Several other counties do this as well.)*
	b. Require parental permission for student to take passengers from school property.
State Strategy 5c.3	Develop and implement a public information, education, and awareness campaign specific to young driver audience.
BR AS 5c.3.1	Conduct an outreach campaign on current graduated driver license law.
BR AS 5c.3.2	Ensure young people are involved in developing solutions to the problem.
BR AS 5c.3.3	Provide information to young people in venues that they use, i.e. YouTube.
BR AS 5c3.4	Form a Governor's Youth Council *(referred to state EA team)*.
State Strategy 5c.4	Develop a program to increase enforcement, prosecution, and disposition of young driver traffic law violations.
BR AS 5c.4.1	Make student parking passes at region high schools dependent on a violation free record.

BR AS 5c.4.2	Discourage driving to school and encourage young people to ride the bus.
BR AS 5c.4.3	Establish a different point system for juveniles *(referred to State EA team)*.
BR AS 5c.4.4	Require a code of conduct for all school athletes and ensure a no tolerance policy for alcohol violations.
BR AS 5c.4.5	Improve GDL law so it is consistent with NHTSA model legislation.
BR AS 5c.4.6	Work with insurance companies to reduce rates for good drivers.

State EA #5d – Improve Motorcycle Safety

State Strategy 5d.1	Create and administer a comprehensive training program that provides formal and informal learning opportunities for new, existing, and returning motorcycle drivers.
BR AS 5d.1.1	Partner with MVA to ensure there is a mandatory training program through one of the MVA approved centers to obtain a license. (A motorcycle license is not a separate license, but an endorsement.)
BR AS 5d.1.2	Require basic rider course to obtain a motorcycle endorsement.
BR AS 5d.1.3	Initiate a rider-mentor program.
BR AS 5d.1.4	Encourage involvement of dealers to sell only to those who already have the motorcycle endorsement.
BR AS 5d.1.5	Require retesting for license renewal.

State Strategy 5d.2	Develop and implement a public awareness and education campaign aimed at improving motorcycle safety.
BR AS 5d.2.1	Educate motorcyclists about the consequences of unsafe driving including driving under the influence.
BR AS 5d.2.2	Educate motorists on "situational awareness;" encourage them to scan the roadway and anticipate presence of motorcycles.
BR AS 5d.2.3	Encourage motorcyclists to be more visible on the roadway.
BR AS 5d.2.4	Educate riders about proper gear, reduced speeds, no tailgating, and sharing the road safely.

| Strategy 5d.3 | Develop effective approaches for law enforcement to address the lawful operation of motorcycles and other motor vehicles. |
| BR AS 5d.3.1 | Develop and implement a multi-jurisdictional enforcement program among counties in the Baltimore region and target areas known for high number of motorcycle riders. *(Anne Arundel County police department does a joint motorcycle enforcement program with State Police.)* |

| Strategy 5d.5 | Implement motorcycle licensing procedures that effectively evaluate motorcycle operator entry level knowledge and skills. |
| BR AS 5d.5.1 | Consider graduated licensing program similar to ones conducted overseas and restrictions on bike speeds (Sweden places restrictions on bike speeds). |

State EA #6 – Curb Aggressive Driving and Speeding

While the state SHSP focuses on curbing aggressive driving, which involves speeding, the Baltimore region felt it was important to focus efforts on speeding which is a major problem in all the counties.

State Strategy 6.1   Identify top five hazardous locations through the SHA models and implement appropriate countermeasures. (Speed-related crashes were specifically targeted in the Baltimore region.)

    BR AS 6.1.1   Implement automated enforcement.
   a. Use information from Montgomery County pilot study to draft legislation.
   b. Educate the public on automated enforcement in terms of benefits/costs.

State Strategy 6.5   Educate the district court judiciary in the counties on the hazards associated with aggressive driving. *(Baltimore Region plan specifically refers to educating the judiciary on speeding.)*

    BR AS 6.5.1   Identify and invite a judge to be part of the regional EA team.
    BR AS 6.5.2   Encourage the use of victim impact statements during sentencing.
    BR AS 6.5.4   Ensure appropriate dispositions of cases to serve as a deterrent.
    BR AS 6.5.5   Educate judiciary on high crash locations.
    BR AS 6.5.6   Provide for alternative sentencing.

State EA #1 – Reduce Impaired Driving

State Strategy 1.1   Implement and evaluate impaired driving enforcement strategies.

    BR AS 1.1.1   Use new technologies such as in car video
    BR AS 1.1.2   Map crash locations and identify dangerous locations for impaired driving.
    BR AS 1.1.3   Include traffic safety duties with homeland security and criminal operations
    BR AS 1.1.4   Encourage use of automated enforcement

State Strategy 1.2   Participate in low manpower checkpoints.

    BR AS 1.2.1   Make checkpoints more portable; minimize amount of resources required for a sobriety checkpoint.

State Strategy 1.3   Implement comprehensive media campaign targeting impaired driving to increase awareness of impaired driving issues.

    BR AS 1.3.1   Increase media coverage of sobriety checkpoints.
    BR AS 1.3.2   Include more information on impaired driving in driver's education and work with school systems to ensure impaired driving is a focus in health courses.
    BR AS 1.3.3   Encourage more unconventional media coverage.

State Strategy 1.4 Strengthen judicial and administrative consequences following the impaired driving arrest.

 BR AS 1.4.1 Conduct training for judges on impaired driving.
 BR AS 1.4.2 Encourage the use of interlock

    a. Determine how the Baltimore Region compares with other jurisdictions in terms of the number of interlock devices given to offenders.

Baltimore Region – Next Steps

- The group agreed to form a regional team that would meet on a quarterly basis to move ahead on SHSP implementation. It was suggested that a smaller group comprised of a cross section of those attending be invited to attend.

- A yearly summit for the region could be held to bring everyone up to date on progress.

- Information on Baltimore Region Plan should go on the web perhaps through the SHA website.

Eastern Shore Region

Counties - Dorchester, Wicomico, Worcester, Somerset, Cecil, Kent, Queen Anne's, Caroline, Talbot
Facilitator – Lora Byala, A.G. Samuel Group
Team Leader – Dan Blevins, WILMAPCO
Recorder – Tracy Sheffield, MVA

Participants from the Eastern Shore were a good mix of county and local agencies and included representatives from Departments of Public Works in Salisbury, and the counties of Cecil, Caroline, Talbot, Wicomico, and Worcester; Health Departments in Cecil, Dorchester, Talbot, Worcester; the Cecil County Department of Emergency Services; the City of Salisbury Traffic Systems Manager; the Somerset County Administrator; and law enforcement representatives from the Maryland State Police; Sheriff's Offices in Talbot, Somerset, and Queen Anne's; the Ridgely and Pocomoke Police Departments; the City of Salisbury Police Department; and the Natural Resources Police for Kent and Queen Anne's counties. Other representatives included MADD, AAA Mid-Atlantic, Maryland Department of Transportation, the State Highway Administration, the Maryland Department of Public Safety, and the Maryland Department of Natural Resources.

Emphasis Area Selection

The group offered suggestions on the emphasis areas for the region. A vote was then taken, and a run-off vote for the fourth emphasis area was held. The five selected emphasis areas selected were the following:

- Develop Safe Young Drivers;
- Keep Vehicles on the Roadway;
- Curb Speed and Aggressive Driving;
- Reduce Distracted Driving; and
- Reduce Impaired Driving.

The participants were broken out into four breakout groups by random assignment, one group for each of the four emphasis areas selected. Each group was asked to look at the Strategies and Action Steps developed for their emphasis area in the statewide plan as a starting point, but to develop strategies and action steps that made sense for the Eastern Shore specifically. After about an hour of discussion, each team presented their findings to the group at large. The results were as follows.

Note: ESR stands for Eastern Shore Region and AS stands for Action Step

State EA #5c Develop Safe Young Drivers

The group had a MVA representative that told the group about a MVA hotline where parents and call to record a message of complaint about young drivers. The representative also told them about the 12 quality control agents employed by the MVA who look into driver education programs, although that number of agents is not enough to keep tabs on the quality of the schools. Another group member noted that a parent can be fined $275 if they allow their child to operate a vehicle in a negligent manner- this goes through district court.

State Strategy 5c.1   Review, evaluate, and improve driver preparation programs.

    ESR AS 5c.1.1   Use younger QA/QC "decoys" (i.e., police cadets) in driver's education schools, as a "mystery shopper" to see if the schools are doing well.
        a. If schools do not meet the requirements, the school should be closed for a period of time and information about closed or penalized schools published in local newspapers.

    ESR AS 5c.1.2   Provide information to when learner's permits are issued
        a. Publicize parent hotline: Give the information about the hotline to parents when their child's permit is issued.
        b. Also publicize to parents that they can retract their signature on the child's driver's license until the child turns 18. This is often not known to the parents.
        c. Provide information to the parents that the log of hours of driving has to be in various weather conditions.

    ESR AS 5c.1.3   Require parents to attend a mandatory meeting sponsored by the MVA.
        a. Have set times when learner's permits can be issued and then do group training at that time for all of the parents.
        b. Consider making these a series a classes not just one.

    ESR AS 5c.1.4   Track driving schools young people in the region attend.
        a. Track crashes by young drivers to the driving schools they attended to see if there is a link.
        b. Track effectiveness of the schools/training programs to various violations.
        c. Would need to add a field to the license application for where the applicant attended driving school.

    ESR AS 5c.1.5   Re-Evaluate Driver's Education Curriculum *(referred to Young Driver team)*
        a. Recommend that MVA form a task force to develop a new course since the current course is very prescribed but outdated. The task force should consist of MVA, SHA, Board of Education, and driving school representatives.

State EA # 3 – Keep Vehicles on the Roadways

State Strategy 3.1   Improve the process to reduce the frequency and severity of run-off-the road crashes on all public roads.

    ESR AS 3.1.1   Make infrastructure improvements that address the windy, narrow roads in the region and address the environmental issues that prevent making changes, such as impervious surfaces.
        a. Put reflective components on roads, such as white edge lines.
        b. Install rumble strips and guard rails.
        c. Determine whether it is necessary to re-classify roads to obtain funding from the state for improvements.
        d. Determine hazardous locations for run-off-the road crashes and obtain information on reported and non-reported incidents.

State Strategy 3.2	Conduct a public information and education campaign targeting run-off-the road crashes.
ESR AS 3.2.1	Educate residents from outside the region who make up a large portion of the crashes and are unfamiliar with the roadways a. Educate immigrants who may also be unfamiliar with the roads in the region.
ESR AS 3.2.2	Educate the judiciary and the public about run-off-the-road crashes and highlight the impact of prescription drugs on driving.
State Strategy 3.3	Implement stricter law enforcement of motor vehicle laws and increase fines for serious violations that result in run-off-the-road crashes, e.g., speeding too fast for conditions.
ESR AS 3.3.1	Ensure enforcement is consistent.
ESR AS 3.3.2	Increase DREs (drug recognition experts) by sharing them among the region. Drugs have impact on keeping vehicles on the roadway.
ESR AS 3.3.3	Determine whether some run off the road incidents are due to people overriding safety devices, such as using too much window tint and having brightness in the vehicle, such as monitors and GPS units. a. On SERDs (safety equipment repair orders) check for people overriding the safety devices, such as too much tint on windows. (Police used to be able to measure tint on the windows with a card, but this card is not available anymore.) b. Educate judges on any activities to override safety devices.

State EA #6 – Curb Speed and Aggressive Driving

State Strategy 6.1	Identify top five hazardous locations through the SHA models and implement appropriate countermeasures.
ESR AS 6.1.1	Facilitate better data sharing on crash locations. (Right now there is no way to get accident data for county roads through SHA.) a. Make state data (MARS data) more searchable, i.e. by road or by number of crashes. (*Contact Tim Kerns of the University of Maryland National Studies Center to get access to CARE (Critical Analysis Reporting Environment data.)*
ESR AS 6.1.2	Once data on hazardous locations is available, obtain funding to apply countermeasures to eliminate roadside hazards.
State Strategy 6.2	Develop and implement a public information, education, and awareness campaign specifically addressing aggressive driving through the Smooth Operator Campaign by the end of FY '08.
ESR AS 6.2.1	Conduct year-round public awareness, not just during the summer and holidays.
ESR AS 6.2.2	Use CHART VMS's to promote reporting/awareness of aggressive driving.
ESR AS 6.2.3	Promote #77 reporting (emphasize need to pull over before placing call).
ESR AS 6.2.4	Increase awareness of increased penalties for aggressive driving.

State Strategy 6.3	Conduct educational training for the transportation, engineering and planning communities on the factors associated with aggressive driving.
ESR AS 6.3.1	Designate speed awareness zones using electronic speed measurement signs.
ESR AS 6.3.2	Post special enforcement zones to target aggressive driving and follow up with enforcement to ensure it is not an empty threat.
State Strategy 6.4	Implement Aggressive Driving enforcement statewide in 24 jurisdictions.
ESR AS 6.4.1	Encourage strict enforcement by officers and penalties from the judiciary.
ESR AS 6.4.2	Increase citations instead of warnings.
ESR AS 6.4.3	Change aggressive driving definition to be two elements instead of three. *(To give a citation now, officer needs to observe three aggressive behaviors; change this to two. Requires legislative approval.)*

State EA #5a Reduce Distract Driving

The group first tried to define what is a distraction and came up with the following definition: Anything that interferes with driving. The law right now has two specific definitions: a TV in view of the driver and headphones in two ears. The group's definition is much broader than the current legal definition.

State Strategy 5a.2	Develop and implement a public awareness and education campaign aimed at reducing distracted driving.
ESR AS 5a.2.1	Lead by example and require that agency heads and employers stay off of their cell phones while driving.
ESR AS 5a.2.2	Develop eye catching campaign materials a. Distraction = Death signs
ESR AS 5a.2.3	Disseminate campaign materials a. Internet ads on certain websites b. Movie Theater ads
Strategy 5a.3	Pass and enforce a law that specifically penalizes distracted driving, including making distracted driving a subsection of negligent driving.
ESR AS 5a.3.1	Change law to require hands-free cell phone use. *(No cell phone use is ideal, but not realistic.)* a. Look into DC/NJ laws that have been implemented as to the content of the law as well as whether they have experienced success.
ESR AS 5a.3.2	Adopt legislation that disallows text messaging while driving, unless stopped at a light or pulled over.
ESR AS 5a.3.3	Change legislation regarding negligent driving charge to enable the citing officer to cite the distraction, if applicable.

State Strategy 5a.4	Increase the use of techniques that limit the frequency and severity of distracted driving crashes.
ESR AS 5a.4.1	Identify locations such as convenience store parking lots and designate them as places to use cell phones rather than have people pull off in shoulders which is too dangerous.

State Strategy 5a.5	Address distracted driving through the driver's education curriculum and the license exam.
ESR AS 5a.5.1	Work with commercial driving schools to teach about the harms of distracted driving, cell phone use, etc.

State EA #1 – Reduce Impaired Driving

State Strategy 1.1	Implement and evaluate impaired driving enforcement strategies.
ESR AS 1.1.1	Keep region law enforcement agencies involved with Checkpoint Strikeforce Campaign.
ESR AS 1.1.2	Intensify other campaigns if have more funding.
ESR AS 1.1.3	Participate in Checkpoint Strikeforce training, including management of the checkpoints and adherence to checkpoint policy.
ESR AS 1.1.4	Look at other drugs besides alcohol during checkpoints.
ESR AS 1.1.5	Educate judges about the campaign. a. Potentially increase use of ignition interlocks. b. Convince judges of the value of interlocks.

State Strategy 1.2	Participate in low manpower checkpoints.
ESR AS 1.2.1	Develop memorandums of understanding so that law enforcement officers can participate in checkpoints across jurisdictional boundaries.

State Strategy 1.3	Implement comprehensive media campaign targeting impaired driving to increase awareness of impaired driving issues.
ESR AS 1.3.1	Target groups for in the media plan such as heavy drinkers. a. Face-to-face meetings with groups known for heavy drinking. b. Determine how to get the issue across to people that just don't care.
ESR AS 1.3.2	Teach children early, i.e., middle school about the dangers of impaired driving.
ESR AS 1.3.3	Teach parents about their responsibilities when hosting parties for underage youth.
ESR AS 1.3.4	Make sure media campaign materials are available in other languages, i.e., Spanish.

Eastern Shore Region – Next Steps

The group held a discussion about how they would like to continue working together in the future. There was consensus that they did not see the need for a regional plan, but they did see value in meeting as a regional group to share the individual County plans and get ideas from one another. The CTSPs felt strongly that they already have a task force of CTSPs that requires a

number of meetings a year, specifically that each CTSP attend two meetings of each Emphasis Area per year, which totals 28 meetings. There was some acknowledgment of a need for some regional planning and coordination to implement changes, particularly when trying to obtain funding. Specific suggestions included:

- Regional team should break in half due to large geography.
  o Northern portion team leader would be Dan Blevins from WILMAPCO.
  o Southern portion would need to identify a team leader.
- Use conference calls to avoid travel time.
- Clearly define purpose and benefits of the regional meetings.
- Identify short-term tangible objectives, such as obtaining better access to crash data.
- Need to identify who is in charge of the meeting plan

Washington, DC Area Region

Counties – Montgomery, Prince George's, Frederick
Facilitator – Susan Herbel, Cambridge Systematics
Team Leader – Stephanie Yanovitz, SHA
Recorder – Tracee Thomas, MVA

Emphasis Area Selection

After a group discussion, the regional participants voted on the final areas on which the group would focus. The four selected emphasis areas selected were the following:

- Curb Speed and Aggressive Driving
- Develop Safe Young Drivers
- Make Walking and Crossing Streets Safer
- Improve Safety at Intersections

The participants were broken out into four breakout groups by random assignment, one group for each of the four emphasis areas selected. Each group was asked to look at the Strategies and Action Steps developed for their emphasis area in the statewide plan as a starting point, but to develop strategies and action steps that made sense for the Eastern Shore specifically. During the discussion the group recommended that members of the judiciary and high level school officials be invited to participate on the regional team.

In reviewing the existing state SHSP, the group found that only one person in the room had been trained in road safety audit procedures, but saw that this was recommended as a good approach in the state plan. There was also strong support for the police notifying parents when younger drivers are pulled over for traffic violations. After about an hour of discussion, each team presented their findings to the group at large. The results were as follows.

Note: WR stands for Washington, DC Region and AS stands for Action Step

State EA #6 – Curb Aggressive Driving

State Strategy 6.2   Develop and implement a public information, education and awareness campaign specifically addressing aggressive driving through the Smooth Operator Campaign by the end of FY '08.

   WR AS 6.2.1   Educate immigrants in the region on the need to yield to emergency vehicles.

   WR AS 6.2.2   Educate the public on what aggressive driving means.

   WR AS 6.2.3   Revise and enhance public information and education and provide additional funding for Smooth Operator.

State Strategy 6.5   Educate the district court judiciary in the counties on the hazards associated with aggressive driving.

   WR AS 6.5.1   Educate the judges and provide training on the aspects of aggressive driving.

State Strategy 6.4	Implement Aggressive Driving enforcement statewide in 24 jurisdictions.
WR AS 6.4.1	Conduct aggressive driving enforcement all year long.
WR AS 6.4.2	Conduct automated enforcement.

State Strategy 6.6	Revise aggressive driving statute.
WR AS 6.6.1	Revise aggressive law so officers can arrest for two violations rather than three.

State EA #5c – Develop Safe Young Drivers

State Strategy 5c.1	Review, evaluate, and improve driver preparation programs.
WR AS 5c.1.1	Develop a one hour mandatory training and make it three hours for both parent and student.
WR AS 5c.1.2	Increase enforcement of programs.
WR AS 5c.1.3	Increase role of schools and the PTA.
WR AS 5c.1.4	Notify schools of student citations and support parent notification of violation.
WR AS 5c.1.5	Place bumper stickers with phone number of third party on vehicles of novice drivers.
WR AS 5c.1.6	Review effectiveness of driver remediation.

State EA #3d – Make Walking and Crossing Streets Safer

State Strategy 3d.1	Identify hazardous locations in each SHA District and implement effective countermeasures by FY2010.
WR AS 3d.1.1	Identify hazardous locations on local and state roads in the region; follow up regarding implementation of countermeasures.
WR AS 3d.1.2	Determine need for road safety audit training; identify appropriate people to attend training.
	a. Determine who is responsible to review and report findings.
	b. Redirect dollars to fund grant partners with communities to follow up on long- and short-term findings.
WR AS 3d.1.3	Educate counties on hazardous locations.
	a. Develop, implement, and enforce sidewalk ordinances.
	b. Increase pedestrian lighting.

State EA #3b – Improve Safety at Intersections

State Strategy 3b.1	Develop a system to track and evaluate countermeasure effectiveness at high crash intersection locations.
WR AS 3b.1.1	Develop method to obtain volume on local roads and highways and develop rates.
WR AS 3b.1.2	Determine effectiveness of programs such as battery backups, APS, GPS, and red light cameras.

State Strategy 3b.2   Encourage multidisciplinary collaboration at the state and local level on intersection safety.

WR AS 3b.2.1   Identify opportunities to work together and recognize this as a first step in obtaining grant funding.

State Strategy 3b.3   Reduce the number of conflict points and provide better guidance for motorists at intersections.

WR AS 3b.3.1   Provide better standardized guidance at intersections.

State Strategy 3b.4   Conduct road safety audits targeting high-risk intersection locations to determine contributing crash factors and to identify effective countermeasures.

WR AS 3b.4.1   Carefully target locations for road safety audits due to the cost and resources necessary to conduct an audit.

State Strategy 3b.5   Conduct a public information and education campaign targeting intersections.

WR AS 3b.5.1   Develop materials and information that targets driver habits at intersections.

Washington Region – Next Steps

- The region will be contacting SHA to obtain specific crash data in the counties.
- Specific assignments are being created and circulated among the individuals who attended the Summit so people can responsibility.

Western Maryland Region

Counties – Garrett, Allegany, Washington
Facilitator – Bernardo Kleiner, Cambridge Systematics
MPO Representative – Bob Gordon, Hagerstown/Eastern Panhandle MPO
Recorder – Maureen Sorenson, MVA

Attendees at the Western Maryland breakout group represented a good geographic and disciplinary mix. Participants came from Allegany, Garrett, and Washington Counties. Law enforcement from the city, county, and state attended. Engineers and EMS personnel participated, as did all three Community Traffic Safety Coordinators (CTSPs) from the region. The Director of the Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEPMPO) attended and helped lead the breakout groups. Other local agencies represented included departments of health, education, and public works. In addition to SHA, state agencies included MVA and the Governor's Commission on Hispanic Affairs. (A full list of attendees can be found at the end of this report.)

There is currently not an existing entity in Western Maryland into which this new concept of a regional approach to road safety fits nicely. Most non-SHA work is addressed at the city and county levels. The Hagerstown and Cumberland MPOs do not have a history of close coordination and both jurisdictions cross state lines to include areas in West Virginia and Pennsylvania. This all adds another layer of complication to the process because not only is a new approach to safety being introduced, but it requires establishing wholly new relationships and channels of communication.

The Western Maryland group took a little while to grasp the purpose of the Summit and the regional workshops. There were many questions, including:

- Why are we not doing this at the county level?
- How does this relate to our county plans?
- What if the problems in our county are not the same as in the next county?

It was necessary to reinforce the morning's plenary messages throughout the day on what the advantages are of regional coordination and what individual roles are in a regional approach. The group seemed to become a little more comfortable with the concept but is still not fully convinced of the validity of this approach or that it is actually doable. The seed has been planted but it will require follow-up and continued support to get maintain momentum and get this process off the ground.

Emphasis Area Selection

Looking at the data charts that were provided combined with their experience of the issues, the group selected the SHSP emphasis areas that they felt were the most important for them to focus on in the Western Maryland Region. The group was asked to identify any particular emphasis area and then the group could discuss and either agree or disagree. The four areas selected were

- Curb Aggressive Driving (Speeding)
- Reduce Distracted Driving

- Develop Safe Young Drivers
- Keep Vehicles on the Roadway (Roadway Departures)

There was some discussion as to whether impaired driving should be included instead of excess speed. The case for the switch was based on one perspective, which argued: there is more chance of convincing drivers not to drink than convincing a speeder not to speed. The counterargument focused on the suggestion that impaired drivers are often speeding. So, in pulling over speeders, there is a good chance at stopping a number of impaired drivers. Furthermore, it was pointed out that speeding is much easier to identify that impaired driving, which is not always apparent until after a stop has been made. The latter had more participants convinced and the group stayed with speeding as one of their emphasis areas.

Because of the group's size, it was split into two groups by random assignment instead of four, with each half tasked with addressing two of the emphasis areas. Each group was asked to look at the Strategies and Action Steps developed for their emphasis areas in the statewide plan as a starting point, but to develop strategies and action steps appropriate to the Western Maryland region. Each team then presented their findings to the group at large.

Note: WMD stands for Western Maryland Region and AS stands for Action Step

State EA #6 – Curb Aggressive Driving

State Strategy 6.1   Identify top five hazardous locations through the SHA models and implement appropriate countermeasures.

    WMD AS 6.1.1   Obtain information on local roads. *(An important result of the group's discussion was the realization of which agencies have which data and information on the limitations of the available data.)*
SHA will contact Traffic Advisory Councils (TACS) by end of January which has data on problem areas on local roads and provide the local data back to the group by the end of February.

State Strategy 6.2   Develop and implement a public information, education, & awareness campaign specifically addressing aggressive driving through Smooth Operators Campaign by the end of FY'08.

    WMD AS 6.2.1   Obtain information on regional strategies and develop appropriate PI&E materials by the end of March.
The regional CTSPs agreed to take the lead on developing the materials.

State EA #5a – Reduce Distracted Driving

State Strategy 5a.2   Develop and implement a public awareness and education campaign aimed at reducing distracted driving.

    WMD AS 5a.2.1   Develop and implement a 'branded' education program.
Lead: Schools – Driver Ed. Program

State Strategy 5a.4   Increase the use of techniques that limit the frequency and severity of distracted driving crashes.

    WMD AS 5a.4.1   Implement distinct pavement markings on region roads and highways.
Lead: City, county, and state

State Strategy 5a.5   Address distracted driving through the driver's education curriculum and the license exam.

    WMD AS 5a.5.1   Enact and enforce strict license requirements.
Lead: State and local elected officials
    WMD AS 5a.5.2   Provide incentives through the MVA for additional driver training.
Lead: State and local elected officials

State EA #5c – Develop Safe Young Drivers

State Strategy 5c.3   Develop and implement a public information, education, and awareness campaign specific to young driver audiences.

    WMD AS 5c.3.1   Involve young drivers in the development phase of any messages/materials directed at them.
Lead: Jim Conrad, Washington County Health Department (Washington CTSP will contact him)

State EA #3a – Keep Vehicles on the Roadway

State Strategy 3a.1   Improve the process to reduce the frequency and severity of run-off-the-road crashes on all public roads.

    WMD AS 3a.1.1   Develop a funding competition.
    WMD AS 3a1.2   Employ rumble strips, and edge line and pavement markings.
    WMD AS 3a1.3   Implement the Guardrail Program.
    WMD AS 3a1.4   Provide advanced delineation of hazards.
    WMD AS 3a1.5   Conduct roadway safety audits.
Lead: Counties, state, and MPOs.

Western Maryland Next Steps

The Western Maryland Region will explore the feasibility of an ongoing regional planning approach, and agreed to have an initial meeting early in 2008. The idea is to organize an entity similar the county Traffic Advisory Committees (TACs), which currently meets monthly. It was suggested quarterly TAC meetings could be held as a regional TAC meeting, which would avoid additional meetings for participants, and be open to other non-TAC stakeholders. Participants sitting on TACs will take the idea back to their groups and SHA District 6 staff will take the lead on contacting all attendees in order to organize the first regional meeting. The Allegany County CTSP offered their facility as a central location to hold the first meeting.

Southern Maryland Region

Counties – Calvert, Charles, and St. Mary's
Facilitator – Jon Schermann, Cambridge Systematics
Team Leader – Wayne Clark, Tri-County Council for Southern
Recorder – Terri Trinks, MVA

Attendees from Southern Maryland included representatives from each of the 4E's of safety – engineering, enforcement, education, and emergency medical services. Engineers and planners from the various counties attended along with representatives from state, county, and local law enforcement in the region. There were also several representatives from public school systems, and one of the county health departments. In addition, a member of the St. Mary's Board of Commissioners attended. (A full list of attendees can be found at the end of this report.)

Emphasis Area Selection

At the beginning of the breakout session, the participants reviewed data charts showing the breakdown of fatalities and injuries in each of the 14 state SHSP emphasis areas. The Southern Maryland participants reviewed the data to determine the four or five critical emphasis areas for their area based on the number of fatalities and serious injuries. The final four emphasis areas for the Southern Maryland region are the following:

- Reduce Impaired Driving
- Keep Vehicles on the Roadway
- Develop Safe Young Drivers
- Reduce Aggressive Driving – with a focus on speed

The participants were divided into four groups by random assignment, one group for each of the selected emphasis areas. Everyone was asked to review the Strategies and Action Steps developed in the statewide plan for their emphasis area and either select two strategies from the statewide plan (encouraged) or identify new strategies appropriate to the Southern Maryland region. They were also charged with identifying action steps needed to implement the selected strategies. Each team then presented their findings to the group at large. The results are as follows.

Note: SMD stands for Southern Maryland Region and AS stands for Action Step

State EA #1 - Reduce Impaired Driving

State Strategy 1.6   Oversee Task Force to Combat DUI (Driving Under the Influence)
Responsible Agency (Proposed): Tri-County Council for Southern Maryland (TCCSMD)

    SMD AS 1.6.1   Convene a task force facilitated by the Tri-County Council for Southern Maryland.
         a. Include representatives from the Law Enforcement community, the Highway Safety community, the State Highway Administration, Charles, Calvert, and St. Mary's Highway Departments, various

	support services groups (Alcoholics Anonymous, etc.), citizens, advocates, and Offenders School (BOE).
SMD AS 1.6.2	Identify the most important issues impacting impaired driving in Southern Maryland and develop strategies and actions to address them.
SMD AS 1.6.3	Identify funding sources and other resources needed to support the actions identified above.
	a. Seek out grants.
	b. Monitor funds for enforcement and education.
SMD AS 1.6.4	Evaluate current consequences for DUIs and educate the judiciary on the benefits of harsher penalties.
SMD AS 1.6.5	Develop educational programs.
SMD AS 1.6.6	Develop media tactics for prevention and education.

State EA #3a – Keep Vehicles on the Roadway

State Strategy 3a.1	Improve the process to reduce the frequency and severity of run-off-the road crashes on all public roads. *Responsible Agency (Proposed): one person or agency (Public Works or Planning / Engineering) from each jurisdiction should be identified.*
SMD AS 3a.1.1	Perform an audit of road safety data (multiyear).
SMD AS 3a.1.2	Identify problem areas/elements.
SMD AS 3a.1.3	Develop appropriate programs (maintenance, capital, enforcement, etc.) to address identified problem areas. Obtain political and fiscal support for the programs based on existing funding sources and fiscal year cycle.
State Strategy 3a.2	Conduct a public information and education campaign targeting run-off-the road crashes. *Responsible Agency (Proposed): Boards of Education, County Government, Law Enforcement.*
SMD AS 3a.2.1	Develop an on-going public/private education program with the goal of increasing public awareness.
SMD AS 3a.2.2	Develop a media campaign for drivers and passengers.
	a. Consider possibility of billboards, radio, newspapers, insurance companies, and public television.
State Strategy 3a.3	Implement stricter law enforcement of motor vehicle laws and increase fines for serious violations that result in run off the road crashes, e.g., speeding too fast for conditions. *Responsible Agency (Proposed): Law Enforcement, Motor Vehicle Administration.*
SMD AS 3a.3.1	Encourage judiciary to impose the strictest possible penalties and fines.
SMD AS 3a.3.2	Encourage the judiciary to apply penalties that are applicable to the offense.
	a. Ensure any community service sentence is related to the offense instead of picking up trash, etc.
SMD AS 3a.3.3	Encourage MVA to impose strict penalties.

SMD AS 3a.3.4   Limit the amount of discretion given to judges.
        b. Perform a review of sentences given for various traffic crimes.

State EA #5c – Develop Safe Young Drivers

State Strategy 5c.3   Develop and implement a public information, education and awareness campaign specific to young driver audience.

    SMD 5c.3.1.   Develop a plan to use school parking permit privileges to encourage safe driving behavior.
        a. Require all students wanting a school parking permit to attend a mandatory educational program with their parents prior to the beginning of the school year.
        b. Use education materials available nationally (i.e., AAA, Ford Motor Company, etc.), and include specific information to address each county's crash data.
        c. Request county Boards of Education to consider an addition to their Code of Student Conduct regarding the proposed enforcement initiative.
        d. Involve partners including instructors, schools, parents, students, and CTSP's. Suggested implementation time frame: August '08.

    SMD 5c.3.2   Conduct a young driver safety summit.
        a. Suggested date: January 8, 2008. Location - TBD.

State Strategy 5c.4   Develop a program to increase enforcement, prosecution, and disposition of young driver traffic law violations.

    SMD 5c.4.1   Develop an offenders education program.
        a. Review Colorado program which offers, as a part of their graduated licensing program, a four hour education course taught by law enforcement officers for young drivers to the age of 24.
        b. Consider implementing the National Safety Council's curriculum "Alive at 25", which involves interactive role playing, videos, and allows people to practice making the right choices under pressure from their peers. *(Suggested implementation timeframe: April 08. The Cost $40.00 for attendee.)*

    SMD 5c.4.2   Develop a student parking permit program for high schools in the region similar to the initiative currently conducted in Charles County (*Charles County Public Schools and Sheriff's Office have partnered together for five years on this initiative. If a student is given a citation while traveling to or from high school, their parking permit is revoked. The parents, as well as the school, will receive a phone call regarding the student's traffic violation*).
        a. Involve partners including public schools, law enforcement officers, parents, and students.
        b. Implementation timeframe: August '08.

State EA #6 – Curb Aggressive Driving

The Southern Maryland region recommended that there be a particular focus on speeding.

State Strategy 6.2   Develop and implement a [Southern Maryland] public information, education, and awareness campaign by the end of FY '08. *(The Southern Maryland region revised this strategy to make it specific to the region.)*

    SMD 6.2.1   Seek funding to support a Southern Maryland regional year round speeding PIE&A campaign.

    SMD 6.2.2   Develop a Southern Maryland PIE&A campaign using data to direct information to a targeted audience.

    SMD 6.2.3   Contact county government, radio outlets, newspapers, internet web sites, and public schools to distribute public service announcements (PSAs).

    SMD 6.2.4   Use survey tools to measure changes in attitude, knowledge, and behavior due to the various PIE&A campaigns.

State Strategy 6.4   Implement and coordinate a Southern Maryland year round speed enforcement operation by the end of 2008. *(State strategy revised to make it specific to the region.)*

    SMD 6.4.1   Seek supplemental overtime enforcement funds for activities in Southern Maryland to be directed at speed enforcement.
        a.   Use data to focus efforts on the most appropriate roadways.

    SMD 6.3.2   Update and/or develop traffic enforcement policies and procedures.

Southern Maryland Region – Next Steps

The group agreed that a regional approach to implementation would compliment local and state efforts. The Tri-County Council for Southern Maryland is the appropriate organization to facilitate coordination among Charles, Calvert, and St. Mary's Counties and is uniquely positioned to bring consensus and help develop regional recommendations on highway safety for action by state and local elected officials. Wayne Clark, Executive Director of the TCCSMD, will present a recommendation to the Executive Board of the Council for TCCSMD staff to become involved in regional SHSP implementation efforts with an aim to improve coordination and share best practices. Wayne Clark and Tony Chinyere will work with local transportation safety coordinators to plan a reconvening of the Southern Maryland representatives at the November 30th workshop in early 2008 to complete discussions on the approaches and assignments for the implementation of the provisions of the Strategic Highway Safety Plan.

List of Attending Agencies by Region

Baltimore Region

AAA Mid-Atlantic	Johns Hopkins Center for Injury Research Policy
Aberdeen Police Department	Maryland State Police
Anne Arundel County Traffic Engineer	Maryland State Police, Annapolis
Anne Arundel County Fire Department	Maryland State Police, Central Records Division
Anne Arundel County Planning/Zoning	Maryland State Police, Commercial Vehicle Division
Anne Arundel County Dept. of Public Works	Maryland Dept. of Public Safety & Correctional Services
Anne Arundel County Public Schools	Maryland Transit Administration
Anne Arundel County Police	Maryland Transportation Administration (MDTA) Police
Anne Arundel County Community Traffic Safety Program (CTSP)	Maryland Transportation Authority
Baltimore County Dept. of Public Works	Maryland Dept. of Health & Mental Hygiene
Baltimore County Traffic	Maryland Insurance Administration
Baltimore County Dept. of Health	Millennium Health
Baltimore County Fire Department	Motor Vehicle Administration (MVA)
Baltimore County Police Department	National Capital Industries
Baltimore City Dept. of Transportation	National Study Center for Trauma and Emergency Medical Systems, University of Maryland
Baltimore City Police Department	Positive Alternatives to Dangerous & Destructive Decisions
Bel Air Police Department	State Highway Administration
Carroll County Health Department	State Highway Administration, Planning
Carroll County Dept. of Public Works	State Highway Administration, Regional Planning
Carroll County Sheriff's Office	State Highway Administration, Office of Construction
District Court of Maryland	State Highway Administration, District 4
FHWA, Delmar Division	State Highway Administration, District 5
Governor's Office on Asian and Pacific-American Affairs	State Highway Administration, District 7
Harford County Sheriff's Office	State Highway Administration, District 7 Traffic
Howard County Police Department	

Eastern Shore

AAA Mid-Atlantic (Foundation)

Caroline County Public Works

Caroline County Engineer

Cecil County Dept. of Emergency Services Director

Cecil County Dept. of Emergency Services Deputy Director

Cecil County Health Department

Cecil County Dept. of Public Works

Dorchester County Health Department

Kent and Queen Anne's Counties Natural Resources Police (NRP)

Maryland State Police

Maryland State Police – North East Barrack

Maryland State Police – Berlin

Maryland State Police – Easton

Maryland State Police, Automotive Safety Enforcement Division (ASED)

Maryland Dept. of Public Safety & Correctional Services

Maryland Dept. of Natural Resources

Maryland Department of Transportation

Mothers Against Drunk Driving (MADD)

Pocomoke Police Department

Queen Anne's County Office of the Sheriff

Ridgely Police

City of Salisbury

City of Salisbury Police

City of Salisbury Mayor's Office, Assist. City Administrator

Salisbury Public Works

Salisbury Public Works, Deputy Director

Somerset County Sheriff's Department

Somerset County Commission, County Administrator

Somerset County Highway Safety Coordinator

State Highway Administration

State Highway Administration, Regional Planning

State Highway Administration, Office of Traffic

State Highway Administration, District 1

State Highway Administration, District 2

Talbot County Dept. of Public Works

Talbot County Sheriff's Office

Talbot County Health Department

Wicomico County Dept. of Public Works

Wilmington Area Planning Council (WILMAPCO)

Worcester County Director of Public Works

Worchester County Health Department

Washington, DC Region

AAA Mid-Atlantic

City of Bowie

Bowie City Council

City of Bowie Police Department

Chesapeake Region Safety Council

Frederick County Sheriff's Office

Frederick Community College

Governor's Office on Asian and Pacific-American Affairs

Laurel Police Department

Maryland State Police

Maryland State Police, Commercial Vehicle Enforcement

Maryland Transportation Authority Police

Maryland Motor Truck Association

Maryland State Treasurer's Office

Maryland State Office of Communications

Maryland General Assembly

Maryland National Capital Park Police

Metropolitan Washington Council of Governments

Motor Vehicle Administration (MVA)

Montgomery County Dept. of Public Health Services

Montgomery County Dept. of Public Works & Transportation

Montgomery County Police Department

Montgomery County Dept. of Health & Human Services, Public Health Services

Pepco Holding Inc.

Prince George's County Council, District 1

Prince George's Public Works & Transportation

Prince George's County Police

Prince George's County School Board

Prince George's County Fire Department, EMS

State Highway Administration

State Highway Administration, Community Traffic Safety Program (CTSP)

State Highway Administration, Office of Planning and Preliminary Engineering (OPPE)

State Highway Administration, District 3

Takoma/Langley Crossroads

Teen Driver Safety

University of Maryland Police Department

The Walsh Group

Western Maryland

Allegany County – Community Traffic Safety Program (CTSP)

Frederick County Dept. of Public Works

Garrett County Health Department

Garrett County Board of Education

Governor's Commission on Hispanic Affairs

City of Hagerstown Dept. of Police

City of Hagerstown Engineering

Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEPMPO)

Maryland State Police

Maryland State Police – McHenry Barrack

Maryland Transportation Authority Police Department

Motor Vehicle Administration (MVA)

Smithburg Police Department

State Highway Administration

State Highway Administration, Office of Traffic & Safety, Traffic Development & Support Division (OOTS/TDSD)

State Highway Administration, District 6

Washington County Engineer

Washington County Division of Fire & EMS

Washington County Sheriff's Office

Washington County Health Department

Southern Maryland

Calvert County Public Schools

Calvert County Health Department

Calvert County Planning & Zoning

Calvert County Fire/Rescue/EMS

Calvert County Traffic Safety Council

Calvert County Sheriff's Office

Calvert County Dept. of Public Works

Calvert County States Attorney

Charles County Public Schools

Charles County Sheriff's Office

Charles County Dept. of Planning & Growth Management

Charles County Government – Safety Officer

Charles County Commissioner

Charles County Dept. of Public Facilities – Roads Division

Chesapeake Region Safety Council

DP Harrison Consulting and Training

LaPlata Police Department

Maryland State Police

Maryland State Police – Leonardtown

Maryland State Police – Barrack "U" – Prince Frederick

Maryland State Police – LaPlata Barracks

Maryland Dept. of Natural Resources Police

Maryland Institute for Emergency Medical Services Systems (MIEMSS) – EMS for Children

Motor Vehicle Administration (MVA)

orthopedic surgeon

State Highway Administration, District 5

St. Mary's County Sheriff's Office

St. Mary's County Government

St. Mary's County Highway Safety

St. Mary's County citizen

Tri-County Council for Southern Maryland