



# State of Maryland

## Pedestrian and Bicyclist Safety Program Technical Assessment

05/19/2022

### **Technical Assessment Team**

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## Acknowledgments

The Pedestrian and Bicyclist Safety Program Assessment Team, hereinafter referred to as the “Team,” acknowledges and thanks Christine Nizer, Governor’s Highway Safety Representative, Dr. Timothy Kerns, Director of the Maryland Highway Safety Office, and Cynthia Spriggs, State Assessment Coordinator.

The Team thanks the National Highway Traffic Safety Administration (NHTSA) for helping to give a national and regional perspective and support to the assessment. Ruth Esteban-Muir facilitated the assessment process. Wellington Felix provided additional support.

The Team thanks all those interviewed as part of the assessment for their time and energy in preparing and delivering their presentations. Their openness and thoroughness in discussing their activities to address pedestrian and bicyclist safety in Maryland greatly assisted the team in conducting a complete review. The Team commends all involved in the day-to-day efforts to promote and foster safe walking and bicycling in Maryland.

Each team member appreciates the opportunity to serve and hopes that considering and implementing the proposed recommendations will enable Maryland to continue improving its pedestrian and bicyclist safety program.



## Introduction

The National Highway Traffic Safety Administration's (NHTSA) mission is to reduce deaths, injuries, and economic and property losses resulting from motor vehicle crashes. NHTSA offers Highway Safety Program Assessments to the States in its ongoing pursuit to reduce traffic crashes and subsequent fatalities and injuries.

The Highway Safety Program Assessment process is an assistance tool that allows State management to review various highway safety and emergency medical services (EMS) programs. Program assessments are provided for EMS, occupant protection, impaired driving, traffic records, motorcycle safety, police traffic services, driver education, and pedestrian and bicyclist safety.

The purpose of the assessment is to allow State management to review all components of the given highway safety or EMS program, identify the program's strengths and accomplishments, and note where improvements can be made. The assessment can be used as a management tool for planning and deciding how best to use available resources. The highway safety and EMS program assessments provide an organized approach and well-defined procedures that States can use to meet these objectives. The assessments are cooperative efforts among State highway safety offices, state EMS offices, and NHTSA. In some instances, the private sector is also a partner in the effort.

Program assessments are based on the Uniform Guidelines for State Highway Safety Programs, which are required by Congress and periodically updated through a public review process. For each highway safety program area, the criteria against which each State program is assessed was developed through the use of these uniform guidelines, augmented by current best practices.

NHTSA staff facilitates the assessment process by assembling an assessment team to review all components of a given highway safety or EMS program, identify the program's strengths and accomplishments, and recommend where improvements can be made. The team comprises individuals who have demonstrated competence in the various components of the specific highway safety program area for which the assessment is held.

The State of Maryland voluntarily requested NHTSA's assistance in assessing its state's pedestrian and bicyclist safety program. This resulting assessment report reflects the Team's findings based on the *Uniform Guidelines for State Highway Safety Programs, Highway Safety Program Guideline No. 14 Pedestrian and Bicycle Safety (2006)*. Recognizing the importance of emergency medical services (EMS) as a critical component in addressing traffic safety, the Team added a section focused on EMS. The Team conducted the Maryland Pedestrian and Bicycle Safety Program Assessment from January 25, 2022 to May 13, 2022.



## Priority Recommendations

### Program Management

- Increase the coordination between the Highway Safety Plan, Highway Safety Improvement Program, and Secretary's Office on pedestrian/bicyclist safety projects.
- Increase collaboration on the application of the Highway Safety Program and Highway Safety Improvement Program funding to support a Safe System approach.
- Identify high-risk groups by crash and injury data trends and develop safety initiatives to reduce fatalities and injuries among these high-risk groups, including communities of interest.
- Educate law enforcement, prosecutors, and judiciary on the protective laws for non-motorists and on any identified needs for additional policy or law to support pedestrian and bicyclist safety.
- Include communities of interest in:
  - Surveys and research projects
  - Messaging and educational outreach
  - Road Safety Audits, walkthroughs, and
  - Advisory Committees

### Education

- Increase the representation of various ethnicities, the visually impaired, socioeconomically disadvantaged, mobility challenged, and other communities of high interest to serve on focus groups, assist with outreach, and advise on education efforts.
- Link crash data to identify areas of the state with the highest representation of the traffic crashes resulting in serious and fatal injuries to pedestrians and bicyclists with census data to identify target audiences so that context-sensitive countermeasures can be implemented.
- Create a program that provides stipends or scholarships to assist people who cannot otherwise afford to participate in a driver education program to obtain this training.

### Enforcement

- Partner with law enforcement agencies and academies to develop, implement, and train officers on applicable laws and policies related to effective enforcement to improve the safety of people who walk and bike.
- Create and distribute a compilation of best practices from around the state for training officers in effective enforcement specific to pedestrian and bicyclist safety.
- Develop and implement an online or in-person pedestrian and bicycle enforcement and education training as a prerequisite to awarding pedestrian and bicyclist educational and enforcement grants, requiring officers to complete the training prior to participating in the grant-funded initiative.

### Engineering

- Increase coordination between the Maryland Highway Safety Office (SHSO), Maryland Department



of Transportation (MDOT), law enforcement, and public education partners to work together on road safety audits, in project and program evaluation, and in educating the public about new signals or infrastructure changes.

- Develop a Pedestrian Design Guide or expand the pedestrian section in the Highway Design Guide to identify when it is advantageous to install a marked crosswalk.
- Identify the appropriate traffic control for uncontrolled street crossings based on street widths, traffic volume, traffic speed, etc.
- Increase the application of safety treatments to improve the safety of people who walk and bike as outlined in the Context Design Toolkit, including:
  - The use of flashing yellow arrows to change left-turns phasing to protected-only, and
  - The use of leading pedestrian intervals (LPI) or leading bicycle intervals (LBI) at traffic signals with high volumes of non-motorized traffic conflicting with high turning traffic volumes.
- Improve coordination between transit and engineering for pedestrian safety and develop Safe Routes to Transit engineering and education programs.
- Work with transit officials to determine if there is a link between pedestrian crashes and apply changes to access to/from transit if problems are identified.
- Complete the Pedestrian Safety Action Plan (PSAP) that is currently in development and either include bicyclist safety measures in this plan or develop a Bicyclist Safety Action Plan (BSAP).
- Continue to update the Maryland Complete Streets Policy and encourage local agencies that have not adopted this or a similar policy to do so.
- Implement additional equity measures into road safety audits and safety studies to ensure the needs of people who walk and bicycle, especially in underserved areas, are addressed.

### Emergency Medical Services

- Identify the organization best positioned to serve as the home for a statewide Injury Surveillance System (ISS). Likely candidates would include the National Study Center, the Maryland State Police, or the Maryland Department of Health. Charge that lead group with building an ISS that can link the data to monitor trends, assist with strategic planning and use injury epidemiology to inform stakeholders in the bicyclist and pedestrian safety community.



## Assessment Results

### Program Management

#### Summary

In Maryland, 92% of the pedestrian-involved crashes in 2019 resulted in a pedestrian injury or death. One out of every four people killed in a traffic crash was a pedestrian. Over 80% of reported bicyclist-involved crashes in 2019 resulted in a bicyclist injury or death.

The State has a pedestrian and bicyclist safety program guided by multiple plans. The 2021-2025 Maryland Strategic Highway Safety Plan (SHSP) is the most prominent. The SHSP's goal is to reduce fatalities on Maryland's roadways.

The 2019 Vision Zero law established a Maryland Department of Transportation (MDOT) designated coordinator to oversee SHSP implementation, collaborate with other State agencies and local authorities, a State-funded budget, yearly reporting, and strategies to achieve the established goals. A multi-disciplinary approach to prevent crashes and mitigate the level of injury stems from actions that address roadway design, driving behaviors, technology, and policies by working with multiple state, local, and advocate partners.

The 2040 Maryland Transportation Plan includes Safety. The Maryland Attainment Report on Transportation System Performance helps MDOT fulfill its mission of building, operating, and maintaining a safe and seamless multi-modal transportation network. Maintaining the safety of the transportation system is a critical mission for the MDOT.

The SHSP body for pedestrian and bicyclist safety actions is the Pedestrian and Bicyclist Emphasis Area Team (PBEAT). An Action Tracker helps to keep everything moving, coordinated, and supported. Members of PBEAT are on other highway safety committees. MDOT staff are liaisons and ambassadors for pedestrian and bicyclist safety serving as a resource to assist with requests from members of other committees and organizations. MDOT staff are relied upon as messengers to help keep various safety committees aligned with PBEAT.

Multiple local communities have adopted Vision Zero plans that include pedestrian and bicyclist safety. A recent change to how Highway Safety Improvement Program (HSIP) funds are distributed was made to include local government based on a safety indexing matrix. Use of these funds requires MDOT oversight and approval no matter who has responsibility for that roadway or intersection. The Highway Safety Plan identifies specific actions and funding for pedestrian and bicyclist safety. Additional program areas directly impact pedestrian and bicyclist safety, such as speed control, distracted driving/walking, training, outreach, and impaired driving/riding/walking. Pedestrian and bicyclist safety is part of these additional program areas' emphasis and coverage.

Maryland can improve safety for non-motorized users by coordinating within the MDOT family, between the HSP, HSIP, and Secretary's Office, as all three areas of MDOT are working on pedestrian and bicyclist programs but are not leveraging the actions of the other two. Educating law enforcement, prosecutors,



and the judiciary on the laws for non-motorists is needed. Data use is prevalent in the working teams but is not as accessible or understood by local communities or advocates. There is a lack of information about communities of interest (deaf, blind, deaf-blind, mobility devices, refugees, and non-English speaking). Maryland can provide education and outreach to these communities of interest on the action areas in the SHSP for safe behaviors. Road Safety Audits do include a walking review, but individuals that face challenges in using the built environment are not part of those reviews with any certainty or routine.

Over 70 years of effort have put together the State's transportation system that didn't always have a safe system approach or Vision Zero philosophy. Recent efforts have started to push against the auto-centric way the budget and priorities are set. Recognition that choices made in planning, scoping, designing, implementing, and maintaining influence how all transportation system users behave and interact.

## Recommendations

- **Increase the coordination between the Highway Safety Plan, Highway Safety Improvement Program, and Secretary's Office on pedestrian/bicyclist safety projects.**
- **Increase collaboration on the application of the Highway Safety Program and Highway Safety Improvement Program funding to support a Safe System approach.**
- **Identify high-risk groups by crash and injury data trends and develop safety initiatives to reduce fatalities and injuries among these high-risk groups, including communities of interest.**
- **Educate law enforcement, prosecutors, and judiciary on the protective laws for non-motorists and on any identified needs for additional policy or law to support pedestrian and bicyclist safety.**
- **Include communities of interest in:**
  - **Surveys and research projects**
  - **Messaging and educational outreach**
  - **Road Safety Audits, walkthroughs, and**
  - **Advisory Committees**
- Support additional local communities to adopt their own Vision Zero plans.
- Improve and expand data collection, including shared demographic data, available to all local communities and advocacy groups.
- Improve the collection and analysis of pedestrian and bicycle data, including using dedicated travel facilities, to prioritize investment decisions.
- Conduct problem identification and proactively pursue and encourage law enforcement agencies with an identified pedestrian and bicyclist safety problem to apply for and use highway safety funding.

## Education

### Summary

The Maryland Highway Safety Office MHSO, as a result of the pandemic, uses QR codes on print materials to drive people to their website and ensure they receive the most up-to-date information. This is an excellent way to advance the "owned media" elements and should be documented as a best practice. The MHSO uses various data to develop, distribute, evaluate and update the communications plan for pedestrian and bicyclist safety. While a variety of funding is used to support pedestrian and bicyclist



safety communication, outreach and education, the funding allocation does not equal the percentage of the problem. Historically, infrastructure has been built to accommodate motor vehicles. It seems impossible to achieve zero by 2030 when the 2025 targets for bicyclist and pedestrian injury reductions represent only modest decreases from the current rates. It will take a multipronged approach, supported by political leaders and policymakers, to progress towards zero. That will include lowering speed limits, using automated enforcement, increasing funding levels for proven effective safety programs, taking an aggressive approach to providing equity in transportation, and focusing on a multimodal network that is safe and accessible for all users and all modes, including active transportation.

The MHSO communications plan contains many outreach and education initiatives. However, at this time, it does not address infrastructure improvements, new signals, etc. It's especially important that young drivers and aging drivers understand how to react to changes in the roadway environment before they occur to ensure the safety of all road users, especially people who walk and bike.

Maryland has a ped/bike communication plan implemented with the help of a multidisciplinary group of stakeholders. However, the plan is limited to May and Sept - Nov leaving a large portion of the year (especially the summer months) without coverage. With a more robust data set, the MHSO has the ability to allocate funding to expand this effort.

The BP committee membership could be expanded to include additional partners and stakeholders, especially from areas of concern. This includes representation from people with disabilities and multicultural and rural areas. Expanding the BP committee to include these representatives would increase the opportunity to reach a more diverse group of residents and visitors and create greater trust in messages.

There is ample opportunity to advance the driver education program to underserved communities that may not be able to afford a private training program and to develop information sets specific to people with disabilities such as visual or hearing impairments or who use mobility devices.

Maryland is ranked as the 14th most bicycle-friendly state in the nation by the League of American Bicyclists overall, however, they rank 24th in education and encouragement. This area is ranked lower due to a lack of mode share and advocacy (people biking to work/being organized to advocate for improvements). There is evidence of safety in numbers.

Overall, state and local partners are working to ensure the safety of all road users. Programs are connected across some jurisdictions; expanding this collaboration to reach rural areas will help accomplish Maryland's goal of zero traffic fatalities.

## Recommendations

- **Increase the representation of various ethnicities, the visually impaired, socioeconomically disadvantaged, mobility challenged, and other communities of high interest to serve on focus groups, assist with outreach, and advise on education efforts.**



- **Link crash data to identify areas of the state with the highest representation of the traffic crashes resulting in serious and fatal injuries to pedestrians and bicyclists with census data to identify target audiences so context-sensitive countermeasures can be implemented.**
- **Create a program that provides stipends or scholarships to assist people who cannot otherwise afford to participate in a driver education program to obtain this training.**
- Include a required "in kind" investment by each vendor when requests for proposals are developed to support a media buy.
- Implement a standard of practice for pedestrian and bicyclist high visibility enforcement to provide educational information (brochures, explanation of safer choices) without a written warning or citation in cases where the offense is not severe.
- Plan High Visibility Enforcement communication and outreach details that support pedestrian and bicyclist safety to coincide with times and places where serious and fatal injury crashes occur and higher exposure to people who walk and bike.
- Highlight serious and fatal pedestrian and bicyclist crashes and high exposure for people who walk and bike in the Maryland Highway Safety, communication, and enforcement plans to document the need for comprehensive education and enforcement effort.
- Evaluate earned media based on impressions and social media metrics using a return-on-investment (ROI) calculator to reflect the impact of earned media released.
- Expand the pedestrian and bicyclist safety communications campaigns through December at a minimum. To ensure a data-driven approach, crash and exposure data should be analyzed annually to determine the peak times of year for pedestrian and bicyclist serious and fatal injury crashes and peak exposure periods for people walking and biking and adjust the communications plan appropriately.
- Promote driver education outside of the driver handbook, list the available classes on the Maryland Highway Safety Office (MHSO) website for easy access, and promote driver education in all high school and college-based programs.
- Expand employer-based pedestrian and bicycle safety education through business sweeps and engaging community partnerships. The toolkits, presentations, and the Ocean City Visitors guide (for example) that are provided to existing partners should be captured as best practices and built upon to increase the reach across the state.
- Encourage bicycle commutes to work, for short trips, to school, or even for recreation
- Continue to use (QR) codes on print materials to not only drive people to your website and ensure they receive the most up-to-date information. This should be documented as a best practice.

## Enforcement

### Summary

Historically, training for enforcement of pedestrian and bicyclist safety laws has been minimally addressed in the basic recruit academy, and tenured officers have little opportunity for pedestrian and bicycle statute familiarization during "in-service" training. Without this training on the statutes, it is difficult to promote uniformity of statute interpretation.



Current training on completion of the online state crash report form is limited to basic academy training after which refresher training is seldom offered. For officers seeking a higher level of knowledge regarding crash investigation, Intermediate and Advanced crash investigation courses are offered. The investigation of pedestrian or bicyclist-involved crashes is covered in the Intermediate and Advanced courses; however, the majority of pedestrian or bicyclist crashes that don't result in serious bodily injury or death are investigated by the initial responding officer with basic, minimal training in such investigations. The crash report form, as it currently stands, makes the collection of data regarding pedestrian or bicyclists' involvement cumbersome at best, leaving documentation of their involvement in the crash sporadic, and details are relegated to the attention paid to such detail by the investigating officer. Without the ability to search free text within the report, the extraction of pedestrian or bicyclist data for analysis, evaluation, and problem identification is limited. As such, collecting and aggregating pedestrian and bicyclist crash data is difficult. As the form is currently being revised, an opportunity exists to incorporate documentation such as pedestrian or bicyclist distractions into the report form.

Good examples exist in the State of exemplary programs that train officers in pedestrian and bicycle enforcement, and they are willing to train officers from other agencies. Officers should be encouraged to avail themselves of these learning opportunities.

Pedestrian and bicyclist safety materials inclusive of both pedestrian and bicyclist safety tips are available, however few agencies are aware that these resources exist. The materials should be updated, printed, and widely distributed.

The Washington College Risk Analysis of Vehicle Environmental Network (RAVEN) data base and analysis system seems to be able to do robust analysis to help agencies with their High Visibility Enforcement (HVE) operations, but not all agencies know of the data base nor the analytical assistance they offer. As agencies become more aware of this availability, they can incorporate accurate and complete analysis into their operational plans for HVE operations.

Absent grant-funded initiatives, many agencies do not conduct independent training or participate in focused High Visibility Enforcement (HVE) operations of the statutes specifically protecting pedestrians and bicyclists. More emphasis is given to pedestrian education and enforcement than bicyclist education and enforcement. Without specific data documenting an overriding imbalance in pedestrian and bicyclist injury or death crashes, equal treatment of both is a best practice. As agencies apply for and receive enforcement and education grants specific to pedestrian and bicyclist safety, policies are developed in support of these grant activities. Most agencies do not have well developed policies that support vulnerable road user safety. Agencies with grant funded enforcement opportunities often include an educational component in their grant activities.

As proposals are developed for engineering modification to roadways, at the State level law enforcement input and participation should be proactively sought.

It is the belief of many enforcement personnel that enforcing pedestrian and bicyclist safety law is a low agency priority versus "real police work" which is routinely recognized and rewarded. A system should be



formalized for recognition of officers that have shown an interest in increasing bicyclist and pedestrian safety.

## Recommendations

- **Partner with law enforcement to develop, implement, and train officers on applicable laws and policies related to effective enforcement to improve the safety of people who walk and bike.**
- **Create and distribute a compilation of best practices from around the state for training officers in effective enforcement specific to pedestrian and bicyclist safety.**
- **Develop and implement tracked online or in-person pedestrian and bicycle enforcement and education training as a prerequisite to awarding pedestrian and bicyclist educational and enforcement grants, requiring officers to complete the training prior to participating in the grant-funded initiative.**
- Evaluate applications for grant funding in pedestrian and bicycle enforcement to ensure that emphasis is placed on pedestrian and bicyclist safety in their traffic enforcement standard operating procedures.
- Stress the importance of collection and documentation of pedestrian and bicyclist information and unique crash scene evidence during basic law enforcement officer training on crash investigation
- Incorporate designated places to collect data on crash-involved bicyclists and pedestrians to include data indicating impairment or distraction, as a supplement when a pedestrian or bicyclist is involved in a crash or a designated location on the actual electronic crash report.
- Emphasize bicyclist education and enforcement as is currently given to pedestrian education and enforcement and include bicyclist specific safety tip cards as is currently done with pedestrian information.
- Implement a uniform policy statewide requiring the timely submission of crash reports to include a definition of timeliness rather than leaving it up to individual agency discretion.
- Emphasize the lifesaving benefit of enforcing pedestrian and bicycle laws in both the basic recruit training academy and in-service training for law enforcement officers giving equal emphasis to bicyclist education and enforcement when training officers and developing community outreach
- Develop and disseminate a quick reference card for both pedestrian and bicycle laws directed toward law enforcement officers in the field to provide a ready reference for use during pedestrian and bicyclist engagement
- Involve law enforcement personnel during the planning stages of roadway engineering modifications and infrastructure programs at all levels of government, not simply informing law enforcement when new roadway treatment has been implemented
- Implement a formalized written warning option and/or a citation diversion program
- Seek recognition opportunities for officers who show a dedication and devotion to the education and enforcement of laws protecting vulnerable roadway users



## Engineering

### Summary

The State of Maryland has some very impressive policies, programs and procedures for designing pedestrian and bicyclist accommodations and safety improvements. Maryland is ahead of most states in the adoption of a Complete Streets Policy more than a decade ago (2012), developing a Context Driven Guide in 2020, the recent publication of a Context Toolkit for 13 countermeasures for pedestrian and bicyclist treatments, and the proactive conducting of pedestrian road safety audits (PRSAs). There are a number of suggestions that may be considered by the State to further improve facilities and safety for pedestrians and bicyclists. There is a Pedestrian Safety Action Plan (PSAP) currently under development and an active program of Road Safety Assessments that include pedestrian and bicyclists facilities and safety. While there appears to be an established safe routes to school (SRTS) safety program, there is not a similar program for access to transit.

The Maryland Complete Streets Policy is under review for further improvements, and some of the major cities have developed their own Complete Streets Policies. Once this policy is updated, local agencies throughout the state should be encouraged to follow suit.

There is a Maryland Highway Safety Design Guide that contains some information on treatments for Pedestrian and bicyclist safety and operations. This design guide should be enhanced, or a separate Pedestrian Design Guide should be developed for identifying when it is appropriate to install a marked crosswalk at an uncontrolled crossing location. Furthermore, guidance would be desirable to identify the type of traffic control for uncontrolled marked crosswalks based on various combinations of street geometrics (crossing width, number of lanes, raised median width) and traffic characteristics (traffic volumes and speeds).

### Recommendations

- **Increase the coordination between the Maryland State Highway Safety Office (SHSO), Department of Transportation (MDOT), law enforcement, and public education partners to effectively work together on road safety audits, in project and program evaluation, and in educating the public about new crossing devices or improved traffic signal operation or other related infrastructure improvements.**
- **Develop a Pedestrian Design Guide or expand the pedestrian section in the Highway Design Guide to identify when it is advantageous to install a marked crosswalk.**
- **Identify the appropriate traffic control for uncontrolled street crossings based on street widths, traffic volume, traffic speed, etc.**
- **Increase the application of safety treatments to improve the safety of people who walk and ride bicycles as outlined in the Context Design Toolkit, including:**
  - **The use of flashing yellow arrows to change left-turns phasing to protected-only when pedestrians are crossing.**
  - **The use of leading pedestrian intervals (LPI) or leading bicycle intervals (LBI) at traffic signals with high volumes of nonmotorized traffic conflicting with high turning traffic**



volumes.

- **Improve coordination between transit and engineering for pedestrian safety and develop Safe Routes to Transit engineering and education programs.**
- **Work with transit officials to determine if there is a link between pedestrian crashes and access to/from transit.**
- **Complete the Pedestrian Safety Action Plan (PSAP) that is currently in development and develop a separate Bicyclist Safety Action Plan (BSAP) to identify location for safety improvement and recommended treatments.**
- **Continue to update the Maryland Complete Streets Policy and encourage local agencies to adopt this or a similar policy.**
- **Implement additional equity measures into road safety audits and safety studies to ensure the needs of people who walk and bike (especially in underserved areas) are addressed.**
- Include human factors experts, people with visual disabilities, and people with limited mobility on pedestrian and bicyclist road safety audit teams to ensure that the needs of all users are taken into consideration.
- Establish a single data warehouse for the evaluation and treatment of high crash locations and corridors for all modes to identify and implement safety improvements, including pedestrian and bicyclist safety improvements.
- Identify locations and corridors that exhibit high-pedestrian or bicyclist crash characteristics (high-risk locations/corridors) for the systemic statewide implementation of pedestrian and bicyclist safety treatments.
- Evaluate the effectiveness of pedestrian and bicyclist safety improvements that have been implemented in Maryland and develop Maryland-specific Crash Modification Factors (CMFs) for these types of improvements.
- Develop a combined weighted average cost for a fatal or serious injury crash when evaluating project countermeasures to help avoid merely “chasing” fatal crashes in the project evaluation process.

## Emergency Medical Services (EMS)

### Summary

Maryland is at “Current Practice” for many of the Emergency Medical Services (EMS) attributes of this assessment. That status reflects the state’s recognized standing as a national leader in trauma care and EMS systems. It is also a credit to a sustained commitment of building a culture of excellence. The state also benefits from relationships between EMS and Highway Safety leaders that are mutually respectful and substantive. The challenge for the state is to identify steps it can take to move beyond what is already in place and go to the next level. Things that are working well in Maryland today include:

- An up-to-date State EMS Plan that reflects aspirational priorities
- Established EMS and Trauma Registry data systems
- Education of EMS personnel and clinical practices in accordance with national guidelines and best practices



- All EMS agencies are invested in quality improvement
- Good progress in the current 911 system and movement towards Next Generation (NG) 911
- Collegial relationships among state EMS leaders and the highway safety community

Opportunities for EMS in Maryland to contribute to improving bicyclist and pedestrian safety include:

- Making progress in turning existing data into information. The state has well established data systems and no reported legal barriers to combining its data. Maryland appears well poised to make progress on next steps and establishing an Injury Surveillance System.
- Encouraging EMS participation at the local level with public education, road safety audits, bystander care training and similar engagements with bicyclist and pedestrian safety advocates.
- Continuing progress towards implementing NG 911 and related technologies in advanced automated crash notifications
- Formatting existing EMS awards programs to use your exemplary EMS personnel and agencies as ambassadors for recruitment and retention, quality improvement or similar purposes

## Recommendations

- **Identify the organization best positioned to serve as the home for a statewide Injury Surveillance System (ISS). Likely candidates would include the National Study Center, the Maryland State Police or the Maryland Department of Health. Charge that lead group with building an ISS that can link an array of existing data to monitor trends, assist with strategic planning and use injury epidemiology to inform stakeholders in the bicyclist and pedestrian safety community.**
- Identify approaches to promote bicyclist and pedestrian safety that also serve EMS in accomplishing components of the Vision 2030 EMS plan.
- Assist counties that are less prepared for implementation as you continue to put Next Generation (NG) 911 into operation.
- Identify incentives to encourage all persons who successfully complete EMS education to become Nationally Registered and State licensed. Incentives could be financial to the person or their EMS agency. Another approach might be public recognition or indirect rewards such as free attendance at the annual EMS conference for all newly licensed personnel.
- Update and adjust the state trauma triage protocol as revisions are made to the Center for Disease Control (CDC) Guidelines for Field Triage of Injured Patients algorithm are rolled out.
- Investigate the feasibility of implementing digital transfer of Advanced Automatic Crash Notification (AACN) data to EMS and other responders as part of bringing Next Generation (NG) 911 online.
- Encourage and facilitate local EMS agency participation and partnerships with law enforcement, roadway engineers and advocacy groups for public messaging, road safety audits and other injury prevention.
- Expand or update the existing EMS recognition programs to serve needs in the EMS system or bicyclist/pedestrian safety throughout the year. Utilize the award recipients as the public face of EMS in recruitment efforts, prevention messages or similar initiatives throughout the year.
- Expand measures of quality for EMS agencies and personnel to include involvement with injury prevention initiatives and partnerships.



- Establish a statewide mechanism to monitor where, when, and how many people have been reached with bystander care education. This information can be used to identify areas of the state that are underserved for this training.



## Appendix – Participants

### State Highway Safety Office Representative

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Motor Vehicle Administration (MVA)

### State Assessment Coordinator

**Cynthia Spriggs**

MDOT/MVA/MHSO

### Participating Agencies

Anne Arundel County Department of Public Works  
Anne Arundel County Police Department  
Baltimore City Department of Transportation  
Baltimore City Police Department  
Baltimore County Department of Public Works and Transportation  
Baltimore County Police Department  
Baltimore Metropolitan Council  
Belair Police Department  
Bicycle Advocates for Annapolis and Anne Arundel County  
Bowie Police Department  
Calvert County Sheriff's Office  
Carroll County Sheriff's Office  
Cecil County Police Department  
Charles County Sheriff's Office  
Graham Projects  
Greenbelt Police Department  
Howard County Department of Planning  
Hyattsville Police Department  
Laurel Police Department  
Maryland Department of Transportation Mass Transit Administration  
Maryland Department of Transportation Motor Vehicle Administration  
Maryland Department of Transportation Office of the Secretary  
Maryland Department of Transportation State Highway Administration  
Maryland Institute for Emergency Medical Services Systems  
Maryland Institute of College of Art  
Maryland State Police  
Maryland State's Attorneys' Association  
Metropolitan Washington Council of Government  
Montgomery County Department of Transportation



Montgomery County Division of Traffic Engineering  
Morgan State University - Department of Transportation & Urban Infrastructure  
Ocean City Police Department  
Perryville Police Department  
Prince George's County Department of Public Works  
Prince George's County Police Department  
Princess Anne Police Department  
Riverdale Park Police Department  
Tri-County Council for Southern Maryland  
University of Maryland School of Medicine – Charles "McC" Mathias National Study  
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