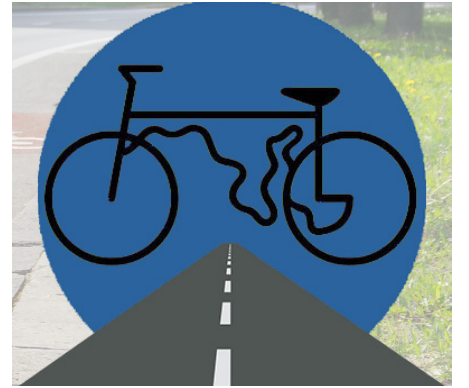




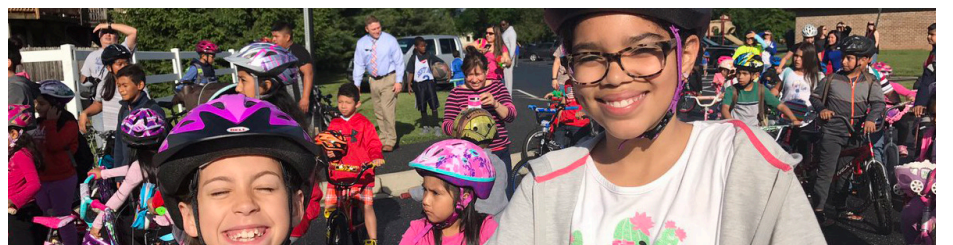
TASK
FORCE



TO STUDY
BICYCLE SAFETY



ON
MARYLAND
HIGHWAYS



FINDINGS &
RECOMMENDATIONS

Prepared by:
The Task Force to Study Bicycle Safety on Maryland Highways
December 18, 2017



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Photos included on the cover page were compiled by MDOT from Task Force Member Shayne Boucher, Toole Design Group, and MDOT Staff. All other photos and graphics in the report are courtesy of MDOT and consultant staff.



Executive Summary

The Task Force to Study Bicycle Safety on Maryland Highways was created by legislation in the 2017 Session of the Maryland General Assembly and was enacted under Article II, Section 17(c) of the Maryland Constitution as Chapter 836. Chapter 836 included a series of eleven specific topic areas to be addressed by the Task Force, all pertaining to various elements of bicycle safety. Under the leadership of Task Force Chair, Thomas J. Gianni (Maryland Department of Transportation's Highway Safety Office), the members of the Task Force met 5 times from August to November 2017. They discussed each of the legislated topics from Chapter 836 and developed the findings and recommendations presented in this report. All meetings were open to the public and meeting materials including agendas, meeting summaries, and presentation materials were made available via the Task Force website. This site also provided a forum for taking public comment via e-mail, and was checked regularly to bring public concerns forward for Task Force deliberation. At the end of each meeting, public comment was also invited, and comment cards were made available in the event that participants did not feel comfortable speaking in an open forum. Inputs received during the process are summarized in Appendix A. The Task Force then made the draft report available for public comment. Clarifying changes were made to the draft where possible, and full inputs received are reflected in Appendix E.

To provide important background information relevant to the Task Force's charge, the process began with an overview of Maryland's Strategic Highway Safety Plan. Maryland's 2016-2020 Strategic Highway Safety Plan (SHSP) is the State's road map to reducing – and ultimately eliminating – crashes on our roadways and their resulting serious injuries and fatalities. The SHSP focuses on strategies in six Emphasis Areas: Pedestrians and Bicyclists, Aggressive Driving, Distracted Driving, Impaired Driving, Occupant Protection (seat belts and child passenger safety), and Highway Infrastructure. Emphasis Area Teams, comprised of statewide representatives from the 4-Es (Enforcement, Education, Engineering and EMS) and other concerned stakeholders, meet quarterly to develop and implement action steps for the SHSP's life-saving strategies. The Task Force discussed the possibility that some of their recommendations could support the ongoing work of the Pedestrian and Bicycle Emphasis Area Team.

The Task Force also began the process with a review of research on bicycle crashes in Maryland. The University of Maryland's National Study Center for Trauma and EMS analyzed incident records to provide an overview of police-reported motor vehicle crashes that involved a bicycle. The Task Force learned that, from 2011 through 2015, there were a total of 3,908 police-reported crashes in Maryland and that the overall trend during this period shows a gradual increase in the number of crashes. The Task Force also explored data related to the age, gender, jurisdiction, day-of-week, and other similar data.

Task Force members were quick to point out that although their mandate was focused on bicycle safety, the issue was not readily captured by a consideration of crash data. The major concern was not merely how to prevent deaths and serious crashes of cyclists on roadways, but how to provide infrastructure that would safely accommodate cycling as a transportation alternative, so that cycling could become a viable option for all roadway users. Many of the Task Force's discussions also reiterated the core theme of needing to better support and encourage safe cycling for people of many ages and abilities in Maryland. The objectives of promoting safe cycling as a transportation option in the State was emphasized as critical to a broad range of other policy and program priorities in Maryland, such as addressing traffic congestion, improving air quality,



supporting health outcomes, and providing affordable transportation options for residents who may not have access to transit or automobiles.

It is with this perspective that the Task Force proceeded to discuss and develop findings related to each of the specific legislated topics in Chapter 836. Their findings and recommendations are organized into five categories:

1. Legislative Tools and Operations for Bicycle Safety
2. Infrastructure Tools, Guidance, and Performance Measures
3. Site Access and Utilities
4. Education and Outreach
5. Funding

For each topic, the Task Force began with a presentation and discussion of existing tools, resources and programs. These points were captured in “context papers” that were distributed in draft form for the group’s consideration, and were revised accordingly for incorporation in the report. Requests for further clarification were made, to inform a follow up discussion of issues or gaps that the group chose to prioritize. Based on this discussion, and additional inputs from the public and advocate organizations, the group developed and debated the recommendations reflected in this report. These include modifications to existing tools and resources, adjustments to how existing tools or resources are deployed, or areas where new tools or resources should be developed to support bicycle safety.

The full report provides a more thorough discussion of the concerns and issues that shaped each of the recommendations, and clarifying notes for each. A summary list of these recommendations is provided for consideration in table 1.

Table 1. Summary of Task Force Recommendations

1 Legislative Tools
1.1 The legislature should define vulnerable road users in statute and strengthen penalties associated with existing violations where these cause serious injury or death of someone in this category.
1.2 The legislature should consider legislation modeled on the Motor Vehicle Collision Recovery Act as enacted in Washington DC in November 2016. This legislation provides a specific exception to broader negligence standards to enable a plaintiff pedestrian or bicyclist to recover damages where they are found to be 50% or less at fault in an accident with a motor vehicle.
1.3 The legislature should consider legislation to address exceptions to the requirement that a motorist leave a 3-foot buffer when passing a cyclist. The legislation should specifically address conditions pertaining to narrow roadways, and may need to include allowances for other kinds of roadway obstructions to clarify conditions under which it may be acceptable for motorists to safely cross a double yellow line for safety reasons.
1.4 The legislature should consider legislation to enable law enforcement to use newly available technology to better detect and document non-compliance with the three-foot passing law, and to facilitate enforcement by allowing tickets to be issued to registered vehicle owners by mail if the violation cannot be immediately addressed at the scene.
1.5 Law enforcement agencies should work with MDOT (including SHA and MHSO) to develop approaches to strengthen enforcement in high risk areas. This may include consideration of



<p>conditions in which mobile patrols, speed cameras and other tools may be warranted.</p>
<p>1.6 The Maryland State Police should consider establishing a new full-time bicycle unit, to be funded as a new element of their budget. The unit would be able to move from County to County if trouble spots arise. The enforcement would be an effective way to educate those members of the motoring public who are unaware of the 3-foot law and other bicycle safety issues. The State Police unit would be able to focus on those counties that do not have a bicycle unit in the county police or Sheriff’s office.</p>
<p>1.7 The legislature should consider legislation to allow state and local agencies to adopt lower speed limits on key roadways targeted for bike safety issues and should adopt a mechanism for state and local agencies to consider lower default speed limits.</p>
<p>2 Infrastructure Tools, Guidance, and Performance Measures</p>
<p>2.1 State agencies should enact Code of Maryland Regulations to clearly distinguish roles and responsibilities between the Maryland Department of Transportation (MDOT) and the Maryland State Police (MSP) for the collection, storage, dissemination, and analysis of statewide crash data collected by law enforcement. Based on open-data policies and national best practices, the MDOT should have responsibility for the public dissemination and analysis of all information collected by the MSP related to crashes on Maryland roads.</p>
<p>2.2 State and local agencies as well as regional entities should collaborate to explore new methods for collecting ridership, exposure data, and non-reported crashes. This should include consideration of automated counters, user surveys, and crowdsourced data.</p>
<p>2.3 MDOT should update their “Short-Trip Opportunity Area” analysis and provide data to local jurisdictions.</p>
<p>2.4 MDOT SHA should provide local jurisdictions with draft language for local ordinances that can help clarify maintenance responsibilities and expedite construction of bicycle and pedestrian facilities.</p>
<p>2.5 MDOT and local jurisdictions should explore best practices for addressing short and long-term maintenance needs on high priority separated bicycle facilities.</p>
<p>2.6 State and local transportation agencies should consider developing a uniform bicycle route signage system for wayfinding on state and local roads.</p>
<p>2.7 MDOT SHA should expand the use of models that analyze multimodal access as part of its project development and access management process to ensure that the safety of all road users is not compromised by prioritizing vehicle throughput. Development mitigation requests should include consideration of impacts to bike infrastructure and safety and seek to improve these at SHA access points and intersections.</p>
<p>2.8 State and local agencies, in coordination with regional entities, should work to create an updated inventory of trails and bicycle facilities to help identify and prioritize gaps and to assist local jurisdictions with their bike planning activities. The effort should include consideration of rail and utility rights of way, as opportunities to improve network connections.</p>
<p>2.9 MDOT SHA should consider creating a process for Bicycle Safety Audits, similar to audits for pedestrian safety, to identify and address safety issues in higher risk corridors.</p>
<p>2.10 The State and MPOs should work with local jurisdictions to assist in the development of regional trail networks, and to develop projects that connect across jurisdictions.</p>
<p>2.11 MDOT should update the MDOT SHA Bicycle Policy and Design Guidelines, and give serious consideration to integrating elements of other best practice documents. Treatments explicitly requested for consideration are as follows:</p>



<ul style="list-style-type: none"> • More detailed design guidance for facility types (e.g. MassDOT’s Separated Bicycle Planning and Design Guide) • Bicycle-specific traffic signals on, or crossing State roads • Mid-block crossings/HAWK or pedestrian activated signals • Installation of single/bidirectional protected bike lanes • Other items related to low stress bicycle facilities
<p>2.12 MDOT should update the guidance related to roadway treatments for Main Street facilities (e.g. the existing MDOT SHA publication “When Main Street is a State Highway”). The update should be based on best practices for context sensitive design guidance for highways that support the surrounding communities.</p>
<p>2.13 MDOT should clarify and consider adding flexibility to its process for including bike accommodation for new developments along State roads. MDOT should improve their processes for working with local jurisdictions to ensure that full consideration is given to achieving master planned elements for bicycle accommodation, including dedicated bike path rights of way.</p>
<p>3 Site Access and Utilities</p>
<p>3.1 Local jurisdictions should be encouraged to explore a mechanism to accept a fee in lieu of improvements on the state roadway to address implementation of master planned bike elements in and around the adjacent area.</p>
<p>3.2 MDOT should adopt a complete streets policy that applies to all of the Department’s sub-agencies to ensure that safe bicycle accommodation is considered in all roadway and facility design.</p>
<p>3.3 The Task Force strongly encourages the Maryland Transportation Authority to adopt a complete streets policy.</p>
<p>3.4 Local jurisdictions should be encouraged to adopt complete streets policies to inform projects on their roadways.</p>
<p>4 Education and Outreach</p>
<p>4.1 MDOT’s MHSO should expand partnerships to help implement Maryland’s Strategic Highway Safety Plan (SHSP) by engaging concerned stakeholders to participate on the Plan’s Bicycle and Pedestrian Emphasis Area Team. In addition, Maryland’s jurisdictions are encouraged to develop local strategic road safety plans that address bicycle safety.</p>
<p>4.2 The State agencies should collaborate to encourage and facilitate bicycle safety education for school children</p>
<p>4.3 MDOT MVA should consider ways to improve driver training programs to better address bicycle safety issues and to emphasize these issues in driver testing, as well as in training for commercial driving licenses and for driver improvement programs.</p>
<p>4.4 The Maryland Police and Correctional Training Commission (MPCTC) should consider developing a bicycle safety law enforcement training course for in-service training.</p>
<p>4.5 Maryland should strengthen its outreach and education related to bicycle safety, with broadened campaigns targeting bicyclists, drivers, and pedestrians. New or enhanced funding sources should be pursued to help deliver this message.</p>
<p>4.6 MDOT should enhance bicycle safety related training for engineers and planners in all relevant divisions, and ensure that bicycle planning expertise is clearly identified and reflected in the staffing of its State Highway Administration District Engineering offices.</p>
<p>5 Funding</p>
<p>5.1 MDOT should improve the administration and utilization of federal funding programs to identify</p>



<p>opportunities to improve performance in developing bicycle network infrastructure. MDOT and local jurisdictions should work to attract additional investment in bicycle infrastructure from federal and private sector sources.</p>
<p>5.2 MDOT in coordination with other state agencies, should work to develop technical assistance tools to assist local jurisdictions and other stakeholders to address the challenges of developing and implementing bike safety related projects.</p>
<p>5.3 MDOT should consider using the Bicycle Pedestrian Priority Area (BPPA) designation as a mechanism to pilot a set of low stress and/or emerging bicycle facility types including protected bike lane projects on state roads, to clarify maintenance needs and practices for a variety of configurations, and to explore flexibility for state and local coverage of maintenance needs.</p>
<p>5.4 MDOT should consider expanding allocations for bicycle infrastructure on the State transportation network to address bike safety and access needs more directly and consistently. Specifically, consideration should be given to how more Transportation Trust Fund resources might be dedicated to expanding bike safety and access improvements for both roadways and transit; to augmenting allocations to existing programs (such as Bicycle and Sidewalk Retrofit), and to directly supporting project investments to address bike accommodation on transit and to help implement Bicycle and Pedestrian Priority Area (BPPA) Plans.</p>
<p>5.5 MDOT should consider expanding and consistently funding state discretionary programs such as the Bikeways Program to better assist local jurisdictions in planning and building infrastructure that improves bike safety and increases bike mode share. Particular consideration should be given to address needs to support larger projects, and to ensure greater continuity and predictability of funding sources over time.</p>
<p>5.6 Local jurisdictions should explore the use of local ordinances (e.g. Adequate Public Facility Ordinances), impact fees, user fees, parking revenues, home-owners’ associations, business improvement districts, Transportation Management Zones, etc., to help fund and build bicycle infrastructure.</p>
<p>5.7 Local jurisdictions should be encouraged to include bicycle and pedestrian projects in their annual priority letters to MDOT to inform the process for allocating state transportation funding.</p>
<p>5.8 MDOT’s MHSO should promote grant funds to support overtime for law enforcement to address bicycle safety. Overtime could be directed toward enforcement efforts for violation of the 3-foot law, as well as toward educating drivers on sharing the road with bicyclists and educating cyclists on rules of the road, the need for lights/reflective clothing, etc.</p>
<p>5.9 MDOT and other stakeholders should proactively engage their Congressional representatives in advocating for greater flexibility and increased funding levels for bicycle infrastructure projects. State and local actors should advocate for augmenting and streamlining federal grant programs that can be used to improve bicycle infrastructure, as part of any appropriate bills, as well as in the upcoming Surface Transportation Re-authorization Bill. (The current bill is set to expire in 2020).</p>



Task Force Background

The Task Force to Study Bicycle Safety on Maryland Highways was created by legislation in the 2017 Session of the Maryland General Assembly and was enacted under Article II, Section 17(c) of the Maryland Constitution as Chapter 836. The Task Force was convened to:

“study and make recommendations on certain issues related to bicycle safety on highways in the State; requiring the Task Force to report its findings and recommendations to the Governor and the General Assembly on or before a certain date; providing for the termination of this Act; and generally relating to the Task Force to Study Bicycle Safety on Maryland Highways.”

The Topic Areas to be addressed by the Task Force under the Legislation include:

1. Safety issues related to bicycle operators on highways in the State;
2. The appropriate operation of bicycles on highways in the State;
3. The appropriate operation of motor vehicles in relation to bicycles on highways in the State;
4. The adequacy of the current and future capacity and use of bike lanes, bike paths, and protected cycle tracks in the State;
5. Past, current, and future implementation of Complete Streets strategies related to facilitating safe travel for all bicyclists regardless of age, ability, or mode of travel;
6. Issues related to traffic control devices governing the operation of and behavior towards bicycles on highways in the State;
7. Public education and outreach related to the operation of bicycles on highways in the State;
8. Potential funding sources to support and encourage the safe operation of bicycles in the State;
9. The effects of bike lanes, bike paths, and protected cycle tracks on street parking and pedestrian and vehicular traffic flow;
10. The siting of utilities and other infrastructure along bike lanes, bike paths, and protected cycle tracks; and
11. Best practices for ensuring access to retail, residential, commercial, and other points of interest adjacent to bike lanes, bike paths, and protected cycle tracks.

The legislation establishing the Task Force requires 24 members with a variety of affiliations. The Task Force members, shown according to the affiliations outlined in the legislation, are listed below:

- Two Senators
 - Senator Susan Lee
 - Senator Roger Manno
- Two Delegates
 - Delegate Andrew Cassilly
 - Delegate Stephen Lafferty
- The Motor Vehicle Administrator, or the Administrator's designee
 - Thomas J. Gianni (**Task Force Chair**)
- The State Highway Administrator, or the Administrator's designee



- Peter Sotherland
- The Secretary of State Police, or the Secretary’s designee
 - Corporal David Zanoni
- Four bicycle advocates who are State residents, at least two of whom represent urban or suburban areas of the State
 - Mary Lauren “Laurie” Lemieux
 - Jon S. Korin
 - Shayne Boucher
 - John “Jack” Keene
- A representative of the motor vehicle insurance industry
 - Vincent “Chip” Boylan
- A representative of AAA Mid-Atlantic
 - Ragina Cooper-Averella
- A representative of the Maryland Association of Counties
 - Christopher J. Eatough
- A representative of the Maryland Municipal League
 - Mayor Patrick L. Wojahn
- A representative of the Maryland Chiefs of Police Association
 - Chief Michael Wynnyk
- A representative of the Maryland Motor Truck Association
 - Thomas E. Huesman
- A representative of the Maryland Sheriff's Association
 - Captain Charles L. Baker
- A civil engineer with experience in the design of mixed-use development infrastructure
 - Mark G. Morelock
- A traffic engineer who is familiar with mixed–use development infrastructure and who has experience with the Maryland Manual on Uniform Traffic Control Devices
 - Michael M. Lenhart

The Task Force met five times between August and November 2017. The meetings were led by the Task Force Chair, Tom Gianni, who as Chief of the Maryland Highway Safety Office had been designated to represent MDOT MVA. Staffing for the Task Force was led by Marty Baker of the Office of Planning and Capital Programming of MDOT TSO with support of other MDOT staff and consultants from Toole Design Group, Sabra Wang and Associates, and Sharp and Company. Research assistance was also provided by the University of Maryland’s National Study Center for Trauma and Emergency Medical Services. The Task Force provided input on a proposed meeting strategy and approach to ensure that the full mandate was addressed and reflected in the report. The agreed-upon meeting strategy is included in Appendix B. Meetings were organized to include a) presentation of context and existing practices, b) identification of issues and best practice research needs, followed by c) discussion of recommendations. Public comment was provided at the end of each meeting, and submitted via email (see Appendix A).

At the first Task Force meeting, the group highlighted a short list of priority areas that continued to guide and inform their subsequent discussions:



- Infrastructure: to improve bicycle mode share and improve safety;
- Data: to better capture scope and nature of problems and target intervention;
- Coordination: to improve cooperation between state and local agencies; and
- Education: to cultivate shared culture of safety between motorists and cyclists.

This report outlines the presentations and discussions held during meetings, and presents the Findings and Recommendations of the Task Force.



Background: Maryland's Strategic Highway Safety Plan

The work of the Task Force was set in the context of several ongoing initiatives, many of which are created in statute, and were addressed as Legislative tools for Task Force consideration. In the opening discussion, the Chair of the Task Force highlighted ongoing work to address bicycle safety as part of the Strategic Highway Safety Plan. Maryland's 2016-2020 Strategic Highway Safety Plan (SHSP) is the State's road map to reducing – and ultimately eliminating – crashes on our roadways and their resulting serious injuries and fatalities. Using the *Toward Zero Deaths* approach of cutting traffic fatalities in half by 2030, the SHSP focuses on strategies in six Emphasis Areas: Pedestrians and Bicyclists, Aggressive Driving, Distracted Driving, Impaired Driving, Occupant Protection (seat belts and child passenger safety), and Highway Infrastructure. Emphasis Area Teams, comprised of statewide representatives from the 4-Es (Enforcement, Education, Engineering and EMS) and other concerned stakeholders, meet quarterly to develop and implement action steps for the SHSP's life-saving strategies.

The Pedestrian and Bicyclist Emphasis Area Team focuses on six strategies to protect our roadways' most vulnerable users. These strategies tackle pedestrian/bike safety from multiple perspectives, including: data, enforcement, roadway environments, technology, and legislation, among others. The Emphasis Area Team works hand-in-hand with existing Maryland Department of Transportation work groups and seeks to partner with pedestrian/bike safety advocates. The overall success of Maryland's SHSP requires the full support and involvement of partners and stakeholders at the local level. The State is calling on all jurisdictions to create their own strategic roadway safety plans, using Maryland's SHSP as a guide, for addressing the concerns and problems unique to each jurisdiction. The Task Force was encouraged to think of this ongoing initiative, as well as efforts to update the Maryland Transportation Plan and the Maryland Bicycle and Pedestrian Master Plan (both being updated in 2018) and additional avenues to address the broad mandate assigned to the Task Force.

Background: Characteristics of Bicycle Crashes in Maryland

To inform the Task Force deliberations on bicycle safety needs, research was presented to describe the nature and extent of bicycle crashes occurring on Maryland roadways. The University of Maryland's National Study Center for Trauma and EMS analyzed incident records to provide an overview of police-reported motor vehicle crashes that involved a bicycle. Members were provided with an overview of the bicycle crash statistics.

From 2011 through 2015, there were a total of 3,908 police-reported bicycle crashes in Maryland. The overall trend during these five years has shown a gradual increase in the number of bicycle crashes. Based on the police crash report, 313 crashes resulted in serious injury and 32 crashes were fatal.

The majority of bicyclists involved in a police-reported crash were between the ages 10 and 59, and 83% of the bicyclists were male. As figure 1 shows, the crash rates were highest among 10-17-year-olds (13.7 crashes per 10,000 population) and 18-24-year-olds (14.2 crashes per 10,000 population).

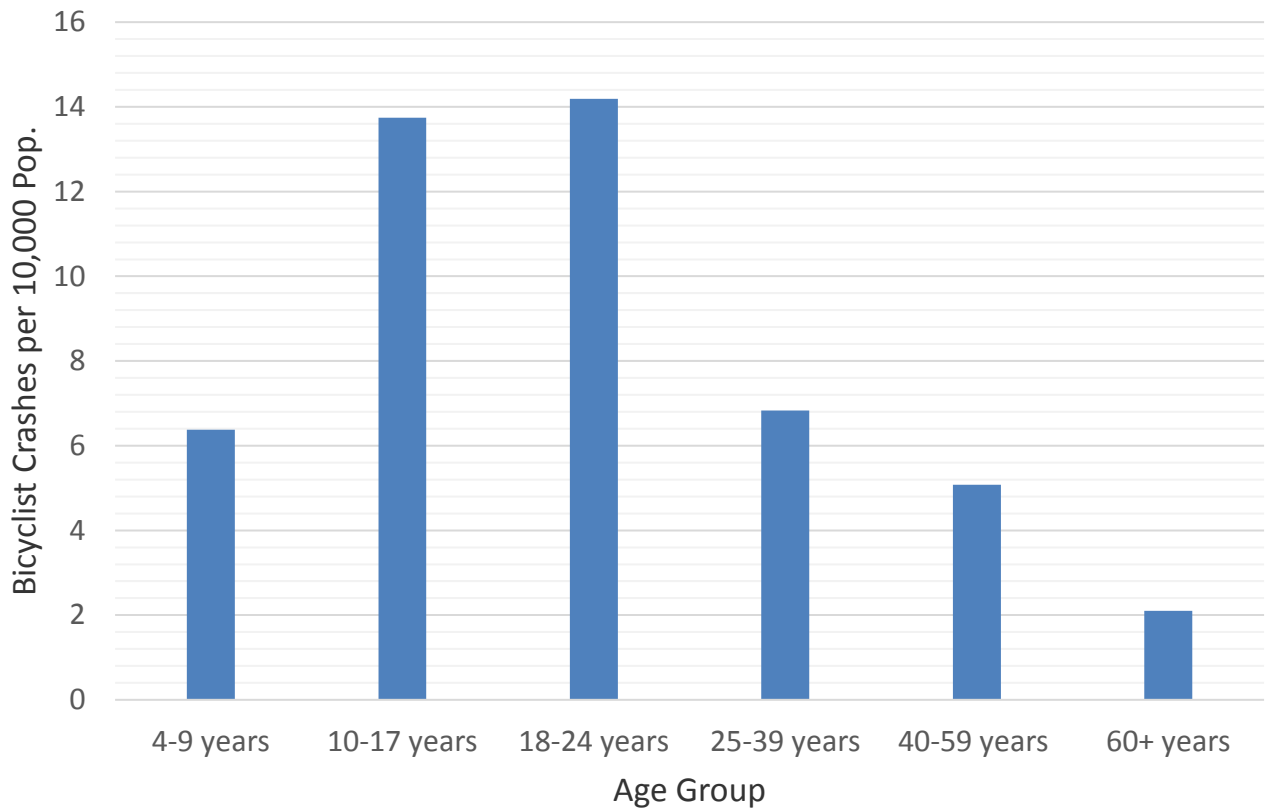


Figure 1. Age Data: Maryland Bicycle-Involved Crashes, 2011-2015

The highest number of bicycle crashes was concentrated in the most populated areas of the State (Anne Arundel County, Baltimore County, Montgomery County, Prince Georges County, and Baltimore City). These jurisdictions accounted for over 75% of all bicycle crashes that occurred between 2011 and 2015. (Figure 2).

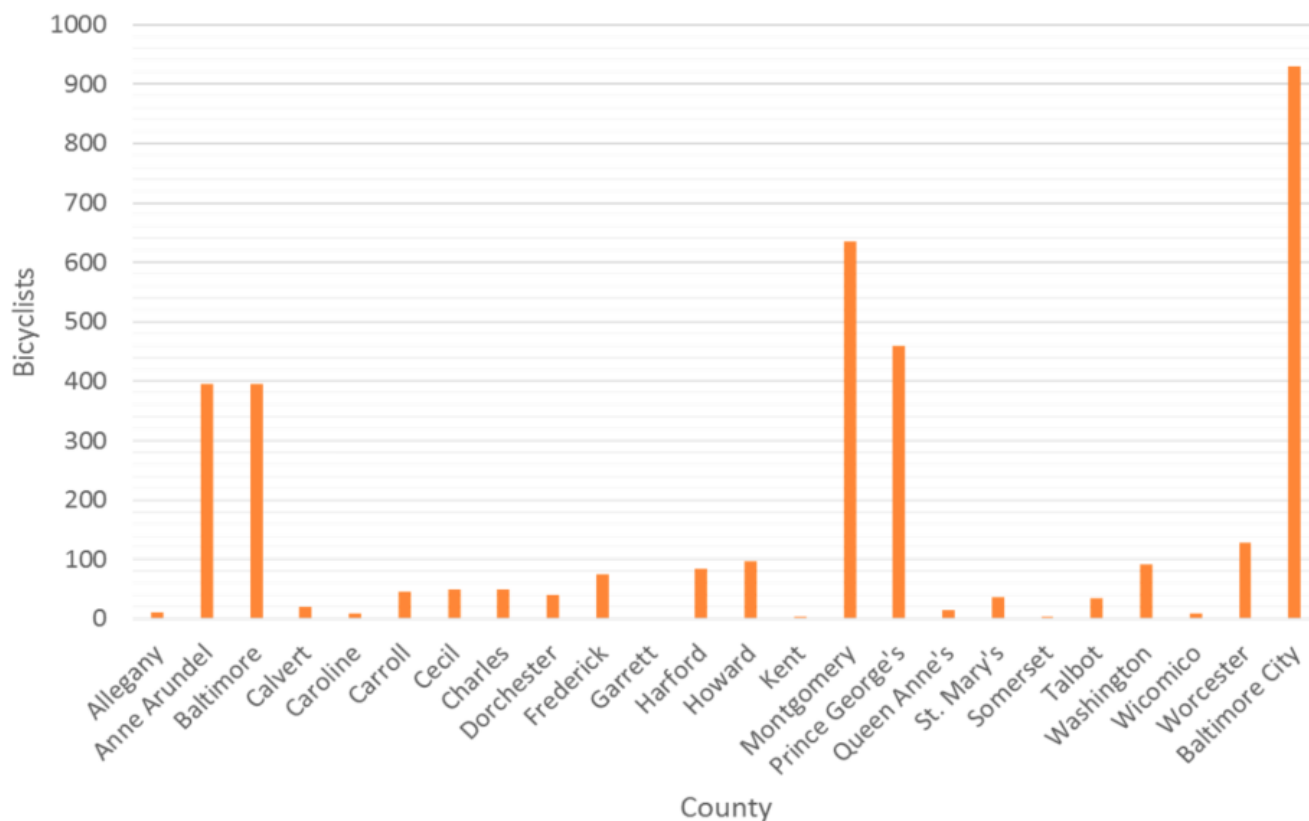


Figure 2. Maryland Bicycle-Involved Crashes, by Jurisdiction, 2011-2015

Bicycle crashes occur throughout the week with the greatest number occurring on Wednesdays and the fewest on Sundays. Due to the change of seasons in Maryland, bicycle crashes are most likely to happen May through October with fewer crashes occurring during the fall and winter months. Finally, the majority of bicycle crashes occurred between the hours of 1pm and 8pm.

Bicycle crashes involving children between the ages of 4 and 9 years were most likely to occur between the hours of 5pm and 8pm. Crashes among bicyclists in other age groups followed a similar trend but did not peak as significantly during that period. Similarly, crashes among the 4 to 8-year-old age group peaked during May and June, while crashes among the older age groups peaked during the summer months (June-September).

With respect to road characteristics, bicycle crashes that result in a serious or fatal injury are 1.8 times as likely to occur on roadway segments that include a hill, grade, or curve.

Regarding enforcement, between 2014 and 2016, 29 citations were issued for a violation of Maryland Code §21.1209 - failure of vehicle driver to exercise care to avoid collision with (bicycle, electric personal assistive mobility device [EPAMD], motor scooter). Similarly, 22 citations were issued for a violation of Maryland Code §21.1209(a2) - failure of vehicle driver to pass safely at a distance of at least 3 feet when overtaking a (bicycle, EPAMD, motor scooter).



Task Force Findings and Recommendations

The Task Force defined key priorities for their work in their early meetings. From the onset, it was clear that the question was not merely how to prevent cycling related crashes, but how to expand, improve on, and better utilize infrastructure to encourage and safely accommodate cyclists of all ages and abilities. It was with this orientation that the Task Force engaged the challenge of addressing each topic of their legislated mandate.

In the first two meetings, the Task Force agreed to a strategy to combine brief presentations on legislated topics, followed by in-depth discussion to identify key issues and develop recommendations. The Task Force “Meeting Strategy” that guided the discussion was published on the website and appears along with meeting notes in Appendix B. A summary of the Task Force’s discussion, findings, and recommendations is organized into the following five sections:

1. Legislative Tools and Operations for Bicycle Safety
2. Infrastructure Tools, Guidance, and Performance Measures
3. Site Access and Utilities
4. Education and Outreach
5. Funding

In each of these sections, background information is presented followed by Key Issues and Recommendations identified by the Task Force.

Many of the Task Force’s discussions reiterated the core theme of needing to better support and encourage safe cycling for people of many ages and abilities in Maryland. The Task Force noted that while the more vocal supporters of cycling safety legislation and infrastructure tended to be confident bicyclists, the recommendations needed to help make cycling more safe and accessible to a broader group, including novice or occasional riders. The Task Force emphasized that cycling should be treated as a full and legitimate transportation mode and should present a safe mean of travel for all users – including those riding to school, running errands, commuting to work, or traveling to any number of destinations that the State has to offer.

It was noted in several meetings that encouraging more cycling in the state would in turn result in enhanced safety for cyclists, as they would become more visible and more regularly anticipated roadway users. Driver behavior has been shown to respond more readily to conditions in which bicycling is a more expected element of the transportation system, and particularly where bike accommodation is designed to enable more predictable roadway maneuvers. Finally, the objectives of promoting safe cycling as a transportation option in the State was emphasized as critical to a broad range of other policy and program priorities in Maryland, such as addressing traffic congestion, improving air quality, supporting health outcomes, and providing affordable transportation options for residents who may not have access to transit or automobiles.

I. Legislative Tools and Operations for Bicycle Safety

The Task Force was specifically asked to consider existing guidance and legislation pertaining to the operation of bicycles and vehicles on Maryland roadways. Legislated topics covered under this section include:



- (1) *safety issues related to bicycle operators on highways in the State;*
- (2) *the appropriate operation of bicycles on highways in the State;*
- (3) *the appropriate operation of motor vehicles in relation to bicycles on highways in the State;*

The Annotated Code of Maryland includes several provisions regarding how bicycles should be accommodated and operated in the state. Because the Task Force has been charged specifically with addressing bicycle safety on roadways, much of the legislation relevant to this report has been established under the Transportation Article of the Annotated Code. The following subsections detail some of the defining elements of code that pertain to where and how cyclists can operate on Maryland roadways, and establish key roles and responsibilities for addressing needs and opportunities for cycling access, infrastructure, and operation.

Context: Current Maryland Laws Related to Bicycle Operations and Safety

The Transportation Article of the Maryland Annotated Code (hereafter referenced as “TR”) includes an important and evolving list of definitions differentiating the types of devices and equipment are permissible on different types of facilities. Bicycles are specifically defined as a category of vehicles and sorted into three groups: entirely human-powered, electric bicycles and mopeds. These definitions allow rules and appropriate infrastructure for safety to be provided accordingly. Recently the definition of electric bicycles (i.e., e-bikes) has been clarified to be a type of bicycle provided that they cannot travel over 20 MPH. Also, the definition of highway provided in statute includes both state and local roads. More definitions relevant to the work of the Task Force are included in the Glossary (*see Appendix D*).

General provisions guiding bicyclists’ interactions with other roadway users include the following:

- One bicyclist per bike, unless there are seats to accommodate, such as a tandem bicycle
- Bicyclists cannot attach the bike or themselves to other vehicles for propulsion purposes
- Functioning brakes and reflectors are required
- Front lights and rear reflectors are required in conditions of poor visibility
- Both hands on the handlebars are required
- Headphones and earbuds cannot be used in both ears when cycling

Where Can Bicyclists Legally Ride

Bicycles are considered vehicles in the State of Maryland and can legally operate on most roadways with the same rights and responsibilities as motor vehicles. Bicycle use on sidewalks is generally prohibited by state law (TR §21-1103), except where allowed by local jurisdictions. A 2017 amendment to this general rule however has been made to ensure that cyclists, along with pedestrians and people operating play vehicles, are considered protected users of marked crosswalks.

The Transportation Article [under TR §21-1205.1(b)(2)] mandates that bicyclists use bike lanes when they are available. The law allows an exception to allow bicyclists to ride outside the provided bike lane under certain conditions, such as when overtaking another bicycle, making a left turn, and avoiding debris or other hazardous conditions.

Bicycles are prohibited from travelling on interstates and on select Maryland roadways that were not designed to accommodate bicycle or pedestrian travel and generally within roadways where posted speed limits are greater than 50 MPH. Cycling on the shoulders or bike lanes adjacent to such roadways, however, may be permitted. It has also been clarified that where a bicyclist is lawfully riding on the shoulder adjacent to a roadway with posted speeds of 50 MPH or more, they can enter the roadway if they are making a left turn,



crossing through an intersection or on/off ramp, or maintaining a straight path where the shoulder becomes a right turn lane.

Safe Behavior for People Driving and Bicycling

Avoiding Collisions

Bicyclists and motorists are both required by law to exercise due caution to avoid collisions. In the same section of law (TR §21-1209), specific protections are afforded to bicyclists such as requiring motorists to yield to bicycles in bike lanes and designated shoulders. This subsection also includes a provision known as the Three-Foot Law, which requires maintaining at least three feet of space when overtaking a bicyclist. Exceptions to this rule, however, include provision for when a cyclist fails to keep right or maintain a consistent course on the roadway, in which case a driver would not be held responsible for failing to maintain the requisite three-foot distance.

Ride to the Right

Statute requires (per TR §21-1205) that bicyclists must ride as far to the right side of the roadway as practical and safe when travelling less than the surrounding traffic. Bicyclists may not be required to follow this “Ride to the Right” directive, however, when they are making left turns, operating on one-way streets, passing other vehicles/cyclists, or avoiding pedestrians or road hazards. Cyclists are also exempted from the keep right requirement, when they are traveling in lanes that are too narrow to safely accommodate another vehicle traveling beside them within the lane. Cyclists are also permitted to ride two abreast if the flow of traffic is unimpeded.

Aggressive Behavior Towards Cyclists

Maryland legislation (TR §21-1209 (b)) prohibits anyone from throwing objects at or in the direction of a person riding a bicycle or moped. Two other aggressive actions have been subject to recent legislation by the Maryland General Assembly: “coal rolling” and intentional dooring.

Coal Rolling

In 2017, the Maryland General Assembly passed legislation prohibiting what is generally referred to as “coal rolling.” The law refers to the “intentional release of emissions” which results in a targeted cloud of smoke and fumes in the direction of other roadway users. Bicyclists, pedestrians, and hybrid car drivers are sometimes targeted by this activity, which is hazardous to the health and safety of the other roadway users due to obscured vision and noxious fumes.

Intentional Dooring

Another behavior that is the subject of state legislation is dooring. It is illegal to open a car door into a travel lane with oncoming traffic (including bicycles). In 2010, the Maryland General Assembly also passed legislation prohibiting people in vehicles from opening the door of a motor vehicle *with the intent* to strike, injure, or interfere with a person riding a bicycle. Other aggressive driving behaviors that are generally prohibited for vehicle drivers (e.g. aggressive horn honking, etc.) also apply to interactions with cyclists.

Bicycle Equipment and Parking Requirements

Lights

In Maryland, the use of lights and reflectors on bicycles is required as environmental factors dictate, including at nighttime or in inclement conditions.

Helmets

Statute (under TR 21-1207.1) requires that helmets be worn by cyclists under 16-years of age, (with an exception provided for cycling on the Ocean City boardwalk). Although helmet use can be important to help



minimize head injury in certain kinds of accidents, the value of expanding such legislation to a broader age range has generally not been supported by key stakeholders. A bill to expand helmet requirements to apply to “all ages” had been introduced in the 2013 legislative session, for example, but did not win support of the Environment and Transportation Committee.

Parking

Several provisions in Maryland law clarify where parking of bicycles is permitted. For example, bicycle parking is not permitted within bus or taxi loading zones or where they would impede the flow of pedestrian traffic. Like motor vehicles, bicycles are prohibited from parking within 25 feet of intersections. Maryland law also prohibits locking bicycles to parking meters, unless appropriate payment at the meter is made. Additional bicycle parking prohibitions have been applied by local jurisdictions and private property management firms, many of which are geared to ensure clear passageways are maintained for pedestrians using their facilities.

Mandated Planning and Policy Tools

Although many agencies are involved in promoting cycling as a matter of state and local policy, and many are also involved in the planning and implementation of infrastructure, MDOT bears primary responsibility for supporting cycling as a form of transportation and guiding accommodations on state and local roadways. MDOT’s responsibilities related to planning and policy tools include developing guidance on infrastructure and traffic control devices (discussed further in the next chapter), data collection, performance monitoring and long-range planning. In addition, the following key policy, process, and planning tools have been created by statute to help address bicycle roadway safety within the agency.

Director of Bicycle and Pedestrian Access

In 2000, the Maryland General Assembly passed legislation creating the position of the Director of Bicycle and Pedestrian Access within The Secretary’s Office of the Maryland Department of Transportation (MDOT TSO). Per statute, the position is intended to report directly to the Secretary, and is subject to appointment by the Governor of Maryland. The Director is required to have experience in transportation planning with specialized knowledge in matters relating to bicycle and pedestrian access to transportation facilities. The position is assigned a broad area of responsibility, including policy guidance, plan development, priority area coordination and funding recommendations on bicycle, and pedestrian state initiatives. Statute also mandates that the Director should consult regularly with the Maryland Bicycle and Pedestrian Advisory Committee.

Maryland Bicycle and Pedestrian Advisory Committee

The Maryland Bicycle and Pedestrian Advisory Committee (MBPAC) was created by legislation in 2001, and is comprised of 21 members, all of whom are appointed by the Governor. Membership comprises state agencies (Commerce, Disabilities, Health, Planning, Transportation, Education, and Police) and 13 citizen advocates who represent a range of geographic regions and areas of interest or ability. The MBPAC mandate overlaps with many issue areas assigned to the current Bike Safety Task Force, including funding, education, safety awareness, and other bicycle and pedestrian related issues. The composition of the group; however, is quite different from the Task Force as it is comprised of agencies and citizen advocates, without representation from the industries, jurisdictions, or areas of professional expertise convened by the Task Force legislation.



The MBPAC meets quarterly, as required by statute, and in recent years has also held several additional meetings which are all open to the public and staffed by MDOT. Information on their activities is regularly made available on the MDOT website.

Maryland Bicycle and Pedestrian Master Plan

The Maryland Bicycle and Pedestrian Master Plan was established by statute to help provide policy, program, and infrastructure guidance for the State of Maryland. The plan is developed by the Director of Bicycle and Pedestrian Access on a five-year cycle to coincide with the statewide transportation plan. The Bicycle and Pedestrian Master Plan supplements the Maryland Transportation Plan (MTP) and the Strategic Highway Safety Plan (MSHSP) and specifically addresses a range of issues related to bicycle safety. The current plan dates from 2014 and was developed with significant public and stakeholder input. It presents a full network of on- and off-road routes and includes recommendations that address data, resource development, infrastructure needs, funding and other initiatives. The current plans include safety as a major focus, with progress monitored through performance measures included in the MDOT Attainment Report. Both the Maryland Transportation Plan and the Bicycle and Pedestrian Master Plan are scheduled to be updated in 2019.

Bicycle and Pedestrian Priority Areas

Legislation establishing Bicycle and Pedestrian Priority Areas (BPPAs) presents another mechanism by which local jurisdictions and MDOT are required to coordinate to improve cycling safety. The legislation recommends that potential BPPAs be identified by MDOT as part of the Bicycle and Pedestrian Master Plan, but that local jurisdictions request official “designation” through the State Highway Administration. The statute points toward the need for these stakeholders to identify areas where walking and biking should be a prioritized travel mode. In 2015, the Maryland General Assembly stipulated a timeline for designation of proposed BPPAs. Clarification allowed for locals to designate their own Bicycle and Pedestrian Priority Areas; however, for areas that include a State Highway, application must be made to MDOT SHA who must then respond within a year regarding the designation status.

Key Issue Areas

Members of the Bicycle Safety Task Force were presented with an overview of the above topics and asked to identify key issue areas related to Legislative Tools and Operations for Bicycle Safety. In general, the Task Force discussed how Maryland’s bicycle-related legislation compares to that of other states, particularly those considered leaders in bicycle accessibility and safety. The League of American Bicyclists (LAB) conducts a ranking of states as part of its Bicycle Friendly State program, which includes an assessment of legislation, enforcement, policies, programs, infrastructure, funding, and other factors. The most recent report ranks Maryland in 11th place out of 50 states for bicycle-friendliness. Maryland scores well for having laws that create protections for people who bike and walk (i.e. a safe passing law), an updated statewide bicycle plan, a complete streets policy, and other programs. However, LAB feedback specifically includes a recommendation to amend Maryland’s Three-Foot Law to allow fewer exceptions to the minimum distance requirement, and to repeal the state’s mandatory use of bike lane law.



The Task Force acknowledged that legislation alone is unlikely to lead to significant changes in behavior, and must be paired with strategies covered in other sections of this report. With that in mind, the following key issue areas were identified.

A. Vulnerable Road Users

Some cycling organizations, including the League of American Bicyclists, emphasize the importance of establishing strong guidelines for liability and punishments in crashes involving bicyclists and motorists.

Task Force members suggested an important issue would be to explore whether punishments are sufficiently severe for drivers involved in injurious crashes with cyclists. Recent efforts to pass legislation along these lines have met with limited success. In 2016, for example, the Maryland General Assembly considered a bill which became known as “Ryan’s Law,” which would have required that a driver who is charged with reckless or negligent driving appear in court if their actions may have contributed to a deadly crash. This action was recommended to help underscore the severity of the offense, by requiring more than paying a fine.

Several states have addressed this concern through a “vulnerable road user” law. Vulnerable Road User (VRU) laws commonly define a specific set of road users such as pedestrians, cyclists, wheelchair users, highway workers and other road users who are not in cars, as targets for added protection due to their higher susceptibility to serious injury in roadway crashes. Nine states in the U.S currently have some form of VRU law, which usually involve: 1) harsher penalties for the violation of existing laws when that violation impacts a defined set of road users, 2) a requirement that those charged with such a violation appear in court, or 3) the creation of new laws that prohibit certain actions directed at a defined set of road users.¹

B. Contributory Negligence

Another legislative topic that is frequently cited as a concern related to bicycling pertains to “contributory negligence.” Contributory negligence describes any behavior which may increase the number or severity of damages, both personal and property, when roadway crashes or collisions occur. For cycling crashes, a determination of contributory negligence can directly affect the outcome of any legal or insurance claim to collect damages. There is concern that statutory requirements that may support safe cycling behavior could limit the ability of an injured cyclist to claim damages where this equipment was not used. For example, failure to comply with the vague requirements that a cyclist stay as far to the right as possible could be cited as contributory negligence to deny or diminish payment of damages to the cyclist. To the extent that further legislation is considered to help address such issues, the implications for court action must also be considered.

The Task Force acknowledged that Maryland was one of only four states in the United States to adhere to this principle but also noted that it was in many ways central to how the overall industry in this state was structured.² Full scale reversal would likely have major repercussions to the industry, and such legislation

¹ Vulnerable Road User Laws FAQs, League of American Bicyclists, <http://bikeleague.org/content/bike-law-university-vulnerable-road-user-laws>, November, 2017.

² Rollins, Smalkin, Richards & Mackie, *DC Moves to Comparative Negligence for Pedestrians and Bicyclists*, <http://www.rsr.com/dc-moves-comparative-negligence-pedestrians-and-bikers>



would garner strong opposition. Accordingly, it was recommended that a narrower approach to the issue be explored, to more directly address bicycle safety issues in particular. In 2016, the Council of the District of Columbia unanimously passed the Motor Vehicle Recovery Act, which replaced contributory negligence with comparative negligence in cases related to traffic crashes. The comparative negligence system enables pedestrians and cyclists to recover up to 100 percent of their losses from medical bills and property damages if they are found to be less than 50 percent at fault for a collision with a motor vehicle.

C. Equipment

Although flashing lights on bikes can aid in improving visibility of and for bicyclists, they are not universally used nor universally required. Similarly, helmets may be able to improve outcomes of some crashes, but are only required for cyclists under 16. Although Maryland has explored adding requirements for adult cyclists, research was cited that such laws have not been shown to be effective in addressing safety needs.³ Bicycle advocates also emphasize that mandatory helmet laws can discourage bicycle ridership, particularly for poorer and younger riders.

D. Three-Foot Law

Task Force members observed that the Three-Foot Law is difficult to enforce as currently written. The Three-Foot Law includes an exemption if the highway is not wide enough to lawfully pass with three feet of space. Some bicyclists believe that this exemption interferes with the original intent of the law, which is to improve safety for bicyclists. Several bills have been introduced in recent years to remove the narrow roadway exemption or to allow motorists to cross over a double yellow pavement marking, in order to provide a safe passing distance. None of these bills, however, has been successful. The Task Force discussed the challenges related to allowing motorists to cross over a double yellow line. Specifically, they acknowledged the need for broader consideration of the range of conditions in which this might be permissible (e.g. when passing a stopped trash truck or transit vehicle, or a slow-moving farm vehicle, etc.).

E. Ride to the Right Law

In practice, the Three-Foot Law often conflicts with the Ride to the Right Law. To ensure a more consistent and predictable line of travel, bicyclists often ride away from the edge of roadway to avoid pavement drop-offs, gutter pans, and roadway debris that is common in the outer edge of the roadway. Also, in more urban settings with on-street parking, bicyclists often try to avoid the “door zone” next to parked vehicles causing them to ride several feet into the roadway. For this reason, there are many locations where it is infeasible for a bicyclist to ride as far to the right as practical while still allowing three feet of space for passing vehicles (without crossing over the centerline).

Also, the Ride to the Right Law may encourage bicyclists to ride in the “door zone.” Conversely, those riding further to the left to avoid the “door zone” may be viewed as noncompliant with the Ride to the Right Law.

F. Mandatory Use of Bike Lane

Motorists expect cyclists to use bike lanes where they are provided. For a cyclist, however, there can be valid safety concerns that make the use of such facilities inconvenient or inadvisable. The development of such facilities in many cases is incomplete, such that cycling trips are often disjointed or involve difficult transitions.

³ Research completed by Toole Design Group, based on international safety and helmet usage data.



Also, bike lanes on some roadways (e.g., roads with higher vehicle volumes or speeds) may not be considered comfortable for younger or less experienced riders. In some circumstances (debris, cars parked in a lane, unsafe conditions, etc.) there are legal exemptions provided to cyclists to not use bike lanes.

Recommendations: Legislative Tools and Operations for Bicycle Safety

Based on the discussion and identification of key issues outlined above, the Task Force to Study Bicycle Safety on Maryland Highways developed the following recommendations.

Vulnerable Road Users

1.1 The legislature should define vulnerable road users in statute and strengthen penalties associated with existing violations where these cause serious injury or death of someone in this category.

Note: The League of American Bicyclists has posted model legislation that defines Vulnerable Road Users to include most non-automotive road users, including motorcyclists, wheelchair users, highway workers, and skaters, as well as pedestrians and bicyclists.⁴ The Task Force recommended that Maryland consider this example, and develop an approach whereby violations for causing an injury or death to this group might be addressed with added penalties to include appearing in court and either license suspension, monetary penalties, additional training, incarceration, or community service.

Comparative Negligence

1.2 The legislature should consider legislation modeled on the Motor Vehicle Collision Recovery Act as enacted in Washington DC in November 2016. This legislation provides a specific exception to broader negligence standards to enable a plaintiff pedestrian or bicyclist to recover damages where they are found to be 50% or less at fault in an accident with a motor vehicle.

Note: Task Force discussion indicated that seeking a broader reversal of the contributory negligence in the state may be unrealistic and recommended this limited bicycle and pedestrian consideration. For more information: <http://www.rsrn.com/dc-moves-comparative-negligence-pedestrians-and-bikers> It was also noted that the insurance industry would subject such legislative efforts to close scrutiny and would oppose a more expansive bill.

Three-Foot Law

1.3 The legislature should consider legislation to address exceptions to the requirement that a motorist leave a 3-foot buffer when passing a cyclist. The legislation should specifically address conditions pertaining to narrow roadways, and may need to include allowances for other kinds of roadway obstructions to clarify conditions under which it may be acceptable for motorists to safely cross a double yellow line for safety reasons.

Note: The Task Force discussed previous efforts to pass such legislation, and heard concerns from SHA that bicyclists could not be the only allowable exception to the double yellow line. It was noted that support

⁴ League of American Bicyclists Model VRU law available at <https://bikeleague.org/content/model-vulnerable-road-user-law>



for such a bill will depend on the specific inclusions, and that recent legislation in Delaware may provide a reasonable model. Concerned entities should seek to meet in advance of the legislative session to help shape a proposed bill.

Enforcement

1.4 The legislature should consider legislation to enable law enforcement to use newly available technology to better detect and document non-compliance with the three-foot passing law, and to facilitate enforcement by allowing tickets to be issued to registered vehicle owners by mail if the violation cannot be immediately addressed at the scene.

Note: Members of the Task Force discussed previous concerns with issuing tickets remotely (registered owners may not be driving the vehicle), but noted these issues could be addressed. An example of the technology in question was cited: <http://codaxus.com/c3ft/c3ft-v3/>. Task Force members recommended that the state could facilitate this effort by assisting in the purchase of 3-foot law enforcement technology. MDOT's Maryland Highway Safety Office has available funding for High Visibility Enforcement projects that provide overtime for enforcement efforts and related equipment.

1.5 Law enforcement agencies should work with MDOT (including SHA and MHSO) to develop approaches to strengthen enforcement in high risk areas. This may include consideration of conditions in which mobile patrols, speed cameras and other tools may be warranted.

Note: This recommendation was made in recognition of the importance of speed as contributing to the number of crashes with cyclists and their severity of injury. The Task Force acknowledged that speed cameras were an important but contentious approach to this issue.

1.6 The Maryland State Police should consider establishing a new full-time bicycle unit, to be funded as a new element of their budget. The unit would be able to move from County to County if trouble spots arise. The enforcement would be an effective way to educate those members of the motoring public who are unaware of the 3-foot law and other bicycle safety issues. The State Police unit would be able to focus on those counties that do not have a bicycle unit in the county police or Sheriff's office.

1.7 The legislature should consider legislation to allow state and local agencies to adopt lower speed limits on key roadways targeted for bike safety issues and should adopt a mechanism for state and local agencies to consider lower default speed limits.

Note: The Task Force discussed the current state law, which establishes speed limits of 25-35mph on most local roads, and 50-55mph on most highways (unless modified based on an engineering study). They noted the important link between speed and severity of injury in crashes between bicycles and motor vehicles, and urged reconsideration of allowing lower limits. The Bicycle and Pedestrian Priority Area process may be a mechanism to inform needs analysis related to lower speed limits.



II. Infrastructure Tools, Guidance and Performance Measures

The Task Force was asked to consider the adequacy of infrastructure for bicycles, as well as complete streets strategies that address safe travel for all bicyclists. In addition, the group was instructed to consider issues related to traffic control devices governing the operation and behavior of and towards bicycles on highways in the State. Legislated topics addressed through this section include:

- (1) *safety issues related to bicycle operators on highways in the State;*
- (4) *the adequacy of the current and future capacity and use of bike lanes, bike paths, and protected cycle tracks in the State;*
- (5) *past, current, and future implementation of Complete Streets strategies related to facilitating safe travel for all bicyclists regardless of age, ability, or mode of travel;*
- (6) *issues related to traffic control devices governing the operation of and behavior towards bicycles on highways in the State*

Context

MDOT has a number of existing tools and resources that support, guide, and measure the adequacy of infrastructure in the State. The section below provides an overview of these existing tools and is followed by the Task Force's Key Issues and Recommendations.

Assessment and Measures

Bicycle Level of Comfort

The primary metric used to address the adequacy of bicycle infrastructure is Bicycle Level of Comfort (BLOC). BLOC is a tool transportation planners and engineers use to evaluate the perceived safety and comfort of bicyclists traveling in a roadway corridor. The BLOC methodology that MDOT SHA uses is based on a national, research-based method called Bicycle Level of Service (BLOS). The model generates a score for a roadway dependent on factors such as traffic volume, speed limit, presence of median, number of lanes, heavy vehicles, pavement width and quality, on-street parking, and whether there is a usable shoulder or bike lane. The numeric score resulting from the calculation is translated into a letter grade, A through F, where A is rated as "the most comfortable" and F is rated as the "least comfortable."

SHA has been using BLOC since 2004. In 2016, the methodology was evaluated and updated to improve the accuracy of results. The State has adopted a performance target to achieve a level of D or better for at least 80 percent of eligible state roadways. The MDOT Annual Attainment Report regularly includes an update on the State's BLOC scores each year, as shown in Figure 3. Although significant progress has been made toward the interim goal of 59% by 2017, this falls well short of the 80% goal that had been identified in the 2014 Bicycle and Pedestrian Master Plan.



Figure 3. Chart from MDOT’s 2017 Annual Attainment Report: BLOC and Bike Access Improvements showing improvement in BLOC ratings and an increase in directional miles of improvements for bicycle access.

Transportation Trails Inventory

MDOT adopted the Maryland Trails Strategic Implementation Plan in 2009, which included an inventory of off-road transportation trails and identified gaps in the network. The Plan also highlighted priority needs in the existing network, and provided a strategy to improve connectivity through strategic jurisdictional and inter-jurisdictional links⁵. The Plan defines “transportation trails” as shared-use paths (also called multiuse trails or hiker-biker trails) designed to connect users such as bicyclists and pedestrians, including runners and people with disabilities, to destinations.

2014 Bicycle and Pedestrian Master Plan

The 2014 Bicycle and Pedestrian Master Plan is the overarching bicycle infrastructure planning document for Maryland. The Plan takes a unified approach to infrastructure by addressing both on- and off-road facilities, as well as needs on both state and local facilities. The Plan identified the need to prioritize connections that will lead to increased bicycle trips or improved safety. Many of the goals, objectives and strategies in the Bicycle and Pedestrian Master Plan relate to infrastructure, for example:

- Identify and eliminate short gaps in existing sidewalk and bicycle transportation networks, including pinch points where bikeable shoulders disappear.
- Improve bicycle facilities as part of routine maintenance and system preservation activities.

⁵ MDOT, 2009 Maryland Trails: Strategic Implementation Plan <http://www.mdot.maryland.gov/newMDOT/Planning/Trails/Documents/pdfs/TSIP.pdf>



- Continue to incorporate bicycle and pedestrian safety in professional training opportunities, encourage participation in walking and biking and increase participation in pedestrian safety audits.

As previously noted, Maryland's current Bicycle and Pedestrian Master Plan will be updated alongside the Maryland Transportation Plan with both new plans going into effect in 2019.

Short Trip Opportunity Areas

One essential element of the 2014 Bicycle and Pedestrian Master Plan was the Short Trip Opportunity Areas (STOA) analysis, which identifies areas with higher potential for biking and/or walking. The STOA analysis uses criteria such as the density of households, jobs, schools, and transit stops. It also includes the density of households without access to a vehicle, since these households must accomplish their daily needs using other transportation modes. Each of these factors is considered a predictor of bicycle and pedestrian demand. MDOT uses the STOA analysis to inform the Bicycle and Pedestrian Priority Area program (discussed more below) and to facilitate coordination with other state and local agencies to improve infrastructure and address safety.

The map in Figure 4 shows the results of this analysis in 2014. The darker areas indicate places with high potential for short trips that could be accomplished by walking or biking. These high-potential areas comprise approximately 10 percent of the State's land area, and also reflect where over 80% of Maryland's reported bicycle and pedestrian crashes occurred in the 2006 and 2011 period.

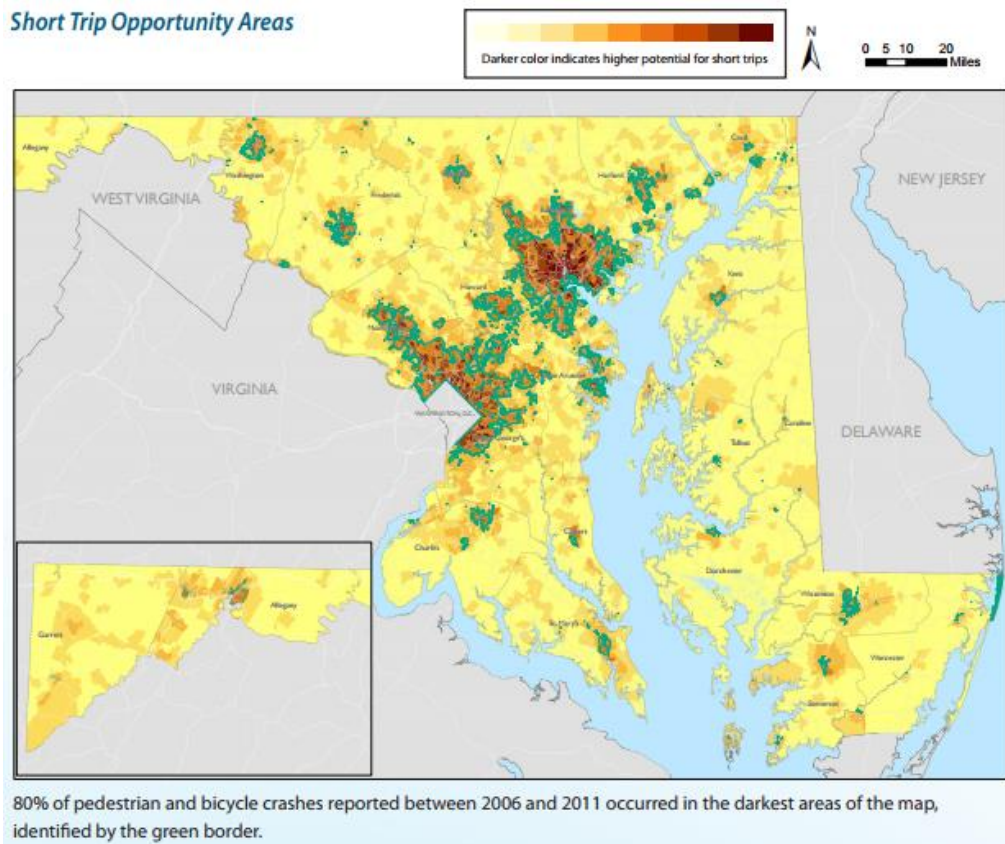


Figure 4. Map of Short Trip Opportunity Areas from the 2014 Maryland Bicycle and Pedestrian Master Plan.

Bicycle and Pedestrian Priority Areas (BPPAs)

As mandated in statute, potential Bicycle and Pedestrian Priority Areas (BPPAs) are areas identified by local jurisdictions as having a high potential for bicycling and walking. The purpose of BPPAs is to encourage state and local coordination of planning for those areas. Local agencies can designate a BPPA, and if that area includes a state highway, the jurisdiction can apply for MDOT SHA designation. Areas selected by MDOT SHA develop BPPA Plans (BPPAPs), which are tailored plans for implementing bicycle and pedestrian treatments that align state, local, and stakeholder goals to expand existing or planned bicycle and pedestrian infrastructure. The desired outcome is a collaborative plan to overcome impediments to bicycle and pedestrian travel regardless of facility ownership.

Annual Attainment Report and Performance Monitoring

The Maryland Annual Attainment Report on Transportation System Performance includes several performance metrics related to bicycle infrastructure and safety. In addition to reporting on Bicycle Level of Comfort, the Attainment Report includes updated figures each year for the number of bicycle fatalities and injuries on all Maryland roads. It also reports the number of directional miles of bicycle facilities provided, with the adopted goal of increasing this figure by two percent annually. As reflected in Figure 3 above, performance on this



measure has actually surpassed the adopted goal of 2%, increasing from a reported calculation of roughly 119.4 directional miles of improvements in FY 2014 to 180.4 miles recorded in FY 2016.

Bicycle “Spine Network”

MDOT is currently developing a bicycle “spine network” for the State, which attempts to connect major activity centers in the best way possible, regardless of facility ownership or jurisdiction. The spine network will be a tool to guide planning and construction of bicycle facilities at a regional level. The process has involved active coordination with state and local agencies. A revised version of the map that addresses stakeholder comments is expected to be completed in Fall 2017. Additional coordination will take place with the Maryland Office of Tourism Development, within the Maryland Department of Commerce, to make sure that the map addresses regional routes, local trails, and important points of interest.

Policies and Guidelines

Context Sensitive Solutions and Complete Streets

Context Sensitive Solutions (CSS) is MDOT SHA’s approach to inform design decisions, build transportation networks, and involve early and active participation of project stakeholders from various professions and points of view. In 1998, MDOT initiated the *Thinking Beyond the Pavement* (TBTP) project – which sought to align transportation planning with land use, transportation needs, and economic development decisions. MDOT then developed *When Main Street is a State Highway* in 2001, which presents a context-sensitive way of developing projects and working with MDOT SHA on highway improvements that reflect community goals.⁶

In 2012, MDOT SHA released a new Complete Streets policy to build on its previous CSS work. The Complete Streets approach “create(s) a comprehensive multi-modal network by ensuring connectivity for vehicles, bicycling, walking, transit, and freight trips throughout Maryland’s transportation system.” As part of MDOT’s broader policy framework (including more recent work on practical design), MDOT SHA’s Complete Streets and CSS efforts help ensure a comprehensive approach to defining the purpose and need of MDOT highway projects, with the overarching goal of balance cost and impact while addressing long-range transportation goals.

Bicycle Policy Design Guidelines

MDOT adopted its *Bicycle Policy & Design Guidelines* in 2013 and released a revised edition in 2015. The guidelines clarify policy implementation to ensure bike accommodations are provided in appropriate and feasible circumstances and following best practices in design. The guidance prioritizes safety and efficiency for all roadway users.

The document provides guidance for on-road and off-road bicycle accommodations, including design guidance for:

- a. Bike lanes
- b. Shared Lanes
- c. Riding Surface and Roadside Features

⁶ *When Main Street is a State Highway: Blending Function, Beauty and Identity, A Handbook for Communities and Designers, State Highway Administration, 2003.* <http://www.sha.maryland.gov/ohd/MainStreet.pdf>



- d. Bicycle Facility Transitions
- e. Bicycle Routes
- f. Shared Use Paths
- g. Bicycle Access at Interchanges and Bridges
- h. Accommodating Bicyclists through Work Zones
- i. Innovative Bicycle Design Features: Cycle Tracks, Buffered Bike Lanes, Bike Boxes

The *Bicycle Policy & Design Guidelines* document also provides guidance on the appropriate conditions for various facility treatments, as shown in Figure 5.

MINIMUM SHOULDER WIDTHS FOR MARKED BIKE LANES		
POSTED SPEED LIMIT	TRUCK VOLUMES (%ADT)	SHOULDER/LANE WIDTH*
≤ 35 MPH	-----	4 FEET
> 35 MPH and ≤ 45 MPH	≤ 8% trucks	5 FEET
	> 8% trucks	6 FEET
> 45 MPH	-----	6 FEET

*The shoulder/lane width is measured excluding the gutter pan.

*Add 1 foot minimum to the shoulder/lane width if operating adjacent to traffic barrier, concrete barrier, a curb without a gutter pan, or on-street parking.

Figure 5. Table of Minimum Shoulder Widths for Marked Bike Lanes

Maryland Manual on Uniform Traffic Control Devices (MD MUTCD)

Another critical document pertaining to the provision and design of bicycle infrastructure in Maryland is the Maryland Manual on Uniform Traffic Control Devices (MD MUTCD).⁷ The MD MUTCD establishes parameters for appropriate use of traffic control devices (e.g., signs, lights, etc.) on all roads open to public travel. The purpose of the Manual is to help ensure consistency across the state and avoid confusion by roadway users. The MD MUTCD is based on the federal Manual on Uniform Traffic Control Devices, though Maryland uses blue text to identify modifications or additions to the Federal MUTCD.

Examples of traffic control treatments described in the MD MUTCD which pertain to bicycling include:

- Temporary Traffic Control Zone Activities (during construction),
- Signals and crossings for at grade rail facilities, and
- Traffic control for bicycle facilities.

The Federal Highway Administration (FHWA) has provided “interim approval” for a number of bicycle facility treatments that are newer, including bicycle boxes, green-colored pavement, rapid flashing beacons, bicycle signal faces, and alternate design for U.S. Bicycle Routes signs. Interim approval means that coordination with and permission from MDOT is essential when using these treatments. FHWA has also designated some other treatments with “experimentation status,” which means that a thorough evaluation process (before and after installation) and close coordination with MDOT is required when using these treatments. Bicycle treatments

⁷ MARYLAND Manual on Uniform Traffic Control Devices for Streets and Highways, Maryland State Highway Administration 2011 Edition. http://www.roads.maryland.gov/mmutcd/2011_rev122011_MDMUTCD_Complete.pdf



with experimental status include two-stage turn boxes, green-colored pavement for shared lane marking, dashed bicycle lanes, and destination guide signs for shared-use paths.

Key Issue Areas

Members of the Bicycle Safety Task Force were presented with an overview of the above programs/tools and asked to identify key issue areas related to Infrastructure efforts, guidance and measures. The Task Force acknowledged that infrastructure is closely tied to the topics discussed at other meetings (e.g., funding, education/training) and recognized that there will be significant overlap in the issues and solutions discussed.

A. Data and Reporting

Task Force members raised questions about whether existing performance measures related to bicycling were adequate. Questions also exist about the current state practice related to two types of data:

a. Crash Data

The Task Force raised concerns about shortcomings in the crash data that is available for evaluating bicycle safety. Currently, a crash is defined as involving a motor vehicle and there is no institutional mechanism for capturing bike-only, bike-bike or bike-pedestrian crashes, near-misses or perceived safety. There is also a lag time in the reporting of crash data that makes it difficult to quickly respond to emerging concerns. Furthermore, when aggregating data to a statewide level, it is difficult to evaluate details related to bicycle crashes, such as common crash types, causes and circumstances. As these systems improve, the Task Force discussed the importance of training police officers on responding to bike-related crashes, to ensure the appropriate data is collected and entered uniformly. (Education and training is discussed more in Section IV).

Last, members of the Task Force asked whether bicycle crash data can be made more accessible to the public. Maryland currently publishes quarterly reports on statewide vehicle crashes via the state's open data portal; however, bicycle crashes are not specifically notated or coded in the report. Some states (e.g. California, Pennsylvania, North Carolina, and Massachusetts) provide this data via online, interactive maps and/or allow users to download map data layers. There are challenges related to providing data in this way; however, including the cost to maintain and update the user interface and the challenge of providing some specifics about each crash (e.g. crash diagrams) in an efficient manner at a statewide scale.

b. User/Ridership Data

Members of the Task Force also raised questions about how MDOT collects and uses data on bicycle ridership. They inquired about user-generated data sources that provide information about where people currently ride, with an emphasis on data from mobile phone applications (e.g. Strava™). While these types of "big data" sources are increasingly used to conduct transportation analysis, the data is costly to purchase at a statewide level. Also, depending on the source, it may only represent a subset of users. For example, Strava is primarily used by fitness cyclists who tend to be frequent and confident riders, meaning that it may include less information from novice/occasional riders. While there are a few state DOTs that have bought Strava or similar data sets (e.g., Oregon, Colorado,



Vermont), their use of the data has been limited to date and focus mostly on informing where automated bicycle counters should be installed. There are also some states that collect/evaluate user data in other ways; for example, through a statewide bicycle/pedestrian count program involving automated counter equipment at select locations.

B. Bicycle Network Connectivity

The current bicycle network, which comprises state roadways, local roads and off-road trails, has been implemented in segments and by many different agencies. In addition, roadway crossings often present unsafe conditions to cyclists on adjacent on-road or off-road facilities, and can present major barriers to safe access. For these reasons and due to limited right-of-way in some places, the network does not always provide a continuous, connected route between key destinations. The Task Force talked about the importance of prioritizing facilities/projects in areas that close key gaps and improve connectivity, particularly inter-jurisdictional connections that may require partnerships between more than one agency. MDOT has two current efforts that aim to identify critical connections for bicyclists: the MDOT SHA Spine Network map and the Trails Inventory that was part of the 2009 Maryland Trails Strategic Implementation Plan. The Task Force discussed the need to coordinate the Spine Network planning with an evaluation of safety and low-stress routes, to ensure that preferred routes are included in the Spine Network and that safety issues on that network are addressed. They also discussed the importance of continued efforts to update and maintain a statewide Geographic Information Systems (GIS) layer of existing bicycle facilities.

C. Targeting Infrastructure Investments

The Task Force discussed the importance of targeting infrastructure investments to the locations where they will have the greatest benefits. Specifically, there was interest in helping target investment towards places with known safety concerns or greater potential for increased ridership, and towards communities with lower incomes and limited access to automobiles. The Short Trip Opportunity Analysis presented in the 2014 Bicycle and Pedestrian Master Plan reflects MDOT's efforts along these lines. These are in turn used to help identify "Bicycle and Pedestrian Priority Areas" as provided for in statute. While MDOT SHA continues to implement these statutory provisions, Task Force members suggested consideration be given to similar efforts in other states.

While safety data is collected for the entire transportation system at a statewide level, there is no program that specifically evaluates the safety of a particular corridor experiencing repeated or concentrated bicycle crashes. The Task Force discussed the need to identify areas appropriate for traffic calming (slower vehicle speeds) and targeted design treatments that lower the likelihood and severity of vehicle-bicycle crashes.

D. "Low-Stress" Infrastructure

The Task Force members discussed the importance of encouraging more people to bicycle by focusing on the development of facilities that are comfortable for novice or new riders. These facilities, commonly called "low-stress" bicycle facilities, typically include lower volume, lower speed roadways where bikes are encouraged or provided with buffered or separated bike lanes, or off-road facilities, generally referred to as trails or shared-use paths. It was noted that SHA, however, has not adopted a protocol for including separated bike facilities within their road rights of way. In addition, although MDOT's BLOC analysis is designed to help identify areas



that are more/less stressful for riders, the mechanism for designing, building, and signing more low-stress facilities in Maryland is not clear to many stakeholders. The Task Force discussed the importance of the trail network in this conversation, including both recreational and long-distance trails. Although there was a suggestion that the State of Maryland should undertake the development of an entire off-road bicycle network for transportation in the state, others pointed out that this may not be feasible or realistic. Task Force members emphasized the need to look to other states for best practices pertaining to low-stress bicycle networks. They discussed the importance not only of low-stress facilities, but also of comfortable crossings (both mid-block and intersections).

Recommendations: Infrastructure Tools, Guidance and Performance Measures

Data/Research

2.1 State agencies should enact Code of Maryland Regulations to clearly distinguish roles and responsibilities between the Maryland Department of Transportation (MDOT) and the Maryland State Police (MSP) for the collection, storage, dissemination, and analysis of statewide crash data collected by law enforcement. Based on open-data policies and national best practices, the MDOT should have responsibility for the public dissemination and analysis of all information collected by the MSP related to crashes on Maryland roads.

Note: Task Force members commented that the current practice which requires agreement by three different agencies is an obstacle to public access and accountability as relates to crash data. It was also suggested that MDOT might work with an appropriate university in the state to help address this need.

2.2 State and local agencies as well as regional entities should collaborate to explore new methods for collecting ridership, exposure data, and non-reported crashes. This should include consideration of automated counters, user surveys, and crowdsourced data.

Note: Task Force members emphasized that crash data is not a sufficient indicator of safety and access needs for cyclists, because off-road facilities are not captured, and areas that cyclists avoid due to safety issues would have low reported crash numbers simply because there are few people biking there. The intent of this recommendation would include helping identify targeted areas for benchmarking and target-setting to address mode split and safety goals. It is not intended, however, to address crash data for mountain biking.

2.3 MDOT should update the “Short-Trip Opportunity Area” analysis and provide data to local jurisdictions.

Note: Several Task Force members identified the need for this type of analysis, and were not familiar with the MDOT effort as presented in the Bicycle and Pedestrian Master Plan of 2014. Others were familiar with the analysis and emphasized the need to update and better disseminate it to local jurisdictions to inform their planning efforts.



Maintenance and Signage

2.4 MDOT should provide local jurisdictions with draft language for local ordinances that can help clarify maintenance responsibilities and expedite construction of bicycle and pedestrian facilities.

Note: The Task Force discussed maintenance issues and statutory provisions legislation at length. Coordinating maintenance responsibilities can present a major obstacle to the construction of new off-road facilities (such as bike paths and sidewalks) along a state roadway. Although some Task Force members suggested a solution would be for the State to more readily assume such responsibilities, it was also noted that in many cases this may not be desirable or practicable. A more immediate need was identified as addressing the process by which responsibilities are assigned, and it was recommended that a more streamlined approach could be achieved by local ordinance.

2.5 MDOT and local jurisdictions should explore best practices for addressing short and long-term maintenance needs on high priority separated bicycle facilities.

Note: Task Force members expressed particular concerns about how maintenance is addressed where separated bicycle facilities are built within the state road right-of-way. Several participants urged action to better enable state agencies to assume this responsibility, but state participants noted several concerns including costs and liability. It was agreed that achieving an equitable distribution of responsibilities on prioritized facilities should be given more serious attention, and that more research on everything from repairs, to snow removal and other maintenance issue should be conducted. Piloting such analysis under the Bicycle and Pedestrian Priority Area process (as noted under 5.3) was highlighted as one approach.

2.6 State and local transportation agencies should consider developing a uniform bicycle route signage system for wayfinding on state and local roads.

Note: A funding mechanism would need to be identified to implement this recommendation.

Identifying Needs/Hot-Spots

2.7 MDOT SHA should expand the use of models that analyze multimodal access as part of its project development and access management process to ensure that the safety of all road users is not compromised by prioritizing vehicle throughput. Development mitigation requests should include consideration of impacts to bike infrastructure and safety and seek to improve these at SHA access points and intersections.

Note: Task Force members were very concerned that the accommodation of cyclists is not given due weight in the development and selection of project alternatives. They emphasized that modeling should reflect an appropriate prioritization for all road users, and should not privilege motor vehicles.

2.8 State and local agencies, in coordination with regional entities, should work to create an updated inventory of trails and bicycle facilities to help identify and prioritize gaps and to assist local jurisdictions with their



bike planning activities. The effort should include consideration of rail and utility rights of way, as opportunities to improve network connections.

Note: Task Force members emphasized the need for better planning tools to assist with planning at the local level, including a consistent statewide GIS inventory of bike facilities. They also recommended that rail and utility rights of way be considered for trail development. Such efforts are in many instances already underway as part of the trail planning process, but could be better identified and prioritized as part of the inventory effort.

2.9 MDOT SHA should consider creating a process for Bicycle Safety Audits, similar to audits for pedestrian safety, to identify and address safety issues in higher risk corridors.

Note: Task Force members expressed concern to ensure that consideration to maintaining trail function and safety be monitored year-round, to include concerns regarding lighting, wayfinding, and maintenance.

2.10 The State and MPOs should work with local jurisdictions to assist in the development of regional trail networks, and to develop projects that connect across jurisdictions.

Note: This recommendation reflects a concern raised by Task Force members that interjurisdictional connections were particularly difficult to address, and may be particularly appropriate for state and regional assistance.

Guidelines

2.11 MDOT should update the MDOT SHA Bicycle Policy and Design Guidelines, and give serious consideration to integrating elements of other best practice documents. Treatments explicitly requested for consideration are as follows:

- *More detailed design guidance for facility types (e.g. MassDOT's Separated Bicycle Planning and Design Guide)*
- *Bicycle-specific traffic signals on, or crossing State roads*
- *Mid-block crossings/HAWK or pedestrian activated signals*
- *Installation of single/bidirectional protected bike lanes*
- *Other items related to low stress bicycle facilities*

Note: The Task Force felt the current design guidelines were not sufficient to address the needs and opportunities to improve safety for cyclists on Maryland roadways. It was suggested that the MassDOT Separated Bicycle Planning and Design Guide would be a good model.

2.12 MDOT should update the guidance related to roadway treatments for Main Street facilities (e.g. the existing MDOT SHA publication "When Main Street is a State Highway"). The update should be based on best practices for context sensitive design guidance for highways that support the surrounding communities.



Note: The Task Force recommendation was intended to address how state highways are addressed in urban contexts, rather than specifically to designated Main Streets. MDOT SHA is encouraged to consider this wider need in responding to this recommendation.

2.13 MDOT should clarify and consider adding flexibility to its process for including bike accommodation for new developments along state roads. MDOT should improve their processes for working with local jurisdictions to ensure that full consideration is given to achieving master planned elements for bicycle accommodation, including dedicated bike path rights of way.

Note: The intent of this recommendation is to ensure that any development impacts are met with appropriate and useful mitigations to address cycling safety and access. Rather than adding a bike lane to a given intersection, for example, the effort could result in improving connections to an off-road trail for bicycle access.



III. Site Access and Utilities

Legislative topics covered under this section include:

- (1) *safety issues related to bicycle operators on highways in the State*
- (9) *the effects of bike lanes, bike paths, and protected cycle tracks on street parking and pedestrian and vehicular traffic flow;*
- (10) *the siting of utilities and other infrastructure along bike lanes, bike paths, and protected cycle tracks; and*
- (11) *best practices for ensuring access to retail, residential, commercial, and other points of interest adjacent to bike lanes, bike paths, and protected cycle tracks.*

Context

The legislated mandate of the Bike Safety Task Force included consideration of how bike facilities are integrated into roadway projects and permitting processes. Particular mention was made of the need to address the siting of utilities and access management considerations. Accordingly, this section provides an overview of how bicycle facilities are considered for integration into MDOT SHA's roadway projects.

MDOT SHA's current policy includes a requirement to consider bicycle and non-motorized access in all projects. The procedures for incorporating bicycle facilities into roadway projects fall into three major categories:

- Major Capital Projects,
- System Preservation Projects,
- Access Management, Mitigation, and Permitting Projects

Major Capital Projects

Major projects generally include a) road and transit projects costing more than \$10 million, b) bridge replacements, c) projects that add more than one lane mile of roadway capacity, and d) projects that are otherwise considered to be *regionally significant*. Generally, these projects will have evolved over many years of land use and transportation planning – having been clarified as needs or opportunities in the local comprehensive planning process, as well as in the Metropolitan Planning Organization's fiscally constrained long-range plan and State Highway needs inventory. Per Maryland statute, a local jurisdiction may request that such a project be prioritized for funding as part of the Consolidated Transportation Program (CTP) by including it in their annual *Transportation Priority Letter*. Priority letters publicly communicate locally-defined needs and support the development of the State's CTP. Per Maryland statute, when an agency proposes that a project be prioritized for funding, they must also justify this request by noting the project purpose and need, and clarifying the project's consistency with goals articulated in the current Maryland Transportation Plan, as well as the Greenhouse Gas Reduction plan and related statewide efforts.

All major capital projects follow an alternatives development, refinement, and selection process to select the final preferred alternative that best meets the defined project needs and goals. The process involves multiple



opportunities for public input as the project is advanced through selecting a preferred alternative through final design, right-of-way acquisition, and finally construction.

MDOT SHA considers inclusion of bicycle and pedestrian facilities as part of the project development process for all major capital projects on roads where bicycles are permitted. Where it is determined that a specific facility to accommodate bikes is not appropriate or necessary, a design waiver may be issued. The level of bicycle accommodation ultimately included in any given project depends on a wide range of factors, including surrounding land use and bike network plans, project goals, public demand for bicycle facilities, and how the facility relates to broader biking and transportation opportunities in the region and state. Inclusion of a specific type of bike facility in a project can be strongly influenced by prior consideration and project planning, or where such facilities have been identified as part of a local comprehensive master plan or bicycle planning process. Final design, however, must also be reviewed relative to the emerging context of the proposed facility – reflecting funding constraints and compliant with current state and federal requirements and/or guidelines.

System Preservations Projects

System preservation projects are generally targeted to address diminished operational performance of a roadway. They are typically initiated as requests from a County or Municipality, or are identified through MDOT SHA's asset management process. As compared with major projects, system preservation projects have a smaller price tag, and are not dependent on statewide prioritization of major capital expenditures. Sample projects include: general maintenance such as roadway resurfacing, spot capacity improvements, upgrade of American's with Disabilities Act (ADA) facilities, roadway retrofit for bicycle facilities, and bridge rehabilitation.

The scope of a system preservation project is developed by the Project Manager and defines a purpose and need that states the primary transportation problem to be solved and the empirical evidence backing the problem. Unlike major capital projects, system preservation projects do not undergo a process to develop and select from multiple alternative alignments, but they do include a public outreach process as part of the process for project development and design.

Bicycle accommodation is considered in the design of system preservation projects, however the defined purpose, need, and scope dictates the project design; and separate bicycle facilities may not fall within the project scope. That decision depends on the land use and bike connectivity context, and the extent to which the addition of such facilities would be consistent with the scope.

MDOT SHA also considers inclusion of bicycle facilities in projects that widen the roadway surface but do not add capacity. In these cases, the decision to add bicycle facilities will depend on other planned or existing bike facilities in the area, as well as whether such a facility could be built within the project area limits and whether it could function independently. Consideration is given not only to adding or enhancing bike accommodation as part of existing roadways, but also to whether a cycle track or shared use path might provide a better option. If a system preservation project does not include roadway widening, the design may only consider non-intrusive bicycle facilities, such as shared lane designation. The exclusion of a bicycle facility in a system preservation project requires a design waiver.



Access Management, Mitigation and Permitting Projects

Development projects, such as the construction of a residential development or redevelopment of a shopping center, that introduces a new access, changes access, or cause impacts to a state road require an SHA-issued access permit and are subject to the State Access Manual guidelines. In addition, local adequate public facility ordinances provide guidance for inclusion of required bike and pedestrian facilities, both along State Roadway frontage and internal to the proposed site. Most proposed developments trigger the need for a *traffic impact study* (TIS) report. The developer is responsible for the study however the state and local jurisdictions help to determine the study scope, which defines the breadth of data collected and the process by which it is analyzed. Through the study, the developer must demonstrate that their development will not degrade vehicle traffic operations below set a standard defined by local Adequate Public Facilities Ordinance (APFO); intersections that fall below local thresholds require developer mitigation. For access permits requested along state roads, the agreed upon mitigation is obtained through negotiations between MDOT SHA and the developer, while other local jurisdictions may require the payment of a traffic impact fee. The TIS is reviewed by both MDOT SHA and the local jurisdiction in parallel with a site plan.

While this process is a check on the land use build-out process to ensure acceptable traffic operations are maintained, it also provides an opportunity for new developments to consider bicycle-pedestrian access and connectivity. It is becoming increasingly common for traffic impact studies to include an assessment of existing non-auto mode infrastructure and connectivity, particularly in urban contexts or where mixed use or transit-oriented developments can be reasonably expected to result in a substantial number of non-auto trips. Such expectations are coordinated as part of the TIS scoping process, and negotiated with local jurisdictions and with MDOT SHA where state highway impacts are anticipated.

Modal Interaction/Relation of Bicycle Facilities

Efforts to accommodate different types of roadway users within a limited right of way must anticipate intermodal interactions and potential conflicts. The fact that vehicles, bicycles, and pedestrians travel at different speeds is a major factor contributing to the frequency and severity of intermodal conflicts. This section outlines key concerns related to the interaction of bicycle facilities to vehicle flow, on-street parking, pedestrian flow, and utilities. It will provide an overview of some critical design considerations, a description of MDOT SHA's decision-making process, and a discussion of some other industry best practices.

Vehicle Flow

Bicycle facilities located outside of the curb line have minimal interaction with vehicle flow, and primarily only interact with vehicles at intersections and driveway crossings. In-road facilities and roadway retro-fitting for bicycle facilities result in the greatest interaction between vehicles and cyclists. Such interaction is assessed using traffic modeling and analysis.

Traffic Modeling & Analysis

Traffic models are used to simulate and analyze current or future traffic conditions and calculate operation performance based on industry standards. These analysis tools, in the project development and access management processes, allow planners and engineers to develop and evaluate alternatives. The operational performance is typically translated to a letter grade for public consumption to allow for project to project comparisons. The letters correspond to ranges of delay experienced by the average vehicle traveling through



an intersection. The grading ranges between a level of service A and a level of service F, where A represents free flow traffic conditions and F represents a demand that exceeds the capacity and there is minimal traffic flow. Most jurisdictions in Maryland set their acceptable level of service to an E or D. (While a level of service A or B sounds desirable, such grades can also be interpreted as inefficient use of resources).

Table 2: Level of Service Ranges for Signalized and Unsignalized Intersections.

Level of service	Average Vehicle Delay range (sec)	
	Signalized intersections	Unsignalized intersections
A	≤10	≤10
B	>10 and ≤20	>10 and ≤15
C	>20 and ≤35	>15 and ≤25
D	>35 and ≤55	>25 and ≤35
E	>55 and ≤80	>35 and ≤50
F	>80	>50

Existing protocols and procedures for estimating traffic impacts normally focus on modeling vehicle flow. If a transportation project includes the analysis of bicycle flow and facilities, the impact of the facility on vehicle flow is incorporated in the traffic analysis as follows:

- Curbside bike lanes are modeled as “conflicting bikes” that can reduce the number of turning vehicles that can progress through an intersection.
- Signal phasing may be changed to provide safer cycling movement through an intersection at the expense of vehicle traffic progression include:
 - No Turn on Red (e.g. used in conjunction with a bike box)
 - Bike-only signal phasing
 - Protected-only turn movements for vehicle

Traffic modeling showing the impacts of converting a general purpose travel lane to a designated shared lane *can* be modeled, but modeling of this type is rare, because it requires knowing the approximate number of cyclists that will avail themselves to a previously undesignated shared route.

Traffic Calming

Inclusion of on-road bike facilities can also have a calming influence on traffic speeds. A reduction in lane width (with or without the incorporation of vertical lane separation/protection) visually influences a driver’s comfort and normally causes a reduction in speed. While impactful to motorists’ delay, this speed reduction is a desirable consequence of retrofitting bike lanes on roadways with wide travel lanes.



On-Street Parking

In practice, removal or provision of curb-side parking is at the discretion of the local jurisdiction and is heavily influenced by public opinion. Maintaining on-street parking can be beneficial as it serves as a buffer between a curbside bicycle facility and the vehicle travel lane. In this case, curb-side parking is shifted towards center roadway and the bicycle facility is placed curb-side. When parking is preserved in this manner, it typically comes at the expense of a vehicle travel lane.

While on-street parking can have a positive impact on a bicycle facility, it can also introduce vehicle-bicycle conflicts. Best practice design provides for adequate buffer space between the parked vehicle zone and the bicycle lane to accommodate a *door zone*. This horizontal separation is typically three feet, enough space to open a car door without encroaching on the cyclist's travel area.

When accommodating on-street parking and bicyclists on a roadway, it may be necessary remove or displace parking spaces – particularly at driveway and intersections – to provide for adequate sight-distance at all potential conflict points.

Pedestrian Flow

While bicyclists and pedestrians are more compatible than bicyclists and vehicles or pedestrians and vehicles, their speed differential does create conflicts. As such, SHA's *Bike Facility Design Guidelines* maintains that paths should have a maximum design speed of 20mph. Maryland law prohibits riding a bike on a sidewalk, unless otherwise allowed by local ordinance (e.g. Montgomery County, Howard County, and the City of Gaithersburg). The best practice to accommodate bicyclists and pedestrians in the same facility is to provide for adequate width to accommodate demand as well as providing for separation for comfort while passing. While current sidewalks are commonly designed to be five to six feet wide, shared-use paths in Maryland are commonly designed to be ten feet wide or greater. Wider paths may be required where high volumes of pedestrians and cyclists are expected, or where side barriers or utilities must be accommodated. Sidewalk and shared use path maintenance along highways is normally the responsibility of the land or facility owner, which in many cases will be the local jurisdiction.

Similar to on-road bicycle facilities, one way to reduce conflict and encroachment, and promote comfort of facility users is to delineate between the pedestrian and bicycle zones. This can be achieved through a visual delineator, such as contrasting surface colors or materials, or a vertical delineator such as a curb, landscaping, or fence. Delineation of sidewalk space is not practiced in MDOT facility design.

A common challenge for projects is to secure sufficient right-of-way for separate bicycle and pedestrian facilities, which often will extend beyond the existing road right-of-way.

Utilities

Utility poles and control boxes can serve as obstacles to cyclists.

Roadway features that are innocuous to vehicles can be obstacles to bicyclists. When retro-fitting or designing for cyclists within the curb lines, it is best practice to consider a cyclist's unique needs. Common roadway elements that influence cyclists may include:



- **Storm Drain Grates.** It is best practice to install bike-friendly grates where the openings are oriented to not conflict with bicycle tires. MDOT SHA pursues such retrofits on their roadways, and the Bikeways Program supports local jurisdictions that need to update their own facilities accordingly.
- **Gutter Pans.** SHA guidelines do not include the width of the gutter pan in the bicycle lane width, but do include it in the width of curbside shared lanes. Because standing water and accumulated debris in gutter pans are obstacles for bicyclists, it is important to consider and budget for regular maintenance and street sweeping of curbside bicycle lanes and curb lanes with high levels of bicycle traffic.

When in-road utilities require maintenance and repair, roadway or lane closures are needed and vehicle detours plans are developed and implemented. If a bicycle facility is along the roadway, the bicycle route requires a detour as well. It is best practice to consider bike facility detours in Maintenance of Traffic (MOT) plans.

Generally, utility placement does not impact off-road bike facilities, as side paths and trails can bend to accommodate existing poles. Best practices to consider when designing off-road facilities are:

- Utilities should be located a minimum of two feet behind the curb
- Design gradual bends in path while maintaining design speed
- Ensure maintaining clear zone within the handle bar area; this is typically around 36' above the surface and obstacles can include signs, light poles, benches, or mail boxes.
- Maintain vertical clear zone – trees, overhead signs, light fixtures, etc.

SHA's *Bike Facility Design Guidelines* contain vertical and lateral clearance requirements for paths.

Utilities Easements as Right-of-Way for Paths

High-voltage power lines, as well as underground natural gas pipelines that cross the State offer an opportunity to provide direct connections between activity centers. Per Maryland law, owners and easement owners are not liable for un-charged recreational uses on their land. However, maintenance (path repair, snow plowing, etc.) would fall to the local jurisdiction or a private/non-profit entity.

Key Issue Areas

The Task Force identified and discussed several issue areas related to site access and utilities, including access permits and bike infrastructure design, right-of-way issues, traffic mitigation, infrastructure along high-speed roadways, and utility easements.

A. Maintenance

Task Force members repeatedly emphasized that lower stress facilities, and fully separated paths and trails can present safer and more desirable places to ride than painted bike lanes on State Highways. They pointed to instances where treatments ostensibly negotiated during development review or permitting process could result in disjointed and unsafe segments of infrastructure, instead of being more strategically invested. – In addition, although protected or separated facilities may be preferred from a cyclist's perspective, provision of such facilities can present major challenges of coordination between state and local agencies. Even where construction dollars can be identified for sidewalks or side paths for cyclists, if it is within the state-owned right of way (but not in the roadway), statute provides that local jurisdictions will bear primary responsibility for



maintenance.⁸ Although some advocate members urged that the state should be able to assume such responsibilities instead, a proposal that would fully address the cost and liability implications of such a proposition, and ensure its equitable implementation across the state has not been developed. Meanwhile, since maintenance arrangements be clarified prior to advancing to construction, and because such details are often handled on a case-by-case basis, this often adds cost and delay to the process.

B. Impacts of Level of Service on Cycling Infrastructure

Another discussion topic related to new development and site access was the use of scarce ROW for turn lanes at the expense of bike infrastructure. The discussion identified the use of level of service (e.g. vehicle delay) being primary factor in intersection design, and that this factor led to unsafe cycling conditions. Task Force members discussed how accommodating the volume or safety of new development car trips consumed available ROW (e.g. turn lanes, deceleration lanes, etc.) for existing and future bike infrastructure. This discussion led the Task Force to the conclusion that more flexibility is needed in the Access Permitting Process and Bike Facilities Design Guidelines. One Task Force member stated that roads should not automatically be widened to meet access permit guidelines because in many cases bike access may be better addressed elsewhere. Members discussed how California has replaced LOS with VMT to accommodate multimodal travel. Another member pointed out that Montgomery County allows for lower LOS (i.e. longer allowable vehicle delay) near metro stations where land use is less auto-oriented and multimodal opportunities exist.

MDOT has developed modeling techniques to analyze multimodal operations. Problems are encountered, however, when there is insufficient bicycle and pedestrian data to inform such models to result in reliable results. A first step in making the models more effective would include improving counting mechanisms as input data to better populate and calibrate such existing models. MDOT SHA's current practice is to collect pedestrian and bike data when counting *intersections* for its Statewide Count Program, but this data is not normally collected along road segments. Another approach pursued elsewhere includes systematic investment in permanent bicycle counters at key locations throughout the state. Although MDOT encourages and supports such investments by local agencies, such efforts have not been prioritized among other transportation projects, for investments on a large scale to address the broader state road network.

The Task Force discussed “fee in lieu” policies and the need to improve state and local collaboration to ensure that bicycle infrastructure is added where it would be most beneficial. It was noted that in some instances such a policy could save the developer money, given that off-road facilities or dedicated easements for sidepaths are cheaper than constructing new on-road bike lanes which require full-depth construction. MDOT does not have a mechanism to administer a fee-in-lieu program, with such fees characteristically leveraged at the local level.

C. Application of State Design Guidelines

Several Task Force members expressed frustration about the current MDOT SHA bicycle design guidelines, noting that the process for using them was not transparent, and that they were generally not sufficient to

⁸ §8–630 Annotated Code of Maryland addresses construction and maintenance of sidewalks and bicycle pathways along urban highways. It states that (with minor exception) after construction, such facilities “shall be maintained and repaired by the political subdivision in which they are located.”



address the needs and opportunities to improve safety for cyclists on Maryland roadways. In response to examples of other approaches to this issue, the Separated Bicycle Planning and Design Guide of Massachusetts Department of Transportation (MassDOT) was highlighted as a good model.

D. Complete Streets

In the course of Task Force deliberations, it was clarified that the state's 2012 Complete Streets policy at MDOT, although developed with multimodal input, was issued specifically by the MDOT SHA Administrator. Implementation of the policy has generally entailed review of projects as they are developed to consider needed safety and access enhancements for cyclists and other roadway users. The Task Force emphasis on targeted investments, however, pointed towards a need to be more proactive and strategic in the approach and include narrowing the waiver process for separated/segregated bike facilities when appropriate. Task Force members also noted that the policy should be strengthened to apply to all MDOT sub-agencies, particularly to include cyclists' accessibility to the transit network provided by the Maryland Transit Administration. Several also noted that although the Maryland Transportation Authority (MdTA), is not a sub agency of MDOT, they too should develop a policy to ensure safe bicycle access on bridges and other major projects, and should also seek to ensure safe crossings for cyclists for controlled access highways. Further, local jurisdictions should also be asked to consider adopting similar bike access and Complete Streets policies, and all state and local agencies should seek to make implementation of these policies more transparent and targeted.

E. Cycling on High-Speed Facilities

Speed differentials presented another major issue contributing to safety concerns on state roadways. The lack of protected bike lanes on high-speed roads can present a major deterrent to even the "confident and fearless" riders. When vehicles are traveling at much higher speeds than cyclists, the difference can contribute to a failure to accurately predict potential conflict zones, and any resulting injuries are a major factor influencing the severity of injury in crashes between bicycles and automobiles.

Another issue area identified for Maryland was that the mechanism to consider reducing speed limits was limited. Industry practice is to use the 85th percentile of measured vehicle speeds as a key factor in setting speed limits. Local land use and context based design are also key factors. It was observed, however, that where cyclists and pedestrians are anticipated roadway users, lower speed limits should be more readily adopted.

Task Force members also observed that changing posted speed limits may not immediately affect driving behavior and that design and enforcement were critical. Some Task Force members requested that the legislature should consider expanding the range of circumstances in which speed cameras could be used to include specific cycling safety areas, and not just school zones and work zones.

Task Force participants, however, also emphasized that by far the best option to improve safety for bicyclists was to create and improve facilities that would physically separate them from motor vehicles. Planning, projects, and policies to help achieve this were highlighted as a major need to improve bike access and safety for Maryland cyclists of all ages.



F. Utility Easements and Rights of Way

Utility lines and rail road rights of ways were highlighted as key opportunities for expanding the off-road network. Negotiating use or property easements for such activities, however, can be difficult to negotiate. Property owners often raise concerns about liability as a reason to avoid entering into easement agreements. By law, however, such landowners are protected from such liability, where they have permitted such recreational uses on their land free of charge.⁹ Another major obstacle to separated facilities for cyclists was related to difficulties in negotiating trail maintenance and repair. State investment in trail or side path construction, for example, is often contingent on reaching agreement with a local entity or trail owner, who must agree to undertake short and long-term maintenance. Protracted negotiations over where and how such maintenance will be pursued, and what levels of liability would be implied, has been cause for many major delays in state projects.

Recommendations: Site Access and Utilities

Based on discussion of the background information, best practices, and experience, the Task Force makes the following recommendations related to Site Access and Utilities.

3.1 Local jurisdictions should be encouraged to explore a mechanism to accept a fee in lieu of improvements on the state roadway to address implementation of master planned bike elements in and around the adjacent area.

Note: Task Force members expressed concern that current access management and design waiver processes often result in uneven and illogical implementation that are ill-suited to a specific context. Interest was expressed for a state level fee in lieu program, however, it was noted that state agencies do not generally have a mechanism for collecting impact fees, which are assessed at the local level. Local jurisdictions may need to pursue legislation (state or local) to achieve this outcome, and should investigate where this has been successfully pursued in other Maryland communities (e.g. Howard County).

3.2 MDOT should adopt a complete streets policy that applies to all of the Department's sub-agencies to ensure that safe bicycle accommodation is considered in all roadway and facility design.

Note: Task Force members emphasized needs related to transit facilities and MARC Service, but suggested all MDOT agencies should be equally involved. Task Force members also emphasized that MDOT's implementation of the policy must be strengthened to help ensure that the safety of vulnerable road users is given due consideration relative to vehicle throughput. They also emphasized the need to be strategic in implementation and to ensure that limited resources are better targeted towards strategic treatments that best advance cyclist safety and access needs from a network perspective.

⁹ Natural Resources Article §5-1104. "...an owner of land who either directly or indirectly invites or permits without charge persons to use the property for any recreational or educational purpose or to cut firewood for personal use does not by this action: (1) Extend any assurance that the premises are safe for any purpose;(2) Confer upon the person the legal status of an invitee or licensee to whom a duty of care is owed; or (3) Assume responsibility for or incur liability as a result of any injury to the person or property caused by an act of omission of the person.



3.3 The Task Force strongly encourages the Maryland Transportation Authority to adopt a complete streets policy.

Note: Some Task Force members endorsed stronger language to address this issue, but it was acknowledged that MDTA is a separate entity from MDOT and does not have representation on the Task Force. They wished to express the opinion, however, that this entity should also adopt a strong policy to ensure exploration of bike accommodation as part of the project development process. They emphasized the importance of bridges in particular due to the longevity of these infrastructure investments.

3.4 Local jurisdictions should be encouraged to adopt complete streets policies to inform projects on their roadways.

Note: Task Force members expressed concern at giving direction to outside agencies (not represented on the Task Force), and noted reluctance to create any unfunded mandates to local jurisdictions in particular. They agreed that encouraging consideration of this policy at a local level, however, was a reasonable recommendation.



IV. Education and Outreach

Legislative topics covered under this section include:

- (1) *safety issues related to bicycle operators on highways in the State;*
- (7) *public education and outreach related to the operation of bicycles on highways in the State; and*

Context

The Task Force received an overview of major public education and outreach campaigns in Maryland, including a discussion of the key players, the content of the messaging, and the major mechanisms by which it is delivered. Although time was limited for exploring the full range of initiatives underway, Task Force members received copies of key materials to inform their understanding of existing practice. The extensive effort in Maryland includes a broad target audience, and relevant training and awareness campaigns are intended to address all roadway users.

Public Education & Outreach

This initial section discusses public education and outreach for the safe operation of bicycles on highways, roadways, and trails. This overview will describe 1) public agencies and advocacy groups participating in, and playing a role in public outreach and education efforts; 2) Initiatives, publications, campaigns, and events supporting bicycle safety; and 3) State and local Strategic Highway Safety Plans (SHSPs).

Participants

Through funding and media campaigns, the State of Maryland is a primary supporter of education and outreach efforts. State Agencies involved primarily include the Maryland Department of Transportation (MDOT), the Maryland State Police (MSP), and the Department of Natural Resources (DNR). MDOT's key business units active in outreach/education include The Secretary's Office (TSO), the State Highway Administration (SHA), and the Motor Vehicle Administration (MVA).

While MDOT is a major player, key outreach to improve awareness and safety also falls to local jurisdictions and advocacy groups. Local jurisdictions typically conduct safety and education outreach efforts through their local fire, police, and public works departments. Local efforts are often highly responsive to local concerns and priorities, and are coordinated with local stakeholders. Local efforts may utilize material made available by government, educational, foundation, and advocacy organizations.

Additionally, the major Metropolitan Planning Organizations (MPOs) have Bike and Pedestrian Advisory groups that coordinate and promote bike infrastructure needs. MDOT coordinates with Metropolitan Washington Council of Governments (MWCOG), Baltimore Regional Transportation Board (BRTB), and the Wilmington Area Planning Council (WILMAPCO), as each of these has bicycle and pedestrian or "non-motorized transportation" advisory committees. For example, for the area represented by MWCOG, the National Capital Region Transportation Planning Board (TPB) has a Bicycle and Pedestrian Subcommittee that advises on outreach and has helped create a prioritized list of the top unfunded bicycle and pedestrian projects.



Advocacy groups include statewide and regional groups as well as many smaller locally-focused and County-focused advocacy groups. These groups lobby for funding and projects and conduct outreach events. Regional advocacy groups include Bike Maryland and the Washington Area Bicyclist Association (WABA). There are also many County- and City-focused groups representing most of the larger counties and cities in the State, including Bicycle Advocates for Annapolis and Anne Arundel County (Bike AAA); Prince George’s County Bicycle Advocacy Group, and BikeMore (focused on the Baltimore Region). Several specific trail and stakeholder groups also inform this process, for example the Maryland Heritage Area Authority (and related tourism-related staff and directors), and other trail advocates. Some of the regional or nationwide advocacy groups include:

- League of American Bicyclists (LAB), a national cycling information, education, advocacy and promotional organization;
- Rails to Trails Conservancy, a nonprofit organization dedicated to using former heavy rail lines to develop a nationwide trail network; and
- East Coast Greenway Alliance, an organization dedicated to developing an off-road protected path along the entirety of the east coast.

Coordination between State/local agencies and their advocacy counterparts is critical to developing effective messaging and to promote safety among drivers, cyclists, and pedestrians.

Initiatives, Publications & Safety Campaigns

Several statewide and regional safety campaigns are active. As presented in early meetings of the Task Force, the Maryland Highway Safety Office (MHSO) coordinates Maryland’s major safety initiative affecting cyclists and others, under the banner of “Towards Zero Deaths”. This initiative has evolved over several years to serve as a call to action for State and local agencies to adopt policies, plans, and actions to reduce the number of vehicle-related fatalities in the State. *Towards Zero Deaths*, has links to the Strategic Highway Safety Plan (SHSP) and relevant statistics and campaigns/resources across multiple categories and causal factors for fatalities on State Highways - impaired driving, pedestrian safety, aggressive driving, impaired driving, motorcycle safety, and seat belt use.¹⁰

*A Cyclist Might Be Someone You Know*¹¹ is a multi-platform advertising campaign, operated by MDOT SHA. This bicycle safety education effort is geared to both drivers and bicyclists, with the campaign asking drivers and bicyclists to:

- Follow the rules and laws of the road
- Anticipate the needs of each other, and
- Remind drivers that every bicyclist is someone’s family member, coworkers and friend.



Figure 6: Example of SHA advertisement for *A Cyclist is Someone You Know*

¹⁰ <http://towardzerodeathsmd.com/>

¹¹ <http://www.sha.maryland.gov/index.aspx?PageId=357>



This campaign is visible through television, social media, billboards, at bus shelters and gas station pumps, as well as on radio.

*Street Smart*¹² is a multi-jurisdictional public education and awareness campaign in the Washington, DC metropolitan area with the goal of changing driver behavior toward pedestrians and cyclists. *Street Smart* is coordinated by the National Capital Region Transportation Planning Board (TPB), and is supported by federal funding. The campaign uses radio, newspaper, and transit advertising on bus and rails systems, as well as enforcement efforts from local police. Using multiple media platforms, *Street Smart* is meant to remind motorists to look for walkers and bikers.



Figure 7: StreetSmart Advertisement on RideOn Bus.

Events

Events throughout Maryland often serve as opportunities to promote biking and bike safety. The most widely-recognized event is Bike to Work Day, which is typically the third Friday in May. In 2017, there were over 50 pit stops for Bike to Work Day in Maryland, with the support of many state, local, regional and private sector partners, including Metropolitan Planning Organizations, MDOT agencies, cycle shops and other private corporations.

Other publicized events include: Local trail rides; ribbon cuttings for new trail segments; and advocacy-sponsored events such as Larry’s Ride in Baltimore County – annual, Baltimore City’s monthly Bike Party, and Howard County’s annual all-club ride. Additionally, educational and promotional booths are used at various state and regional events, such as Artscape in Baltimore; College Park Day; the Maryland State Fair in Timonium; and other various health expositions.



Figure 8: Pamphlet Created by MDOT SHA

Pamphlets and Video Educational Material

Other means for circulating information include various brochures and pamphlets created by MDOT that are available for dissemination and printing by local jurisdictions, advocacy groups, and cycle shops. These brochures provide information on laws related to safe cycling (e.g. 3-foot passing law), as well as instructional cycling tips, such as helmet use and proper hand signaling.



Figure 9: MDOT/MSP Video on Bike Safety

¹² <http://bestreetsmart.net/index2.php>



In 2013, the Maryland State Police (MSP) and MDOT collaborated on a video to enhance awareness among state and local law enforcement officials on rules of the road pertaining to cyclists. The video was intended to address how these rules are interpreted and enforced, and shares some suggestions regarding how to help ensure that crashes are accurately and consistently reported. The 33-min long video was intended to provide continuing education options for law enforcement, although it was not adopted as an integral part of any mandatory training program¹³

State and Local Strategic Highway Safety Plans

Maryland's five-year Strategic Highway Safety Plan (SHSP) guides the funding of traffic-safety related projects. The SHSP is utilized by the State, local agencies, and non-profit groups to address the strategies set forth in the plan for meeting the Toward Zero Deaths goals on Maryland roadways. The effort builds partnerships across a broad range of stakeholders, including local jurisdictions, to help influence behaviors and develop a culture of safety. Bicycle and Pedestrian Safety is one of six integral elements of the State's plan, and MDOT actively is engaged in promoting actionable strategies around these issues.



Figure 10: Prince Georges County's Strategic Roadway Safety Plan Cover

MDOT is working with Maryland jurisdictions to develop local road safety plans to address community-specific traffic issues, such as bicycle safety, and to complement the State's broader plan. The county plans establish overall goals and strategies for reducing fatalities on local roadways. Prince George's County, for example, has recently issued their Strategic Roadway Safety Plan (Figure 10), to help advance these ends.

MVA and Driver's Education

The 2017 MVA driver's education curriculum addresses bike safety and laws via a section on sharing the road with other user types. The curriculum specifically addresses the following cycling-related conditions:

- The appropriate and legal space separation (3 feet min)
- The need to look for cyclists at every intersection.
- The need to make a distinction between young, inexperienced cyclists (i.e. neighborhood cyclists) and more skilled riders found on urban roads.

A video from the Illinois chapter of Bike Safe America is also part of the curriculum. The written portion of the Maryland drivers' test consists of 25 questions randomized from 600 possible ones.

Key Issue Areas

Although Maryland's outreach messaging is strong, there is still a lack of understanding among potential partners about how to best set common goals to coordinate for bicycle safety outcomes. It was noted that some opportunities to address bicycle safety through existing programs are not being fully realized, and that stronger collaboration advocacy organizations and their state and local agencies may be required to resolve this issue. This issue was brought to the foreground as advocates on the Task Force sought support for a "Vision Zero" approach to address bicycle fatalities. The benefits of adopting this approach however, may be

¹³ https://www.youtube.com/watch?v=qIkLQTLfNUM&feature=c4-overview&list=UU9T5bd9B7i72pF_CQOurycA



limited given the overlap in goals and methodologies already being pursued as part of the Strategic Highway Safety Plan's emphasis on "Towards Zero Deaths." As this initiative had been presented previously as part of the important context for the Task Force work, and has already been the focus of major outreach work to many key players at the local and regional level, the primary issue raised by this recommendation was that perhaps cycling advocates have not been sufficiently engaged as partners in implementing this program. The Task Force was introduced to the new staff lead for the Bicycle and Pedestrian Emphasis Area team at MHSO, as a first step in addressing this need.

Other key issues raised by the Task Force focused on training and education needs. With inputs from advocate members, the group prioritized issues related to four primary groups: school children, drivers, law enforcement and other transportation professionals.

A. School children:

Improvements to cycling safety education for school children in Maryland were raised as a key gap and need for the state. It was noted that in Washington D.C., for example, a program had recently been developed for all second graders and was made mandatory across the jurisdiction. Although Maryland has curricula available for schools, the decision of whether and how it is integrated into school curricula are made at the local level. It was acknowledged that in a diverse state like Maryland, an effective statewide program would be difficult to develop. A counter example was drawn by pointing to efforts in Maine, where a mandatory cycling education was developed to be flexible in application.

B. Driver Education:

Several questioned whether the training provided for drivers by the MDOT MVA was adequate, given today's rapidly changing road environments and growing number of cyclists. It was noted that there are varying skill levels among riders, even on urban roads. There was particular concern about the extent to which drivers understood new safe passing distance requirements and more general rules for sharing the road with vulnerable road users. Although Maryland's new drivers' training modules do address bike safety issues, the need for special training for commercial drivers, or for providing updates on changes to the law and the introduction of new road treatments, were cited as potential areas for improvement. A webinar offered in Illinois was raised by one Task Force member as a best practice worthy of broader consideration.¹⁴

C. Law Enforcement:

Although Maryland has tools to educate law enforcement, many of these are outdated. Concerns were expressed about the extent to which reporting officers may not have the training and experience to fully understand the crash context involving a cyclist, and so may not adequately represent the safety issues faced by cyclists when reporting on crashes. Regular updates to ensure they can enforce rules of the road, such as the three-foot rule, are also needed.

D. Transportation/Professionals

Advocate members of the Task Force also expressed the opinion that transportation professionals in Maryland may also require more regular and intensive training to address bike infrastructure and safety. At the

¹⁴ <http://www.bikesafetyquiz.com/>



engineering and planning level, significant advances have been made to address bicycle safety that are not being readily adopted in the State of Maryland. Additional training and experience in bicycle facility design and use was recommended for MDOT and other agencies involved in making decisions about bicycle infrastructure.

E. Adult Cyclists

Cyclists of all ages and abilities should be made aware of their rights and responsibilities while biking on roads and trails. State agencies can work with local advocacy groups, government agencies, law enforcement and others to build awareness and safe practice. Although publications and web-based resources are provided, the Task Force did not have time to fully debate the adequacy of these measures and the role of the respective agencies in producing them.

Recommendations: Education and Outreach

Based on discussion of the background information, best practices, and experience, the Task Force makes the following recommendations related to Education and Outreach.

4.1 MDOT's MHSO should expand partnerships to help implement Maryland's Strategic Highway Safety Plan (SHSP) by engaging concerned stakeholders to participate on the Plan's Bicycle and Pedestrian Emphasis Area Team. In addition, Maryland's jurisdictions are encouraged to develop local strategic road safety plans that address bicycle safety.

Note: The Task Force expressed interest in considering the adoption of a Vision Zero approach to safety issues. Vision Zero sets a goal of zero traffic-related fatalities by 2046. Maryland's SHSP guides the State's safety efforts using the Toward Zero Deaths approach, which aims to reduce traffic-related fatalities by half by 2030 through a realistic, target-setting approach. While zero deaths is everyone's aspiration and ultimate goal, Maryland's Toward Zero Deaths uses specific data-driven targets (based on five-year rolling crash trends) as performance measures to evaluate progress toward this goal. Several major issues identified by the Task Force may be addressed more effectively through stronger engagement of the cycling community in encouraging and supporting the development of local strategic road safety plans.

4.2 The State agencies should collaborate to encourage and facilitate bicycle safety education for school children.

Note: The Task Force acknowledged need to identify more specific partnerships at both the state and local level for implementation but pointed to tools recently developed in Maine as an example. Washington D.C.'s program that required mandatory bicycle safety for all 2nd graders was cited as a model for local jurisdictions to emulate.

4.3 MDOT MVA should consider ways to improve driver training programs to better address bicycle safety issues and to emphasize these issues in driver testing, as well as in training for commercial driving licenses and for driver improvement programs.



Note: Task Force members acknowledged that bicycle safety issues are included in training and testing for new drivers, but emphasized that new interactive and web-based training approaches should be developed. They noted a specific bike education resource developed by the State of Illinois, <http://www.bikesafetyquiz.com/> as a good example. Task Force members emphasized that training should emphasize the importance of retaining legal right of way for cyclists, and that it is illegal for cars, buses and delivery vehicles to be stopped in bike lanes. As bicycles become more prevalent on Maryland Roadways, and different roadway treatments are adopted, MVA should be prepared to proactively address concerns and to educate roadway users.

4.4 The Maryland Police and Correctional Training Commission (MPCTC) should consider developing a bicycle safety law enforcement training course for in-service training.

Note: This could be coordinated with MDOT and should include measures to enhance sensitivity to cyclist safety issues and to help improve enforcement and crash reporting. Ideally, this training would be mandatory for law enforcement personnel.

4.5 Maryland should strengthen its outreach and education related to bicycle safety, with broadened campaigns targeting bicyclists, drivers, and pedestrians. New or enhanced funding sources should be pursued to help deliver this message.

Note: Task Force members noted that adult cyclists, as well as others, needed stronger outreach and educational materials to encourage responsible behavior on the roadways. Advocate organizations, as well as state and local agencies, can make better use of existing funds and opportunities to help deliver this message.

4.6 MDOT should enhance bicycle safety related training for engineers and planners in all relevant divisions, and ensure that bicycle planning expertise is clearly identified and reflected in the staffing of its State Highway Administration District Engineering offices.

Note: Although the original recommendation emphasized planners within SHA, the recommendation was altered to include other agencies at the state and local level and to include engineering professionals. Pennsylvania's statewide training program was cited as a potential model. Training should also be more readily available to local jurisdiction staff. It is recommended that cities and counties consider designating a point person to address bicycle issues.



V. Funding

Legislative topics covered under this section include:

- (1) *safety issues related to bicycle operators on highways in the State*
- (8) *potential funding sources to support and encourage the safe operation of bicycles in the State;*

Context

There are multiple funding sources at the federal, state, local and from the private sector that can be used to address bicycle safety including support for planning and building bike-related infrastructure. This section provides an overview of federal funding sources; highway safety grants; state funding sources; and other sources, as well as their applicability to funding, planning, design, construction, or maintenance of bike facilities.

Federal Funds

The use of federal transportation funding for bicycle safety and infrastructure is conditioned by provisions in the national-level authorization for surface transportation. The current federal level legislation is known as the Fixing America's Surface Transportation (FAST) Act, and was passed in December 2015. The authorization establishes program structures and allocation levels, and includes specific programmatic allocations that states may use to support cycling infrastructure. Although recent authorization bills have given added flexibility to how states use this part of their federal allocation, MDOT has thus far joined the ranks of those agencies that elect to sustain their use of this specific federal allocation to support key discretionary grant programs that have been key to advancing bike-friendly infrastructure. MDOT administers federal funding through key discretionary grant programs including the Transportation Alternatives program, the Safe Routes to School program, and the Recreational Trails Program (RTP). Due to recent changes in these programs, several of Maryland's Metropolitan Planning Organizations also play a role in the selection of projects in their areas; National Capital Region Transportation Planning Board, Baltimore Metropolitan Regional Council administer and award some TA grants. In Maryland, however, MDOT SHA maintains responsibility for the administration of funds, and the related challenges of ensuring that projects comply with often complex federal funding mandates.

Projects are required to comply with ADA, NEPA, Davis-Bacon wage rates, Buy American, and other applicable federal regulations. Federal grants require a 20% match by the grantee.

Generally, this funding stream is targeted to enhance transportation options and is subject to an annual solicitation for projects from across the state in a competitive process.

The Transportation Alternatives (TA) Program is intended to support projects that enhance accessibility options for non-motorized travel, or help mitigate/support resources that are affected by the roadway system. Funding can be awarded to an array of project categories, including on- and off-road trail facilities, safety enhancements, rail corridor conversion, historic preservation and rehabilitation, and environmental mitigation. In Maryland's urbanized metropolitan areas (3 of Maryland's 7 Metropolitan Planning Organizations also serve as transportation management areas), these entities also play a key role in evaluating



and selecting area projects for funding under this program allocation. Local governments, regional transportation authorities, transit agencies, natural resource or public land agencies, school districts and local education agencies, tribal governments, or other local and governmental entity with oversight of transportation or recreation trails are eligible to apply for TA funds.

The Recreational Trails Program provides federal funding to support the construction or maintenance of trails and trail heads for use by bicycles, pedestrians, and off-road recreational vehicles (e.g. snow mobiles and all terrain vehicles). Eligible grantees include state and local agencies, and non-profit organizations. Maintenance activities, equipment purchases, and certain education activities can be funded through this program.

SRTS projects are those that provide education or infrastructure to support biking and walking in the vicinity of elementary and middle schools. Local jurisdictions and school districts are eligible for funding. Examples of applicable bike safety projects include:

- Traffic calming and speed reduction improvements
- Bike/Pedestrian Crossing Improvements
- On- and Off-Street Bike/Pedestrian Improvements
- Bicycle Parking

Highway Safety Grants

Federal funding is administered by the MVA Highway Safety Office to provide Highway Safety Grants. Allocation of funding is based on crash data and requires a local match for eligible grantees – a category that includes state agencies, local/county jurisdictions, law enforcement agencies, and non-profit organizations. Highway Safety Grants are designed to address traffic safety issues through education and enforcement. Examples of activities funded include programs such as:

- Driving under the influence checkpoints
- Seat belt/child safety seat education programs
- Crosswalk enforcement operations to increase driver compliance for yielding to pedestrians
- Support police training for highway safety/enforcement

State Funding

There are several State-funded programmed and discretionary grant sources that can support improvements to bicycle access and safety:

- MDOT System Funds (SHA and MTA)
- MDOT's Maryland Bikeways Program
- Other State Agencies' Sustainable Communities and Program Open Space Investments

The Consolidated Transportation Program (CTP) is the State's 6-year plan for funding transportation projects. System funds committed to projects via the CTP include specific allocations for projects across all of MDOT's business units. Two relevant system funds under MDOT SHA include: *Fund 84, Urban Reconstruction* – to construct sidewalks in urban priority funding areas; and *Fund 88, Retrofit Bicycle Program* – to construct on-



and off-road bike facilities. For Fund 88, there is a local match required for off-road facilities along State Roads. These system funds are allocated based on the existing pipeline of prioritized projects.

The Maryland Bikeways Program was created in 2012 to address gaps in the existing funding programs, and receives an annual allocation at the discretion of the Transportation Secretary. The program involves an annual competitive process to fund design, construction, and minor retrofit projects that improve safety and connectivity of the State's bicycle transportation system. The program aims to fill missing links and enhance last-mile connections to work, school, shopping, and transit destinations. Bikeways Program projects must be located substantially within a Priority Funding Area, or within 3 miles of a rail transit station or major bus transit hub to be eligible for funding. State and transit agencies, MPOs, and local jurisdictions are eligible for funding, and up to 50% in matching funds may be required, depending on the type of facility constructed and its location.

The Maryland Department of Natural Resources (DNR) manages the state's trail network within Maryland's state park system, and also administers the State's Program Open Space (POS) program. POS can help provide funding and technical assistance to local jurisdictions for planning, ROW acquisition, and development of recreation land or open space areas and can be an important resource in helping construct and maintain trails.

Other Funding Sources

Other federal, state and private funding sources are available to support cycling infrastructure. Federal grants available include TIGER grants, CMAQ funds, and FLAP funds. The Transportation Investment Generating Economic Recovery (TIGER) program is competitive and provides funding for larger projects of regional significance. Although targeted at projects with broad, regional economic impact, MDOT has been relatively successful in helping ensure such investments also address needs and opportunities for cyclists. Major successes include funding for completion of the Anacostia Riverwalk Trail (completing the key Kenilworth section to connect into DC), and collaboration with the City of Baltimore to address multimodal access needs in the North Avenue Corridor. The Congestion Mitigation and Air Quality Improvement (CMAQ) Program was created to help surface transportation projects that reduce air quality and provide congestion relief. CMAQ is administered by The Federal Highway Administration (FHWA). The Federal Lands Access Program (FLAP) is designed to improve transportation facilities that provide access to, or are within, federal lands. Funds are allocated to the States using a formula based on road mileage, number of bridges, land area, and visitation and FLAP funds are awarded to projects via a competitive process. FLAP funds can be used for trails, trail access and maintenance.

Other relevant State of Maryland grant opportunities include: the Community Legacy Program administered by the Maryland Department of Housing & Community Development (DHCD); Maryland Heritage Areas Authority (MHAA); and Community Development Block Grants (CDBG), which are federally funded, but administered by the State's Department of Housing & Community Development. The Community Legacy Program while focused on promoting homeownership and community revitalization – has also been used to help address bike and pedestrian related infrastructure and streetscape improvements within eligible designated



Sustainable Communities.¹⁵ The Maryland Heritage Areas Authority also supports important investments related to heritage tourism, which in many instances may include consideration of trail development and bicycle access.¹⁶ It was also noted that Community Development Block Grants (CDBG) can be used by state and local housing agencies to support sidewalks and bike lanes, as appropriate to support broader objectives of improving quality of life and opportunities for lower income residents.

Municipalities and counties bear responsibility for bicycle planning on their own networks. In addition to using above state and federal programs, they can fund bike infrastructure projects by programming them into their Capital Improvement Plans (CIPs) or (where permitted by law) by collecting impact fees from developers during negotiation, or as a condition of a zoning change or variance request (e.g. parking below required minimums). Home Owners Associations are also a source of funds for trail infrastructure. In some instances (such as in Columbia, MD) bicycle paths funded by collective dues of private owners toward HOAs, are generally available and open for use by the broader public.

Eligible Activities for Funding Programs

Not all grants are applicable to every phase of an infrastructure, nor are they all eligible for education, maintenance or right of way acquisition. The following matrix highlights where each grant can be applied:

	TA F	SRTS F	RTP F	Bikeways	SHA Retrofit	MVA/ MHSO F	POS	TLC F
Concepts & Planning								X
Bicycle Master Planning								
Refine the concept				X	X			X
Secure Right of Way							X	
Design	X	X		X	X		X	X
Permitting	X	X	X	X	X		X	
Construct	X	X	X	X	X		X	
Maintain			X				X	
Educate & promote		X	X	X		X		

Figure 11: Funding Eligible Activities Matrix

¹⁵ MDOT is a very active partner in the Sustainable Community designation and strategic investment process. While focused on more general goals of revitalizing existing neighborhoods and commercial areas, cycling and pedestrian amenities are consistently an important part of this process. MDOT works with state and local agencies through this process to actively promote consideration of bike safety and access at the local level, and to encourage participation in strategic investment towards these ends. The 2010 Sustainable Communities Act defines Sustainable Community Areas as places where public and private investments and partnerships achieve: development of a healthy local economy; protection and appreciation of historical and cultural resources; a mix of land uses; affordable and sustainable housing, and employment options; growth and development practices that protect the environment and conserve air, water and energy resources, encourage walkability and recreational opportunities; and where available, create access to transit.

¹⁶ For a list of designated areas, see: <https://mht.maryland.gov/heritageareas.shtml>



Key Issue Areas

A. Funding Gaps

As shown in Figure 11, support for bicycle planning at the master plan and conceptual level is not strongly supported by discretionary grant programs. Local and state agencies must determine the relative priority of these needs relative to other claims and needs associated with their limited planning resources. Grant funding is also generally not a good source for addressing regular maintenance issues for cycling infrastructure. Identifying sources and strategies to secure right of way (via purchase or easement, etc.) is also typically the responsibility of the jurisdiction sponsoring the project and is often a prerequisite for receiving competitive funding for project construction. Existing grant opportunities are generally structured around the assumption that local commitment to address other project elements should be a prerequisite to any commitment of taxpayer dollars towards project design, engineering and construction. Project sponsors, including state, local and sometimes federal agencies (National Park Service), are generally required to demonstrate strong support for the longer-term viability of a project, through developing projects as part of their bicycle master planning efforts and transportation plans, by conducting all necessary outreach to ensure it will be well integrated into the local community, and that all right of way and maintenance needs will be met.

B. Local Staffing and Barriers to Federally-funded Grants

Technical expertise is needed to design and implement bicycle infrastructure projects, as these may involve complex engineering challenges, right-of-way transactions, or legal expertise. Smaller jurisdictions may not maintain technical expertise on staff and may have difficulty preparing competitive grant applications. Additionally, Task Force members stated that agencies often avoid applying for federally-funded grants because the requirements for procurement and reporting are excessively burdensome. Grants requirements are similar irrespective of the size of the projects, making them a significant barrier to addressing smaller bicycle projects. The Maryland Bikeways Program was created in recognition of these challenges, but was not funded or structured with capacity to address major construction projects. With larger grants generally available from federal funding sources, those jurisdictions instead are limited to comparatively smaller state sources of funding.

C. Need for Additional Bike Funding

Task Force members discussed the League of American Bicyclists' (LAB) state bike-friendly report card for 2017 that was released on October 25, 2017¹⁷. The report ranks Maryland as #11 in the nation in terms of bike friendliness, and cites as one key criteria, that Maryland spent less than 2% of their federal allocation on bicycle projects. The LAB report card looks at a limited number of federal programs and uses the percentage of bike-related allocations as a measure of how "bike friendly" the state is. The 2017 report card shows Maryland spent only 1.4% of their federal allocation on bicycle projects, whereas LAB's threshold of "friendliness" is set at 2%. The LAB methodology may undercount how the state uses federal funds (e.g. as relates to transit). Additionally, MDOT has explored the use of several funding sources to support bike infrastructure, and observed that in many instances, state level funding is a preferable source for minor bike infrastructure improvements. The Task Force recommended review of the report findings.

¹⁷ See: <http://bikeleague.org/content/ranking>



Recommendations: Funding

5.1 MDOT should improve the administration and utilization of federal funding programs to identify opportunities to improve performance in developing bicycle network infrastructure. MDOT and local jurisdictions should work to attract additional investment in bicycle infrastructure from federal and private sector sources.

Note: The Task Force acknowledged that existing funding sources are not always effectively utilized. The intent of the program evaluation would be to explore potential amendments to programs to address the timing, predictability, and complexity issues faced by project sponsors in securing and managing grant funding. It was noted that further technical assistance may be necessary to improve project development and implementation.

5.2 MDOT in coordination with other state agencies, should work to develop technical assistance tools to assist local jurisdictions and other stakeholders to address the challenges of developing and implementing bike safety related projects.

Note: MDOT has developed some new training modules in recent years, but recognizes that many local jurisdictions still often lack capacity to address project needs. MDOT agencies should collaborate to develop new tools to help potential applicants improve planning, project development, engineering and grant management capacities for better utilization of existing grant programs

5.3 MDOT SHA should consider using the Bicycle Pedestrian Priority Area (BPPA) designation as a mechanism to pilot a set of low stress and/or emerging bicycle facility types including protected bike lane projects on state roads, to clarify maintenance needs and practices for a variety of configurations, and to explore flexibility for state and local coverage of maintenance needs.

Note: See also recommendations regarding maintenance under 2.5, and regarding speed considerations of the BPPA process as included under 1.6.

5.4 MDOT should consider expanding program allocations for bicycle infrastructure on the State transportation network to address bike safety and access needs more directly and consistently. Specifically, consideration should be given to how more Transportation Trust Fund resources might be dedicated to expanding bike safety and access improvements for both roadways and transit; to augmenting allocations to existing programs (such as Bicycle and Sidewalk Retrofit), and to directly supporting project investments to address bike accommodation on transit and to help implement Bicycle and Pedestrian Priority Area (BPPA) Plans.

Note: See also note included under 6.7, regarding the existing process for shaping the Consolidated Transportation Program.

5.5 MDOT should consider expanding and consistently funding state discretionary programs such as the Bikeways Program to better assist local jurisdictions in planning and building infrastructure that improves bike safety and increases bike mode share. Particular consideration should be given to address needs to support larger projects, and to ensure greater continuity and predictability of funding sources over time.



Note: The intent of this recommendation is to address bicycle access needs of all scales including local, regional, and state. Consideration of how the funding streams are structured should also reflect concerns regarding project phasing and strategies to help streamline implementation.

5.6 Local jurisdictions should explore the use of local ordinances (e.g. Adequate Public Facility Ordinances), impact fees, user fees, parking revenues, home-owners' associations, business improvement districts, Transportation Management Zones, etc., to help fund and build bicycle infrastructure.

Note: This effort may include coordinating with MDOT SHA to ensure improvements related to traffic impacts on state roadways are also addressed with appropriate bicycle facilities or that a fee in lieu approach is properly structured to best address this need.

5.7 Local jurisdictions should be encouraged to include bicycle and pedestrian projects in their annual priority letters to MDOT to inform the process for allocating state transportation funding.

Note: There have been several legislative initiatives in recent years regarding sources and uses of the Transportation Trust Fund. Task Force recommendations are not intended to function as a substitute for the established project prioritization and budget process, but are suggested for supplemental consideration. Stakeholders can help ensure that bike safety projects are considered for funding by urging local officials to include them in the county priority letters that help shape MDOT's Consolidated Transportation Program (CTP).

5.8 MDOT's MHSO should promote grant funds to support overtime for law enforcement to address bicycle safety. Overtime could be directed toward enforcement efforts for violation of the 3-foot law, as well as toward educating drivers on sharing the road with bicyclists and educating cyclists on rules of the road, the need for lights/reflective clothing, etc.

Note: It was acknowledged by Task Force members that bicycle safety issues were part of a much broader issue of roadway safety as addressed in the Strategic Highway Safety Plan. Pedestrian fatalities in particular were noted as a growing concern in the state as well.

5.9 MDOT and other stakeholders should proactively engage their Congressional representatives in advocating for greater flexibility and increased funding levels for bicycle infrastructure projects. State and local actors should advocate for augmenting and streamlining federal grant programs that can be used to improve bicycle infrastructure, as part of any appropriate bills, as well as in the upcoming Surface Transportation Re-authorization Bill (The current bill is set to expire in 2020).



VI. Conclusion and Next Steps

Task Force members expressed their appreciation for being able to convene around these important issues, and commends all of the stakeholders for their input and support. They noted that this intensive conversation was but one (albeit a productive one) of several broader, ongoing efforts that must be pursued to ensure that proactive initiatives are pursued to create a safe, robust cycling network for the State.

The statutory mandate that informed the Task Force work was both challenging and extensive. In retrospect, many participants expressed that although they were pleased with the outcome, there were some important issues that did not get a full vetting, as well as some items on which consensus could not be reached. In some instances, they observed that key stakeholders were not fully represented at the table, while in others, only limited consensus could be reached, in which case the Task Force sought to help identify a productive direction for further action.

It is important to note that the group achieved early consensus on a some big-picture concepts, including an early point of emphasis that providing adequate infrastructure may be the most important measure to address bicycle safety. Where appropriate, the Task Force sought to make their corresponding recommendations as specific as possible. Several topics were less straightforward, however, including, for example, a debate on whether the design waiver process was either too flexible or not flexible enough. In such instances, the recommendation language may have been left somewhat ambiguous, to reflect only the extent of agreement achieved.

Due to the diversity of perspectives and the complexity of issues, some important issues simply could not be resolved within the allotted timeframe. Effort has been made to reflect differing opinions throughout the report to the extent possible, but reference to notes from meetings and other inputs in the appendices are recommended to reflect the full range of debate. Specifically, Appendix A includes a list of issues that Task Force members noted may require further attention, as well as a summary of all public input received over the course of the Task Force proceedings. Readers are also encouraged to consider Appendix E, which reflects public input on the draft version of this report.

Feedback on the draft report included several competing observations, like comments about how the ending list of recommendations was either too short, too long, or that the list was insufficiently prioritized for implementation. Overall, however, many Task Force members expressed their satisfaction with the process, and commends serious consideration and action on the recommendations in the report.

The Task Force members request that members of the Maryland General Assembly and all responsible parties give serious consideration to this report's findings, and take quick and decisive action to implement the recommendations. Although some items can translate into direct legislative action, many others must be taken forward by state and local agencies as part of their ongoing planning, policy, and budgetary actions. In particular, follow-up should be pursued as part of the ongoing effort to update the Bicycle and Pedestrian Master Plan for 2019, and actions should be considered to help advance existing strategies in the Strategic Highway Safety Plan. Updates are clearly called for on several guidance documents as well, and proposed



planning, process, and budget changes should be shared with all responsible parties to ensure appropriate action.

Finally, the group also urges the strengthened coordination of State and local agencies in advancing the recommendations outlined in this report. Enhanced coordination for both planning and implementations is critical to the broader mission of improving the safety of all roadway users, and to enhance cycling as a safe and attractive transportation option for Maryland residents.

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Appendix A: Supplemental Material and Public Input

Additional Task Force Member Comments and Observations

Task Force members were asked to submit any final observations or concerns upon reviewing the initial draft version of the Recommendations Report. Following are a few points that emerged during the review:

Planning: Planning resources were identified as a gap in the funding section, but specific solutions for this were not presented. In practice the devotion of limited planning resources at the state, local and regional levels is left to the discretion of elected officials and agencies who prioritize issues for agency attention. The recommendation for enhanced training options may present the best approach to enhance sensitivity to the issues outlined here within existing constraints.

Metropolitan Planning Organizations: It was noted that MPO's play an increasingly important role in developing and prioritizing bike infrastructure projects, and that as recipients of federal funding, they also have planning resources that could be devoted to this issue. MPO's did not have representation on the Task Force, but are important partners in addressing many of the issues outlined in the Report.

Funding: Some Task Force members noted the cost implications of many recommendations and noted that no mechanism was identified for cyclists to contribute to addressing these needs. The Task Force did not have time to debate this issue specifically, but had also emphasized the economic, environmental and health benefits of cycling, as mitigating factors. Aside from recommending greater effort to attract federal funding for bike infrastructure, no new sources to address infrastructure needs were identified.

Economic Impact: Some Task Force members emphasized need for a study to show economic impact of bike infrastructure. The intent of this recommendation would be met in part by the program evaluations, however the importance of bike infrastructure for business and tourism are topics that are less directly associated with the safety focus of the Task Force and should involve stakeholders who are not represented on this effort (e.g. Maryland Department of Commerce - Office of Tourism Development and the Maryland Department of Natural Resources).

Complete Streets Policy: Some Task Force members were concerned that emphasizing complete streets as a policy may not be realistic or feasible, and might serve to undermine the Task Force objectives to emphasize more targeted infrastructure investments where they would be most appropriate and useful. Although time did not allow for specific approaches to implementation to be considered, the recommendation as stated builds from an interpretation of "complete streets" that does not imply that bike lanes should be added anywhere and everywhere on the road network, but rather that bike accommodation should be considered, and appropriate infrastructure investments should be targeted to where they will best serve the need for safety and access of all roadway users.

Adult Cyclist Education Measures: Some Task Force members observed that there had been insufficient time to consider the scope of existing educational materials oriented towards adult cyclists, and to consider the efficacy of their content and modes of distribution. Outreach and education were recommended for further consideration by other groups and processes (such as through the SHSP, advocacy organizations, and MBPAC as well as agencies).



Advocacy: A large number of recommendations are targeted towards state agencies; however, as was discussed during the Task Force meetings, advocacy organizations are critical partners of state and local agencies in bike safety outreach and education messaging. It was observed that further action might be needed to strengthen the capacity of these organizations to collaborate on achieving these outcomes.

Public Input from Meeting 1

Several members of the public shared their perspective on the Task Force's mandate. Specific issue areas included the need to coordinate engineering, education, and enforcement around vulnerable users and areas, for example school children. Another point of emphasis included support for an emphasis on infrastructure, and need for targeted investment where needed instead of merely addressing roadway improvements as they arise.

Public Input from Meeting 2

No public comment at meeting.

Public Input from Meeting 3

Members of the public raised concern regarding how bike facility maintenance is treated under current Maryland law. It was suggested that the law prohibiting MDOT SHA from maintaining bicycle facilities within the state right of way, and the obligation that local jurisdictions or other project owners otherwise commit to perform this function, had resulted in important projects not being built.

Another attendee followed up on the complete streets discussion and urged that the Maryland Transportation Authority, in particular, should be asked to adopt and comply with a complete streets policy for all facilities, with the exception of Interstate 95.

A physician, Dr. Bruce Kinzinger, MD, attending the meeting expressed satisfaction for the quality of the dialogue, and emphasized the importance of the work being considered. He noted biking as particularly important from a health perspective and stated that 90% of diabetes cases are lifestyle-related. He urged that the state support partnerships with community colleges and high schools to support the construction of bicycle facilities around community colleges and high schools. Dr. Kinzinger subsequently followed up these comments with the following additional input:

Dear Task Force members:

Thank you for your dedicated efforts in attending the task force meetings. I was only able to be there October 12th and November 9th, but was very impressed with the quality of the exchange each time, to improve safety and access for the vulnerable road user, and all of us who would like to get out there on bicycles, but care too much about our lives to do so. Many good ideas surfaced, and I hope they can be funded and put into practice. I'd like to propose that \$30M be earmarked from the state budget every year to advance the work that you have discussed for the "active road user." This is about \$5/ year for each state resident. Colorado spends this amount per person, and is making great headway. Other states are making similar investments. Where will Maryland stand? Ideally, this \$30M state budget would be overseen by groups that would assure that we are maximizing meaningful advances in infrastructure from this investment.



Many residents cannot afford a gym membership, or they want to be outdoors. Their bikes are rusty and dusty from disuse, or it is in a landfill... they cycled years ago, and somewhere along the way it just got too unsafe.

According to brand new hypertension guidelines this week from the American Heart Association, 46% of Americans need a way to get good, safe, practical, fun exercise. The other 54% would still benefit, also, as would the environment.

As a physician, I have seen the obesity rate double in my career. It's almost 40% now. Obesity is a big reason people can't see their primary care doctor any more. Because people with diabetes, depression, hypertension, hyperlipidemia, strokes, heart attacks, complications of diabetes, etc. (all obesity-related) all need extra care, and this has all increased along with our sedentary lifestyle. Diabetes has quadrupled from 1 in 50 people to one in 12! So, despite all that modern medicine has to offer, our health is suffering.

Individuals have some responsibility in this, yes. So does our infrastructure. "Infrastructure is destiny," you might say. At this time, the state holds a shared liability in this loss of mobility, freedom, safety, health, access to healthcare, and even longevity. This Task Force work also stands as an opportunity for the state to start to right this wrong.

I could not help but notice in one of the exchanges, that explicitly prioritizing safety of all road users over car throughput created embarrassment for SHA. While safety is an implicit priority of roadway function, a proposal to make it explicit caused a lot of hesitation, and was met with reluctance. This hesitation speaks volumes about what is actually prioritized (and not), in current SHA projects.

IN SUMMARY, let's make a meaningful annual investment to fund some great ideas, keep upgrading this neglected piece of infrastructure, make sure these funds are wisely used, and please take this opportunity to rework our infrastructure for a future of lower obesity, better health, fewer pills and doctor visits, more freedom, cleaner air, fewer cars, better chances to enjoy our environs, more opportunities for tourists and the small businesses that they support, and improved quality of life in our shared, beautiful state.

*Regards,
Bruce Kinzinger, MD
Bike Harford*

Public Input from Meeting 4

One member of the public echoed the thank you to the bicycle advocates for their recommendations. She recommended an addition to recommendation to VI.2. to include bicycle counts on all modes including transit (buses and MARC), and MdTA (Hattem Bridge). She also urged that Maryland should be more proactive in addressing bicycle safety.



Public Input from Meeting 5

One member of the public offered three suggestions: putting a target on increasing Bikeways Funding (double or quadruple), the importance of creating a bigger tent by including all non-motorized users in revising contributory negligence laws, and the importance of addressing implementation aspects of any new or existing Complete Streets policies. The person commended the Task Force on their work, and noted his intent to share this and related comments via the Task Force email.

Advocate Recommendations

I. Safety issues and operations of bicycles and motor vehicles on highways in the State

1. The State should adopt a Vision Zero Commitment for Maryland to end all traffic deaths within 10-15 years.
2. The legislature should consider passage of a safe yielding law for bicyclists (Delaware version -- <http://www.bikede.org/bfda/safe-yielding/> or Idaho Stop Law)
3. The legislature should consider passing a law which would eliminate the narrow road exception in the 3 foot passing law.
4. The legislature should consider passage of a Vulnerable Road User law (<http://bikeleague.org/content/model-vulnerable-road-user-law>).
5. Create a process for Bicycle Safety Audits (similar to audits for motorized safety audits) in order to improve safety especially in higher risk areas.

II. Adequacy of infrastructure and issues related to traffic control device

1. The legislature should consider removing prohibitions on safety cameras on state highways to allow their use on any state highway at any time where speed enforcement is needed (not just in school zones and work zones)
2. SHA should allow bicycle-specific traffic signals on or crossing state roads. This would mandate a reevaluation of the threshold standards SHA employs when reviewing implementation of bicycle and pedestrian signals. In addition, SHA should allow greater flexibility for signal warrants and other improvements when evaluating trail crossings of State roads and for traffic on State roads where there is a strong safety argument for bike signals or other bike improvements but the traffic signal does not meet traffic 'warrants'.



3. MDOT and all its sub-agencies should be required to adhere to SHA's complete streets policy for any roadway or facility design.

III. Policy implementation and public education

1. The legislature should consider passing a law which would end contributory negligence as the standard for crashes involving motor vehicles and vulnerable road users and move to a Comparative Negligence standard as DC has done recently.

2. The legislature should fund universal bike education in public schools (as the DC Public Schools does for all 2nd Graders).

3. The legislature should consider allowance of lower speed limits on all roads (15 mph on local roads, 55 mphs on State Highways), including a mechanism for a county or municipality to set a lower default speed limit.

4. SHA should set a new higher mode share goal for bicycles on State roads including benchmarks against other states.

5. The State should provide safe passing education and testing for drivers as it relates to vulnerable road users (including, but not limited to, that drivers should give 3 feet, not enter oncoming lane without adequate sight distance, that it's ok for drivers to wait for a safe passing opportunity, and that bicyclists have a right to be in the road).

6. State and local law enforcement agencies should incorporate curriculum on the rights and responsibilities of vulnerable road users into training of law enforcement personnel.

7. SHA should utilize modeling software that assesses and prioritizes multimodal transportation options in its planning processes.

8. State and local law enforcement agencies should increase officer hours devoted to enforcement of speeding, distracted, impaired, and aggressive driving.

9. State and local law enforcement agencies should accept video submissions for evidence of dangerous driving.

10. SHA should place a trained bicycle planner in every District Office of SHA and mandate baseline annual training on bike planning and related issues for all SHA planners.



IV. Funding to support/encourage the safe operation of bicycles in the State

1. Legislature should consider reversing prohibition on SHA paying for maintenance of bicycle and pedestrian infrastructure within State Road right-of-way but outside the roadway ([Title 2 § 8-630](#)) so that the State can pay for maintenance of sidewalks, trails, and protected bike lanes.
2. In partnership with a local municipality or county, SHA should initiate in the next year 5 pilot projects on state roads to test the maintenance needs and practices for various configurations of protected bike lanes allowing flexibility for the State and local jurisdictions to pay for maintenance of the facility built.
3. The legislature should expand funding for the Bicycle Pedestrian Priority Program (BPPA), as well as Bicycle & trail programs which will promote establishment of new BPPA areas, including in areas which provide walkable and bikeable access to transit.
4. Expand funding for the Bicycle Retrofit and Sidewalk Retrofit programs to better support local jurisdictions in completing their bicycle networks using state right of way.
5. Provide funding for completion of connected trail networks in the state, such as the Capital Trails Coalition regional trail network in the Washington Metropolitan Region, Baltimore Greenways Network, Patapsco Greenway Network, and other emerging trail networks.
6. The State should increase funding for multimodal access to transit by retrofitting bike cars and adding bike racks to MARC trains so that in three years a passenger can reliably bring a full-size bicycle on any train in service on any line, and by increasing funding for high capacity bike parking around transit
7. The State should consider a “fee in lieu” policy and improve state and local collaboration to ensure that bicycle infrastructure is added where it is needed most.
8. Dedicate specific funding streams or percentages of transportation budgets to the creation of safe, low-stress bicycle facilities, including bicycle-only projects, not just add-ons to road projects.

V. Bicycle infrastructure design, siting, and best practices

1. SHA should update its design guidelines to be on-par with MassDOT’s [Separated Bicycle Planning and Design Guide](#), Montgomery County Planning Department’s [bikeway Facility Design Guide](#), the NACTO [Urban Street Design Guide](#), ITE Protected Bikeways Practitioners Guide, and FHWA Separated Bike Lane Planning and Design Guide to include tighter roadway geometry, protected bike lanes, and intersection treatments that prioritize vulnerable user safety.



2. SHA should explicitly allow and encourage the installation of single direction and bidirectional protected bike lanes on State Highways.
3. SHA should establish design guidelines for “main streets” on state highways that prioritize safe and low-stress bicycling and walkability over motor vehicle speed.
4. SHA should remove its exemption process for bicycle infrastructure on state highways. This policy allows for sharrows and “bikes may use full lane” signs on state highways which are not advisable whatsoever as they do not provide safe facilities for bicycles.
5. SHA should adopt 10-foot travel lanes as the default on roadways in urban areas to reduce speeding (as is done in Montgomery County).
6. Institute a comprehensive bicycle route signage system for wayfinding on state and local roads

VI. Data Issues

1. Legislature should identify MDOT as the primary keeper of data for traffic crashes, injuries/fatalities, and citations and that MDOT should maintain an open database.
2. SHA should implement a statewide counting program of biking and walking on state roads including placement of automated counters, user surveys, and crowdsourced data.



Appendix B: Task Force Meeting Strategy and Notes

Task Force Mandate and Meeting Strategy

Legislative Mandate: Chapter 836 enacted under Article II, § 17(c) of the Maryland Constitution (EXCERPT):

- (f) The Task Force shall study and make recommendations it considers necessary regarding:
- (1) safety issues related to bicycle operators on highways in the State;
 - (2) the appropriate operation of bicycles on highways in the State;
 - (3) the appropriate operation of motor vehicles in relation to bicycles on highways in the State;
 - (4) the adequacy of the current and future capacity and use of bike lanes, bike paths, and protected cycle tracks in the State;
 - (5) past, current, and future implementation of Complete Streets strategies related to facilitating safe travel for all bicyclists regardless of age, ability, or mode of travel;
 - (6) issues related to traffic control devices governing the operation of and behavior towards bicycles on highways in the State;
 - (7) public education and outreach related to the operation of bicycles on highways in the State;
~~and~~
 - (8) potential funding sources to support and encourage the safe operation of bicycles in the State;
 - (9) the effects of bike lanes, bike paths, and protected cycle tracks on street parking and pedestrian and vehicular traffic flow;
 - (10) the siting of utilities and other infrastructure along bike lanes, bike paths, and protected cycle tracks; and
 - (11) best practices for ensuring access to retail, residential, commercial, and other points of interest adjacent to bike lanes, bike paths, and protected cycle tracks.
- (g) On or before December 31, 2017, the Task Force shall report its findings and recommendations to the Governor and, in accordance with § 2–1246 of the State Government Article, the General Assembly.

Meeting Strategy – Draft Agendas

Meeting 1: Task Force Introduction and Issue Overview, August 31, 2017.

Agenda:

1. Welcome and Introductions (15 mins)
2. Task Force Legislated Mandate, Meeting Strategy and Protocol (Chair, 15 mins)
3. Maryland State Highway Safety Plan (Chair, 15 mins)
4. Overview of Safety Issues (Crash Data)
Presentation by University of Maryland, National Study Center (15 mins)
5. Overview of Legislation (Operations/Safety Issues)
Presentation by Task Force Consultant Team – (15 mins)
6. Discussion: Identification of Key Issue Areas and Recommendations for Task Force Work



(45 mins)

7. Public Comment

Legislated Topics Addressed:

- (1) *safety issues related to bicycle operators on highways in the State; (2) the appropriate operation of bicycles on highways in the State;*
- (3) *the appropriate operation of motor vehicles in relation to bicycles on highways in the State;*

Meeting 2: Legislative Tools/Operations and Infrastructure, September 26, 2017.

Agenda:

- 1. Welcome and Introductions (10 mins)
- 2. Recap of Key Issue Areas/Recommendations (10 mins)
- 3. Drafting Process and Structure for Final Report (10 mins)
- 4. Presentation and Discussion: Follow up to Meeting 1: Legislative Tools and Operations- Research and Recommendations: (30 mins)
- 5. Infrastructure and Design Guidance Practices
Presentation by Task Force Consultant Team (15 mins)
- 6. Discussion: Priority Issues and Recommendations (45 mins)
- 7. Public Comment

Legislated Topics Addressed

- (4) *the adequacy of the current and future capacity and use of bike lanes, bike paths, and protected cycle tracks in the State;*
- (5) *past, current, and future implementation of Complete Streets strategies related to facilitating safe travel for all bicyclists regardless of age, ability, or mode of travel;*
- (6) *issues related to traffic control devices governing the operation of and behavior towards bicycles on highways in the State*

Meeting 3: Infrastructure Design, Access, and Best Practices, October 12, 2017.

Agenda:

- 1. Welcome and Introductions (10 mins)
- 2. Recap of Infrastructure, Policy Tools and Design Observations (10 mins)
- 3. Discussion of Recommendations: Infrastructure, Policy Tools and Design (30 mins)
- 4. Overview of Site Access Design/Utility Siting
Presentation by Task Force Consultant Team (15 mins)
- 5. Discussion: Site Access, Design and Utility Siting – Priority Issues/Recommendations (45 mins)
- 6. Public Comment

Legislated Topics Addressed:

- (9) *the effects of bike lanes, bike paths, and protected cycle tracks on street parking and pedestrian and vehicular traffic flow;*
- (10) *the siting of utilities and other infrastructure along bike lanes, bike paths, and protected cycle tracks; and*



(11) best practices for ensuring access to retail, residential, commercial, and other points of interest adjacent to bike lanes, bike paths, and protected cycle tracks.

Meeting 4: Design Follow-Ups, Funding and Outreach, October 26, 2017.

Agenda:

1. Welcome and Introductions (10 mins)
2. Recap of Design, Access Issue Areas/Recommendations (10 mins)
3. Discussion of Recommendations (30 mins)
4. Overview of Funding/Education and Outreach
Presentation by Task Force Consultant Team (15 mins)
5. Discussion: Identification of Issues/Recommendations (45 mins)
6. Update on Draft Report Structure
Presentation by Task Force Consultant Team (10 mins)
7. Public Comment

Legislated Topics Addressed:

- (7) public education and outreach related to the operation of bicycles on highways in the State; and
(8) potential funding sources to support and encourage the safe operation of bicycles in the State;*

Meeting 5: Draft Report and Final Recommendations, November 9, 2017.

Agenda:

1. Welcome and Introductions (10 mins)
2. Recap of Funding/Education and Outreach Issues/Recommendations (20 mins)
3. Presentation of Draft Task Force Report (15 mins)
4. Discussion and Clarifications (60 mins)
5. Confirmation of Report and Next Steps (15 mins)
6. Public Comment

Task Force Key Resources

1. Task Force Main Website
http://www.mdot.maryland.gov/newMDOT/Planning/Bike_Walk/Task-Force.html
2. Governors Highway Safety Association, A Right to the Road Report
<http://www.ghsa.org/resources/bicyclist-safety2017>
3. Maryland Highway Safety Office
 - o Main Website:
<http://www.mva.maryland.gov/safety/mhso/index.htm>
 - o Strategic Highway Safety Plan <http://www.mva.maryland.gov/safety/mhso/state-highway-safety-plan.htm>
4. Maryland Department of Transportation Office of Planning and Capital Programming
http://www.mdot.maryland.gov/Planning/Bike_Walk/Bike%20Walks.html



5. Maryland's Bicycle and Pedestrian Master Plan (2014)
http://www.mdot.maryland.gov/newMDOT/Planning/Bicycle/BikePed_Index.html
6. Maryland Department of Transportation State Highway Administration (MDOT SHA)
 - Bicycle Policy and Design Guidelines (2015):
http://roads.maryland.gov/ohd2/bike_policy_and_design_guide.pdf
 - Biking Laws:
<http://www.roads.maryland.gov/index.aspx?Pageid=596>
 - Maryland Manual on Uniform Traffic Control Devices (MD MUTCD, 2011):
http://www.roads.maryland.gov/mmutcd/2011_rev122011_MDMUTCD_Complete.pdf
 - Bicycle Safety Campaigns:
<http://www.sha.maryland.gov/index.aspx?PageId=357>



Notes from Meeting 1

Thursday, August 31, 2017, 1PM – 3:30 PM

Task Force Members:

Lt. Charles Baker, Shayne Boucher, Vincent Boylan, Christine Delise (for Ragina Cooper Averella), Chris Eatough, Tom Gianni, Tom Huesman, Jon Korin, Delegate Stephen Lafferty, Senator Susan Lee, Laurie Lemieux, Mike Lenhart, Mark Morelock, Peter Sotherland, Mayor Patrick Wojahn, Chief Michael Wynnyk, Corporal Dave Zanoni

Task Force Members Not Present:

Ragina Cooper Averella (sent designee), Senator Roger Manno, one Task Force member not yet appointed

MDOT Staff Present:

Marty Baker (MDOT TSO), Charles Glass (MDOT TSO), Kelly Melhem (MDOT MVA), Oluseyi Olugbenle (MDOT TSO), Meredith Hill (MDOT TSO), Jeff Tosi (MDOT TSO)

Consulting Staff Present:

Cynthia Burch (University of Maryland Baltimore), Leigh-Ann Dawes and Charise Geiling (Sharp & Company), RJ Eldridge and Nate Evans (Toole Design), Bryon White, (Sabra Wang and Associates)

Members of the Public:

David Anspacher, Chip Boylan, Louis Campion, Josh Feldmark, Peter Gray, Calvin Hallman, Kim Lamphier, Jamie Lancaster, Michael Lore, Marieannette Otero, Charles Padgett, Walt Roscello, Dennis Teegardin, Patrick Tracy, Chris Tsien, Stephen Tu, Barbara Zektick

Welcome and Introductions (Chair and All – 15 mins)

The Chair, Mr. Tom Gianni, called the meeting to order at 1:05 PM, and welcomed all participants. Each member introduced themselves and noted their appointed role and affiliation. The Chair noted that a final Task Force appointment for an advocate position was being finalized by the Governor's Office in the coming week(s) in time for the next meeting.

The Chair highlighted that several key resource materials were made available to inform the Task Force discussion. Hard copies of the current Maryland Strategic Highway Safety Plan, the Maryland Bicycle and Pedestrian Master Plan (2014), the MDOT SHA Bicycle Design Guidelines, relevant sections of the Maryland Manual on Uniform Traffic Devices, and a recently-released report of the Governor's Highway Safety Association: "A Right to the Road: Understanding and Addressing Bicyclist Safety" – were made available as hard copies at the meeting, as well as provided on the Task Force website.

Task Force Legislated Mandate, Meeting Strategy and Protocol (Chair - 15 mins)

The Chair introduced the Task Force mandate and circulated a draft meeting strategy with proposed upcoming agendas to ensure the group achieves its mandate. Task Force members were requested to provide feedback on the proposed effort by e-mail to Marty Baker and Tom Gianni by September 8, 2017. The document will be finalized and posted to the Task Force website to inform the public and to guide future discussion.



Task Force members raised the question of how the outcomes of Task Force deliberations would be announced and raised the prospect of hosting a special public release and press event in 2018 accordingly. The Chair noted that the report would be submitted to the legislature for consideration in December, but noted the Task Force could give the idea of a release further consideration.

Meeting logistics were summarized and provided in advance to Task Force members. It was noted that Task Force members are eligible for reimbursement of expenses, and although they will not be required to submit financial disclosures, they are expected to abide by all other ethical guidelines. It is intended that all business of the Task Force will be conducted within the five scheduled meetings on an informal and consensus basis. Several key resource materials were made available to inform the Task Force discussion, including the Maryland Strategic Highway Safety Plan, the Maryland Bicycle and Pedestrian Master Plan (2014), the MDOT SHA Bicycle Design Guidelines, relevant sections of the Maryland Manual on Uniform Traffic Devices, and a recently-released report of the Governor's Highway Safety Association: "A Right to the Road: Understanding and Addressing Bicyclist Safety".

Maryland Strategic Highway Safety Plan (Presentation by the Chair – 15 mins)

The Chair introduced of the Maryland Highway Safety Office and provided an overview of the current Maryland Highway Safety Plan. The presentation highlighted efforts to address fatalities and serious injuries, with particular attention to the bicycle and pedestrian "emphasis area." This emphasis area team includes broad representation at the state, regional, and local level, and is convened on a quarterly basis to help advance key action items.

Task Force members requested that this meeting's presentations be posted to the website for future reference and public access, and the Chair agreed to accommodate this request.

Overview of Safety Issues, Crash Data (University of MD, National Study Center Presentation – 15 mins)

Cindy Burch presented crash statistics involving bicycles focused on the period between 2011 and 2016. Highlights included that 9% of reported bicycle crashes were fatal or severe and 83% included victims who were male. Such crashes most commonly occurred between 1 and 4pm, and were two times more likely to occur where road conditions included a hill, grade change, or curve. Serious injuries were more common when the cyclist was riding with traffic.

Task Force members expressed interest in additional data points including figures to show crash rates by population by age group and crash rates per jurisdiction, normalized by population. Several data limitations were discussed, including the fact that reporting can be inconsistent and that the only reported measures would be incidents involving vehicles and on roadways. Inputs regarding additional data needs were invited.

Overview of Legislation, Operation/Safety Issues (Task Force Consultant Team Presentation – 15 mins)

Task Force consulting team staff, R.J. Eldridge of Toole Design, presented an overview of existing and recent legislation to address bicycle safety. The presentation highlighted rules of the road as well as mandated roles and responsibilities for addressing cycling safety needs including the Maryland Bicycle and Pedestrian Advisory Committee, and the Maryland Bicycle and Pedestrian Master Plan.



Discussion: Identification of Key Issue Areas/Recommendations for Task Force Work and Legislative Issues

Focus (45 mins)

Consulting team staff, Leigh-Ann Dawes led the Task Force first discussion to help identify key issue areas to guide future work of the Task Force. In the discussion, over two dozen issue areas were noted. From this list, a short list of priority areas for consideration was highlighted to include: Infrastructure: to improve bicycle mode share and improve safety; Data: to better capture scope and nature of problems and target intervention; Coordination: to improve cooperation between state and local agencies; and Education: to cultivate shared culture of safety between motorists and cyclists. The discussion also emphasized that legislation may not present the best mechanism for changing behavior, but there was specific interest in examining protection for vulnerable users, and exploring relevant interpretations of contributory negligence.

Task Force members elaborated several concerns about how to change the culture for all road users. Concerns included: How to better educate and prioritize use of limited infrastructure, to minimize conflicts and distractions; How to better create and identify appropriate pathways for different user groups; How to increase mode share for cyclists, particularly among the “interested but concerned” population and lower income areas?

Preliminary ideas for acting on the issues included: Using better technology to improve data collection and enforcement; Seeking mechanisms to improve state/local coordination; and providing better funding mechanisms to support infrastructure improvements. Although infrastructure was identified by many as the key to improving bike safety, it was also emphasized that the Task Force should work towards creating a legislative package. Legislative solutions could address: enhanced protections and prioritization for “vulnerable users”; revisiting definitions to support data collection needs; and mandating new approaches to ensure effective state/local coordination. It was requested that the consulting team review Maryland laws relative to other states to help identify key gaps.

Notes from Meeting 2

Tuesday, September 26, 2017, 1PM – 3:30 PM

Task Force Members:

Ragina Cooper Averella, Captain Charles Baker, Shayne Boucher, Vincent Boylan, Nick Driban (for Mike Lenhart), Douglas (for Senator Manno), Chris Eatough, Tom Gianni, Tom Huesman, Jon Korin, Laurie Lemieux, Mark Morelock, Peter Sotherland, Mayor Patrick Wojahn, Chief Michael Wynnyk, Corporal Dave Zaroni

Task Force Members Not Present:

Delegate Stephen Lafferty, Senator Susan Lee, Senator Roger Manno (sent designee)

MDOT Staff Present:

Marty Baker (MDOT TSO), Stacey Beckett (MDOT SHA), Virginia Burke (MDOT TSO), Deborah Haynie (MDOT TSO), Kelly Melhem (MDOT MVA), Oluseyi Olugbenle (MDOT TSO), Jeff Tosi (MDOT TSO)

Consulting Staff Present:

Leigh-Ann Dawes, Susan Sharp, and Stephanie Weber (Sharp & Company), Alia Anderson and Darren Flusche (Toole Design), Bryon White (Sabra Wang and Associates)

**Members of the Public:**

Josh Feldmark, Kim Lamphier, Marieannette Otero

Welcome and Introductions (Chair and All – 10 mins)

The Chair asked Task Force members for any comments on the Draft Meeting 1 Notes. The Task Force did not provide additional comments. The Meeting Notes, along with the Meeting Strategy document and PowerPoint presentations, will be posted online at http://www.mdot.maryland.gov/newMDOT/Planning/Bike_Walk/Task-Force.html.

The Chair noted that a Working Draft of a Context Paper for the topics presented at Meeting 1 will be distributed at the end of the meeting. The Working Draft is not for public distribution but should be considered a work in progress by the Task Force. Task Force members are encouraged to review the Working Draft and provide comments to Marty Baker via email so that it may be revised further. A new Working Draft Context Paper will be distributed at each meeting for the topics presented and discussed at the preceding meeting. Once reviewed by the Task Force, Context Papers will become the basis for the Task Force's Report to the Legislature.

In addition, hard copies of the agenda, meeting 1 summary notes, and context paper 1 were made available to Task Force members.

Recap of Key Issues/Discussion Points from Meeting One (Chair and Task Force Consultant Team – 10 mins)

Additional data about crashes was presented by the Chair, including partial data for 2016 and early 2017, and crash rates per population of 10,000 in five jurisdictions. Additional material about the League of American Bicyclists' (LAB) ranking of Maryland was also presented.

A recap of key issues identified in meeting 1 included:

- The need to collect economic and health impact data;
- Need for coordination between local jurisdictions and the State needed;
- Need for education.

Drafting Process and Structure for Final Report (Chair and Task Force Consultant Team - 10 mins)

A brief presentation was given on the planned structure for the meetings, role of the task force, and the process by which the task force will formulate its recommendations.

Meeting 1 Follow Up: Legislative Tools and Operation/Presentation, Discussion, and Preliminary Recommendations (Task Force members and Consultant Team – 30 mins)

During the discussion for preliminary recommendations, the Task Force focused on the need for funding, routes, and available space for cyclists. These were added to the list of issue areas for consultants to research and bring back to the Task Force.

Specifically, the Task Force recommends defining Vulnerable Users, and using model language proposed by League of American Bicyclists (LAB) as a first draft for any proposed legislation. Task Force also noted that the



goals to be achieved with legislation should be clear. The Task Force wanted to limit its recommendations regarding CN to bicycles, as legislation could otherwise become broad with far-reaching implications and impacts. The consulting team will follow-up with research on model legislation. The Task Force also preferred to separate venerable road users and contributory negligence issues.

The Task Force acknowledged the issues with the Three-Foot law and will not attempt to find a resolution (as it would need more time and discussion than is available).

Other ideas proposed to be included in the list of Key Legislative Issues: Funding, with the goal of, and as a means to achieving connectivity in the bicycle infrastructure network; designation of priority bicycle routes to receive priority funding; identifying legal barriers to building bike paths, eg. Building codes.

Discussion: Infrastructure and Policy Issues Areas and Best Practice Research Needs. Infrastructure, Policy Tools, and Design Guidance (45 mins)

The Task Force asked about the use of all available tools and emerging tools in determining infrastructure needs, e.g. STRAVA heat maps, Big Data.

Proposals by Task Force members for defining the best state of bicycle infrastructure included: supporting a high standard of connectivity; reducing conflicts between bicycles and motor vehicles; reducing vehicles speeds in areas with a high potential for conflict between vehicles and bicycles; inclusive of recreational and long-distance bicycle trails in addition to transportation trails; allocating space for bicycle infrastructure in corridors where space is a limited resource; identifying a mode share goal for bicycling (e.g. 3%) from which implementation steps could follow.

The Task Force discussed design treatments considered for different situations, eg. Staggered crossings, and processes for changing how design treatments are determined. The MDOT SHA follows processes defined in federal legislation or in MUTCD or AASHTO to consider different design treatments. The MDOT SHA cautions against legislating design treatments and is open to a review of the effectiveness of processes.

There was discussion of staffing and training associated with building bicycle infrastructure. Pennsylvania may have a model program. The Task Force Consultant team will follow up.

The Task Force acknowledged difficulties associated with funding the ongoing maintenance of infrastructure. The discussion on infrastructure and policy issue areas and best practice research needs led to more issue areas for the task force. The task force provided ideal infrastructure recommendations like protected bike lanes, connectivity trip generators, speed reduction facilities, signalized crossing for cyclists, and improving available space.

The Task Force also suggested internal processes to consider a level of service of cyclists when planning new projects. The group also emphasized the need for more High-Intensity Activated crossWALK (HAWK also known as Pedestrian Hybrid Beacon) beacon signaling that would give cyclists more time to cross dangerous intersections and assist with signal detection for bikes.



Notes from Meeting 3

Tuesday, September 26, 2017, 1PM – 3:30 PM

Task Force Members:

Shayne Boucher, Vincent Boylan, Delegate Andrew Cassilly, Ragina Cooper-Averella, Chris Eatough, Tom Gianni, Jack Keene, Jon Korin, Laurie Lemieux, Mike Lenhart (Nick Drivan), Michael Lore (for Senator Susan Lee), Mark Morelock, Peter Sotherland, Marsha Tracey (for Delegate Stephen Lafferty), Frank Voso (for Senator Roger Manno), Mayor Patrick Wojahn, Chief Michael Wynnyk, Corporal Dave Zanon

Task Force Members Not Present:

Captain Charles Baker, Tom Huesman

MDOT Staff Present:

Marty Baker (MDOT TSO), Stacey Beckett (MDOT SHA), Virginia Burke (MDOT TSO), Natisha Galloway (MHSO), Kelly Melhem (MHSO), Heather Murphy (MDOT TSO), Oluseyi Olugbenle (MDOT TSO), Diane Patterson (MDOT TSO)

Consulting Staff Present:

Leigh-Ann Dawes (Sharp & Company), Alia Anderson (Toole Design), Elisa Mitchell (Sabra Wang Associates), Bryon White (Sabra Wang and Associates)

Members of the Public:

Louis Campion, Joshua Feldmark, Peter Gray, Kim Lamphier, Jameson Lancaster, Kate Mazzara

Welcome and Introductions (Chair and All – 10 mins)

The Chair asked Task Force members for any comments on the Draft Meeting 2 Notes, and acknowledged some minor corrections to attendance for previous meetings. A suggestion was raised to list Task Force members who send designees as present and not absent. The Chair agreed with this change. The notes were approved and will be posted online with the other meeting materials to the Task Force website: http://www.mdot.maryland.gov/newMDOT/Planning/Bike_Walk/Task-Force.html.

The Chair noted that comment was welcome on Context Paper 1 and that Context Paper 2 would be distributed today. The Chair thanked those members who have shared comments and resources. He noted that Delegate Cassilly had shared a link: <http://peopleforbikes.org/how-it-got-built/>, which is an interactive site that highlights a variety of innovative bicycle projects across the country. Peter Sotherland shared that FHWA had recently published a revised version of their Pedestrian and Bicycle Safety Action Plan guide: https://safety.fhwa.dot.gov/ped_bike/ped_focus/. The Chair reminded the group that the Maryland Bicycle and Pedestrian Advisory Committee (MBPAC) will hold a Bicycle and Pedestrian Roundtable next Friday in Crownsville, MD.

Hard copies of the agenda, meeting 2 summary notes, and context paper 2 were made available to Task Force members.

Recap of Infrastructure, Policy Tools and Design Observations (Chair and Task Force Consultant Team – 10 mins)



The Consultant Team presented a recap of the previous meeting's presentation on legislated issues, which included:

- Adequacy of current/future capacity and use of bike infrastructure (paths, lanes, etc.)
- Implementation of complete streets strategies related to safe travel for all bicyclists
- Issues related to traffic control devices governing behavior

The Consultant Team also summarized the existing, related tools that were presented at meeting 2 : BLOC, Performance Metrics/Attainment Report, STOA, BPPA's, Spine Network, Bike Ped Master Plan, SHA Design Guidelines, MD MUTCD.

The Consultant Team presented on the following issues requested by the Task Force: DC's replacement of its contributory negligence law, and the previous efforts to reconcile the three-foot passing requirement relative to narrow roads with a double yellow line. In some cases, Maryland's current contributory negligence law can negatively influence a cyclist's claim for damages or for insurance claims in crashes. DC recently passed a comparative negligence law (joining 46 other states with similar laws), which enables pedestrians, bicyclists, and motorists involved in traffic accidents to recoup up to 100% of losses if they are found to be less than 50% at fault.

A comment was raised that the insurance industry may not be in favor of such legislation due to concerns over insurance premiums. Bicycle advocates and trial lawyers are in favor of changing the law. In the State Legislature, this bill could be passed procedurally in the Senate but would involve multiple committees in the House. The Chair suggested that the Task Force focus on specific recommendations and not legislative procedures.

The Task Force made the following recommendations:

- *Consider introducing legislation modeled on a recent DC law to specifically address how cyclists and pedestrians are addressed in defining contributory negligence.*
- *Consider legislation to address the exception to the 3-foot law on narrow roads and roads with a double yellow line*
- *Consider legislation to enable law enforcement to use newly available technology to better detect and document non-compliance with the three-foot passing law, and to facilitate enforcement through electronic ticketing, etc.*

The Consultant Team then reviewed key issue areas that had emerged during previous meetings, which included crash data, user/ridership data, bicycle network connectivity, targeting infrastructure investments, and low-stress investments.

One Task Force member commented that sensitivity training for policy officers should be pursued to improve relations with cyclists and to improve crash reporting. The Chair recommended that further discussion on this topic be deferred until an overview of existing education efforts can be shared at the next Task Force meeting.



The Task Force members also recommended that in addition to existing spine network and trail efforts, the state should support local jurisdictions by helping compile GIS data for bicycle facilities across the state. It was noted that the state could play an important role in highlighting and prioritizing network needs and opportunities, particularly as relates to facilities to better connect across jurisdictions. One member urged the state to review local trail master plans as a means to build connections. Other members questioned the target audience for the SHA Spine Network and noted a problem in that many of the routes identified are not safe for all levels of comfort. Other issue areas raised included concern for addressing equity as part of how investments are targeted, and identifying different land use conditions to inform road treatments, such as mid-block crossings.

Discussion of Recommendations: Infrastructure, Policy Tools and Design (Chair and Task Force Consultant Team - 30 mins)

The Task Force discussed the issue of data, particularly that the current crash data analysis system is inefficient because it has to go through three parties. In addition, the issue of personal data and liability from dangerous intersections was discussed. This discussion led to the following recommendation:

- *Legislation should be introduced to identify the Maryland Department of Transportation as the primary recipient and analyst for statewide crash data collected by law enforcement. MDOT should then seek to identify responsible approaches to better disseminate the data to better identify and address safety needs.*

The Task Force then discussed the issue of ridership data, which can be costly to collect at the state level but is important for bicycle planning. It was clarified that MDOT SHA collects statewide traffic data along state and local road segments and intersections, and that they have recently directed that such counts include bike turning and through volumes at intersections. The Highway Safety Office and other entities have also conducted travel surveys that could be used to address issue areas. The group discussed the value of exposure/ridership data, prioritization, and Short Trip Opportunity Areas (STOAs). The Task Force then discussed the process by which Short Trip Opportunity Areas become Bicycle and Pedestrian Priority Areas, which present a mechanism for improving state/local connectivity for bike safety. Task Force members acknowledged that the program is still in early stages of implementation, but recommended that further outreach be conducted, and that the program should be evaluated. This discussion led to the following recommendations:

- *MDOT should conduct a periodic survey to better understand attitudes/actions of motorists and cyclists*
- *State and local agencies should explore new methods for collecting ridership and exposure data*
- *MDOT should provide "Short-Trip" Opportunity Areas" data to local jurisdictions*

The Task Force also discussed the waiver process as it relates to connectivity issues. Some suggested a more flexible process (such as permitting a sidewalk to be built only on one side of the road), or fees might be assessed instead of requiring on-site mitigations. There was concern that the state might not be able to affect this requirement because it may fall under federal ADA requirements. The discussion closed with the following recommendation:

- *The State should consider and expand the waiver process to facilitate connectivity issues*



The Task Force discussed concerns that the State's Complete Streets policy is not being honored by all Transportation Business Units (TBUs) within MDOT. The group concluded that more information is needed about the status in order to make recommendations about the policy.

Overview of Site Access Design/Utility Siting Preliminary Recommendations (Task Force Consultant Team – 15 mins)

A presentation was given on the Project Development Process, Site Access to Retail/ Commercial/ Residential and Points of Interest, Vehicle Traffic Impacts, Pedestrian Mixing, On-street Parking Impacts, and Siting of Utilities & Other Infrastructure.

Discussion: Site Access, Design and Utility Siting – Priority Issues/Recommendations (45 mins)

Task Force members expressed concerns that for new projects, bicycle counts are taken under current conditions, which are often not safe for bicyclists, and cannot adequately capture what the demand would be if bike lanes or cycletracks are installed. State representatives said that the process also involves analyzing demographics to estimate future mode share demand, and do not rely on counts alone.

The Task Force expressed interest in the opportunity to develop bicycle trails along utility corridors, noting, for example, recent efforts involving PEPCO right of way near Germantown in Montgomery County. Task Force members noted particular interest in providing lighting for trails as a safety feature, and suggested that utility companies could be helpful along these lines. A barrier to utility right of way use for trails was also acknowledged, however, due to high sensitivity to potential construction impacts and the expense involved in any temporary disruption of service.

Task Force members discussed the need for an online method to report problems with bicycle infrastructure, such as potholes, because funding is only available for repairs if SHA has been notified. Peter Sotherland will investigate if a current system exists besides the call in option.

There was discussion about protected bike lanes, and MDOT SHA's installation processes for non-permanent infrastructure (like flex-posts). Other members emphasized that a primary issue was often creating a safe crossing for state roads, rather than creating infrastructure for cyclists to travel along them.

The comment prompted further comment regarding need for better coordination between state and local agencies. Participants emphasized that often the best option for cyclists is to use parallel local or county roads, instead of on state roads where options may be more dangerous, expensive, or limited. The Task Force asked whether there might be opportunity to collect alternative fees related to traffic impacts that could be collected into a fund and used to help finance bike network connectivity.

Notes from Meeting 4

Thursday, October 26, 2017, 1:30 PM – 4PM

Task Force Members:



Shayne Boucher, Captain Charles Baker, Vincent Boylan, Ragina Cooper-Averella, Chris Eatough, Tom Gianni, Tom Huesman, Jon Korin, Delegate Stephen Lafferty, Laurie Lemieux, Nick Driban (for Mike Lenhart), Michael Lore (for Senator Susan Lee), Mark Morelock, Peter Sotherland, Mayor Patrick Wojahn, Chief Michael Wynnyk, Corporal David Zanoni

Task Force Members Not Present:

Delegate Andrew Cassilly, Jack Keene, Senator Roger Manno

MDOT Staff Present:

Marty Baker (MDOT TSO), Stacey Beckett (MDOT SHA), Virginia Burke (MDOT TSO), Tom Curtain (MDOT TSO), Natisha Galloway (MHSO), Kelly Melhem (MHSO), Oluseyi Olugbenle (MDOT TSO), Diane Patterson (MDOT TSO)

Consulting Staff Present:

Leigh-Ann Dawes and Mary Arzt (Sharp & Company), Elisa Mitchell and Bryon White (Sabra Wang and Associates), Alia Anderson (Toole Design).

Members of the Public:

Louis Campion, Jeff Dunckel, Joshua Feldmark, Peter Gray, Kim Lamphier, Marieannette Otero, Barbara Zektick

Welcome and General Announcements (Chair and All – 15 mins)

The Chair asked Task Force members for any comments on the Draft Meeting 3 Notes, two additions were made:

1. Correct recommendation regarding enforcement of 3-foot law:
 - o *Consider legislation to enable law enforcement to use newly available technology to better detect and document non-compliance with the three-foot passing law, and to mail tickets to registered vehicle owners (if unable to stop motorist at the time of violation).*
2. Amend recommendation regarding ridership and exposure data:
 - o *State and local agencies should explore new methods for collecting ridership, exposure data, and non-reported crashes.*

The Chair agreed with these changes. The notes were approved and will be posted online with the other meeting materials to the Task Force website:

http://www.mdot.maryland.gov/newMDOT/Planning/Bike_Walk/Task-Force.html.

The Chair explained that the Consultant team compiled the list of recommendations raised by the Task Force in meeting 2 and meeting 3. In addition, the bicycle advocates on the Task Force submitted an additional list of recommendations for the Task Force to consider. The Chair also noted that the Consultant Team worked to incorporate the advocates’ recommendations into the presentation, and that they will be discussed during the meeting to evaluate their inclusion in the final report.

A draft report of recommendations will be distributed to the Task Force members on November 9th. Following November 9th, the Task Force can send comments to Marty Baker. The draft will also be posted to the Task Force website and the public may email comments to BikeSafetyTaskForce@mdot.state.md.us. The Chair reminded the Task Force and the public that introduction of new material will be closed after November 9th.



The last day to submit comment will be November 22nd. The final report will be assembled in early December and submitted to the Legislature before the end of the year.

The Chair spoke about the recently-issued League of American Bicyclists' Bicycle Friendly State Report Card for Maryland, and said that many of the issues in the report were already included in the Task Force's list of recommendations. The Chair also mentioned that some of the issues not recommended by the Task Force can be addressed in the Maryland Bicycle and Pedestrian Master Plan update, and that comment cards on the 2014 Plan's Objectives and Goals are available in the meeting. He announced MVA's new Bicycle and Pedestrian Safety Program Manager, Jeff Dunkel, previously with Montgomery County.

Hard copies of the agenda, meeting 3 summary notes, context paper 3, a 1-page draft compilation of Task Force recommendations, a 5-page list of recommendations submitted by bicycle advocates, a copy of the meeting #4 presentation and comment cards on the Bicycle and Pedestrian Master Plan Objectives and Goals were made available to Task Force members.

Meeting Overview and Follow Up/Recommendations from Meeting 3 (1h 55 mins)

The Consultant Team presented a recap of the previous meeting's presentation topics, which included:

- Effects of bike infrastructure on parking, pedestrians, and traffic.
- Siting of utilities along bike lanes and paths
- Best practices for ensuring access to retail, residential and commercial development adjacent to bike lanes

The Consultant Team then presented on the Issue Areas from meeting 3: maintenance of infrastructure, speed differentials, ROW and procurement, policy issues, and mitigation fees/fee-in-lieu. The issue areas presentation and discussion incorporated the recommendations from meeting 3 and the new list of recommendations from bicycle advocates. The Task Force provided feedback and agreed on the following recommendations grouped by issue areas:

Issue 1: Maintenance

Bicycle Advocates' Recommendation IV.1.

- *Legislature should consider reversing prohibition on SHA paying for maintenance of bicycle and pedestrian infrastructure within State Road right-of-way but outside the roadway (Title 2 § 8-630) so that the State can pay for maintenance of sidewalks, trails, and protected bike lanes.*

When MDOT SHA is asked to construct or for permission to construct facilities that are within their right of way, but not within the curb lines, they normally require an agreement with local jurisdictions to clarify local maintenance responsibilities. In general, MDOT SHA maintains facilities only inside the curb of the roadway. Establishing these MOU's can be time consuming and can lead to project delays. Although Task Force members were sympathetic to the need to address this issue, they were not clear on what specific language would be suitable to address the issue, and win full support of the entire group. MDOT SHA agreed to help clarify the position by way of follow up.

Issue 2: Speed



Bicycle Advocates' Recommendation I.5.

- *Create a process for Bicycle Safety Audits (similar to audits for motorized and pedestrian safety audits) in order to improve safety especially in higher risk areas.*

MDOT currently conducts pedestrian safety audits, which includes observation of bicycle behavior, but does not review bicycle data. The Task Force agreed that this issue should be addressed in a recommendation.

Bicycle Advocates' Recommendation III.9.

- *State and local law enforcement agencies should accept video submissions for evidence of dangerous driving.*

Task Force members clarified that cyclists increasingly ride with video cameras mounted to their bikes and would like to provide this video to the police in instances involving crashes or other unsafe driving. The Task Force discussed several issues related to this topic, including: privacy and whether audio is permitted with video; the issue that civil citations are tied to a vehicle, not to an individual; and whether these prohibitions exist. The Task Force did not approve this recommendation but instead suggested that a note be added to the final report saying, "enforcement is critical and more resources are needed."

Bicycle Advocates' Recommendation III.3.

- *The legislature should consider allowance of lower speed limits on all roads (15 mph on local roads, 55 mph on State Highways), including a mechanism for a county or municipality to set a lower default speed limit.*

The Task Force discussed several issues on this topic, including: concerns that speeds limits would be lowered unsystematically; that engineering studies are the only current mechanism that permits lower speed limits; and which roads this would apply to. This discussion led to the following draft recommendation:

- *Consider creating a mechanism to allow greater flexibility for local governments to reduce speed limits.*

Bicycle Advocates' Recommendation II.1.

- *The legislature should consider removing prohibitions on safety cameras on state highways to allow their use on any state highway at any time where speed enforcement is needed (not just in school zones and work zones).*

Task Force members explained that safety cameras are only allowed for school, higher education, and work zones. There was discussion about whether there is a prohibition on all roads or just state roads. One Task Force member pointed out that camera technology is very sophisticated and could target just a particular lane of travel. The Task Force agreed to the following draft language.

- *Consider removing prohibitions on safety cameras on state and county highways and roads in higher risk areas.*

Issue 3: Right of Way



The Task Force discussed the issue of ROW, including insufficient accommodations for bicycles at intersections and permitting bike infrastructure (e.g. paths) in utility ROWs. One Task Force member commented on the importance of exploring opportunities for trails in railroad ROWs. Another member stated that roads should not automatically be widened to meet access permit guidelines because in many cases bike access may be better addressed elsewhere. The Task Force discussed how traffic level-of-service (LOS) is the driving factor of how ROW is allocated on roadways, and that the emphasis is on vehicle delay. Members discussed how California has replaced LOS with VMT to accommodate multimodal travel. Another member pointed out that Montgomery County allows for lower LOS (i.e. longer allowable vehicle delay) near metro stations where land use is less auto-oriented and multimodal opportunities exist. This discussion led to the following draft recommendations:

- *State and local agencies should consider opportunities to use utility and railroad right of way to expand off-road trail network.*
- *Consider all road users in traffic analysis requirements (see California example).*

The Task Force discussed the Bicycle Advocates' Recommendation V. regarding bicycle infrastructure, design, siting and best practices. One member pointed out that many or some of these could be sub-bullets of an updated design guide, and that MDOT SHA does have a guide entitled, "When Main Street is a State Highway." Another member expressed concern that some of the recommendations in this section were too prescriptive, which might limit their effectiveness. The recently-updated design guidelines for PennDOT and NJDOT were identified as good examples. One member said that the design guidelines should consider low-stress bicycling and walkability. This discussion led to the following draft recommendation:

- *Update "When Main Street is a State Road" and ensure low-stress bike facilities are addressed (see PennDOT and New Jersey examples).*

Bicycle Advocates' Recommendation V.6.

- *Institute a comprehensive bicycle route signage system for wayfinding on state and local roads.*

A Task Force member noted that MDOT SHA is working on a policy for bicycle wayfinding on state roads such as the East Coast Greenway or Potomac Heritage Trail, and working closely with the Office of Tourism. Another member pointed out that Pennsylvania has gone a step further by creating numbered bicycle routes on state and local roads. The Task Force decided to retain this draft recommendation.

Bicycle Advocates' Recommendation II.2.

- *SHA should allow bicycle-specific traffic signals on or crossing state roads. This would mandate a reevaluation of the threshold standards SHA employs when reviewing implementation of bicycle and pedestrian signals. In addition, SHA should allow greater flexibility for signal warrants and other improvements when evaluating trail crossings of State roads and for traffic on State roads where there is a strong safety argument for bike signals or other bike improvements but the traffic signal does not meet traffic 'warrants'.*

The Task Force members discussed if Recommendation II.2 referred to HAWK signals and other mid-block treatments; bicycle signals; or existing traffic signals. MDOT SHA has started to install Maryland Enhanced HAWK signals on a case-by-case basis but continues to evaluate the process and clarify with the Office of Traffic and Safety before deployment of additional enhanced signals. The Task Force requested that MDOT SHA bring back thoughts on specific language to address this and other Design Guideline concerns.



Issue 4: Policy/TIS Issues

Bicycle Advocates' Recommendation II.3.

- *MDOT and all its sub-agencies should be required to adhere to SHA's complete streets policy for any roadway or facility design.*

The Task Force discussed that MDOT SHA is the only MDOT agency that has a Complete Streets policy. One member pointed out that MdTA is not a sub agency of MDOT. Another member stated that MDOT Maryland Transit Administration stations needs to have a stronger bicycle and pedestrian access policy. One member expressed concern that a mandate to local/county governments without funding attached would be a significant burden. There was agreement that recommendations regarding policy should include that:

- *MDOT, including all its sub-agencies should adopt and implement a complete streets policy. This should also apply to MTA to ensure bicycle access to transit.*
- *The Maryland Transportation Authority should also be encouraged to adopt a Complete Streets policy. (Note, however, that this body is not represented on the Task Force).*
- *County and local jurisdictions should be encouraged to adopt Complete Streets policies*

Bicycle Advocates' Recommendation IV.7.

- *The State should consider a "fee in lieu" policy and improve state and local collaboration to ensure that bicycle infrastructure is added where it is needed most.*

One Task Force member said that such a policy would save the developer money. Another member expressed concern that MDOT does not have a mechanism to administer fee-in-lieu policies. This tool is better utilized at the local level. The discussion resulted in the observation that:

- *Further study should be conducted to establish a state-level fee-in-lieu process to facilitate useful bike improvements.*

Bicycle Advocates' Recommendation III.7.

- *SHA should utilize modeling software that assesses and prioritizes multimodal transportation options in its planning processes.*

Bicycle Advocates' Recommendation VI.2.

- *SHA should implement a statewide counting program of biking and walking on state roads including placement of automated counters, user surveys, and crowdsourced data.*

The Task Force discussed how this recommendation was similar to a previous one regarding traffic analysis, and expressed concerns to not be too prescriptive in the language to allow for various methodologies, while still accomplishing the goal. One member pointed out that MDOT SHA has the software but lacks quality data to achieve realistic results. There was discussion about how counts would be a very useful input for the modeling software. It is SHA policy to collect pedestrian and bike data at intersections, but not along road segments. One member mentioned that other states have permanent bicycle counters. This discussion led to the following suggestions:

- *MDOT SHA should expand use of modeling software that assesses and prioritizes multimodal transportation options in its planning processes.*

Overview of Funding/Education and Outreach (Task Force Consultant Team – 15 mins)



A presentation was given on Education & Outreach Efforts and Funding Sources. The Task Force then discussed the potential recommendations.

Education & Outreach

Bicycle Advocates' Recommendation III.2.

- *The legislature should fund universal bike education in public schools (as the DC Public Schools does for all 2nd Graders).*

One Task Force member stated that Maryland is too diverse geographically to mandate equivalent bike education programs. One Task Force member stated that the State of Maryland has curricula that is available for people to use, but that curricula mandates are usually only at the city or county level. Another Task Force member stated that Maine has mandated it but allows for some flexibility in implementation. Further discussion about clarifying and flexibility led to the following suggestion:

- *The State should encourage and facilitate universal bike safety education*
- The Task Force agreed that further clarification to who is implied by "State" would be needed, and that examples from Maine would be worth considering.

Bicycle Advocates' Recommendation III.5.

- The State should provide safe passing education and testing for drivers as it relates to vulnerable road users (including, but not limited to, that drivers should give 3 feet, not enter oncoming lane without adequate sight distance, that it's ok for drivers to wait for a safe passing opportunity, and that bicyclists have a right to be in the road).

The Task Force discussed that there is not currently a test question about this issue. One member pointed out that the State of Illinois has an online curriculum that might be a good reference. The Chair moved that the recommendation be made to MDOT MVA and not to the legislature, which led to the following draft recommendation:

- *The MDOT Motor Vehicle Administration should look to best practices regarding bicycle safety and driver testing and ongoing education and driving examinations (see Illinois example).*

Funding

The Consultant Team asked the Task Force if there were other issues related to funding. The Task Force members discussed the difficulty to administer federal programs due to restrictive rules and staffing requirements, and the limited pool of State funding in the Maryland Bikeways Program.

The Chair expressed concern that the Bicycle Advocates' Recommendation I.1. regarding Vision Zero would have serious implications for the State Highway Safety Plan (SHSP). The approach adopted by the state seeks similar outcomes, but is based on a different methodology, and is called "Towards Zero Deaths. The MPOs are in the process of adopting the SHSP, so switching to a new methodology would have many repercussions. The Chair also mentioned that there were no bicycle safety applications in the latest pool for State Highway Safety Grants. The Chair thanked the bicycle advocates for providing the list of recommendations.



The Task Force will finalize recommendations regarding education, outreach, and funding at the last meeting on November 9th. Task Force members can meanwhile reach out to Marty Baker or Peter Sotherland with any questions or comments on these topics.

Notes from Meeting 5

Thursday, November 9, 2017, 1:00 PM – 4:30 PM

The following notes reflect a summary of the last meeting of the Task Force. As there are no subsequent meetings, the following notes will not be formally approved.

Task Force Members:

Captain Charles Baker, Shayne Boucher, Vincent Boylan, Delegate Andrew Cassilly, Ragina Cooper-Averella, Chris Eatough, Tom Gianni, Tom Huesman, Jack Keene, Jon Korin, Delegate Stephen Lafferty, Laurie Lemieux, Michael Lore (for Senator Susan Lee), Mike Lenhart, Mark Morelock, Peter Sotherland, Mayor Patrick Wojahn, Chief Michael Wynnyk, Corporal David Zanoni

Task Force Members Not Present:

Senator Roger Manno

MDOT Staff Present:

Marty Baker (MDOT TSO), Stacey Beckett (MDOT SHA), Virginia Burke (MDOT TSO), Kelly Melhem (MHSO), Oluseyi Olugbenle (MDOT TSO), Diane Patterson (MDOT TSO), Ellie Simmons (MDOT TSO)

Consulting Staff Present:

Leigh-Ann Dawes (Sharp & Company), Bryon White (Sabra Wang and Associates), Alia Anderson (Toole Design).

Members of the Public:

Garrett Hennigan, Bill Kelly, Brae Kinzinger, Marieannette Otero, Barbara Zektick

Welcome and General Announcements (Chair and All – 10 mins)

The Chair explained that the meeting notes and draft of recommendations had been distributed to the Task Force members on Friday, November 3rd and Monday, November 6th, respectively. The Chair asked Task Force members for any comments on the Draft Meeting 4 Notes and received none.. The notes were approved and will be posted online with the other meeting materials to the Task Force website:

http://www.mdot.maryland.gov/newMDOT/Planning/Bike_Walk/Task-Force.html.

The Chair outlined the timeline for the Task Force report. There was discussion about adjusting the timelines for comment by the Task Force members and the public. The following timeline was approved:

- November 13: Post draft report for comment by Task Force members
- November 17: End of Task Force comment period
- November 22: Post revised draft report for public comment
- December 6: End of public comment period
- December 15: Submit final report to legislature

The Task Force can send comments to Marty Baker. The public draft will be posted to the Task Force website and the public may email comments to BikeSafetyTaskForce@mdot.state.md.us. The Chair explained that any



comments addressing substantive issues that the Task Force did not consider as a group would not be contained in the body of the report, but would be reflected in an appendix.

The Chair mentioned that the recommendations will be discussed today, and no new information or issues will be discussed due to time constraints. He also explained that MDOT has no plans to conduct a media event around the release of the report, but that Task Force members are welcome to reach out to their own constituents to seek support for their efforts.

Hard copies of the agenda, meeting 4 summary notes, a draft list of recommendations, , and the draft report were made available to Task Force members.

Discussion of Funding and Outreach Issues and Recommendations (1h 55 mins)

The Consultant Team presented recommendations on Funding and Outreach, which included track changes made based on feedback from Task Force members after Friday, November 3rd. The Consultant Team asked the Task Force members to comment if they would like to make any changes before the revised draft report is issued.

Education & Outreach

Recommendation 5.1

The recommendation was approved as written:

Schools: The State agencies should collaborate to encourage and facilitate bicycle safety education for school children.

Note: The Task Force acknowledged need to identify more specific partnerships at both the state and local level for implementation but pointed to tools recently developed in Maine as an example. Washington D.C.'s program that required mandatory bicycle safety for all 2nd graders was cited as a model for local jurisdictions to emulate.

Recommendation 5.2

The Task Force members requested a few clarifying language changes to the note section of Recommendation 5.2, and approved the recommendation as follows:

Drivers: MDOT MVA should consider ways to improve driver training programs to better address bicycle safety issues and to emphasize these issues in driver testing, as well as in training for commercial driving licenses and for driver improvement programs.

Note: Task Force members acknowledged that bicycle safety issues are included in training and testing for new drivers, but emphasized that new interactive and web-based training approaches should be developed. They noted a specific bike education resource developed by the State of Illinois, <http://www.bikesafetyquiz.com/> as a good example. Task Force members emphasized that training should emphasize the importance of retaining legal right of way for cyclists, and that it is illegal for cars, buses and delivery vehicles to be stopped in bike lanes. As bicycles become



more prevalent on Maryland Roadways, and different roadway treatments are adopted, MVA should be prepared to proactively address concerns and to educate roadway users.

Recommendation 5.3

Several Task Force members raised concern about making trainings mandatory given time and budget constraints. The Task Force agreed to edit the recommendation as follows:

Law Enforcement: The Maryland Police and Correctional Training Commission (MPCTC) should consider developing a bicycle safety law enforcement training course for in-service training.

Note: This could be coordinated with MDOT and should include measures to enhance sensitivity to cyclist safety issues and to help improve enforcement and crash reporting.

Task Force members also added an additional recommendation:

5.4 *Maryland should provide increase funding and strengthen its outreach and education related to bicycle safety targeting bicyclists, drivers, and pedestrians*

Recommendation 5.5

Task Force members discussed whether this recommendation should be directed to the state or local level or both. Members explained that SHA District offices do not have a designated bicycle staff person, and that many localities have limited resources to devote a single staff person to bicycle-related work exclusively.

MDOT should enhance bicycle safety related training for engineers and planners in all relevant divisions, and ensure that bicycle planning expertise is clearly identified and reflected in the staffing of its State Highway Administration District Engineering offices.

Note: Although the original recommendation emphasized planners within SHA, the recommendation was altered to include other agencies at the state and local level and to include engineering professionals. Pennsylvania's statewide training program was cited as a potential model. Training should also be more readily available to staff in local jurisdictions. It is recommended that cities and counties consider designating a point person to address bicycle issues.

Funding

The Task Force discussed the difficulty of federal funding grant administration for local jurisdictions and some members brought up concerns that the State is not applying for competitive federal funding or properly utilizing all federal allocation funds available for bicycle programs. One member pointed out that the state cannot predict or dictate the federal allocation funds. This discussion led to the rewording of Recommendations 6.1 and 6.2 as follows:

MDOT should improve the administration and utilization of federal funding programs to identify opportunities to improve performance in developing bicycle network infrastructure. (main points: access to more competitive grants, administration, i.e. federal, non-profit)

Note: The Task Force acknowledged that existing funding sources are not always effectively utilized. The intent of the program evaluation would be to explore potential amendments to



programs to address the timing, predictability, and complexity issues faced by project sponsors in securing and managing grant funding.

MDOT in coordination with other state agencies, should work to develop technical assistance tools to assist local jurisdictions and other stakeholders to address the challenges of developing and implementing bike safety related projects.

Note: MDOT has developed some new training modules in recent years, but recognizes that many local jurisdictions still often lack capacity to address project needs. MDOT agencies should collaborate to develop new tools to help potential applicants improve planning, project development, engineering and grant management capacities for better utilization of existing grant programs.

Recommendation 6.3

One Task Force member pointed out that the acronym for BPPA should be explained in this recommendation. The Task Force also agreed that the language should indicate the strategies included are not an exhaustive list. The recommendation was approved as follows:

MDOT SHA should consider using the Bicycle Pedestrian Priority Area designation as a mechanism to pilot a set of low stress and/or emerging bicycle facility types including protected bike lane projects on state roads, to clarify maintenance needs and practices for a variety of configurations, and to explore flexibility for state and local coverage of maintenance needs.

Note: See also recommendations regarding the BPPA process as included in the Design section.

Recommendation 6.4

The recommendation was approved as written:

MDOT should consider expanding allocations for bicycle infrastructure on the State transportation network to address bike safety and access needs more directly and consistently. Specifically, consideration should be given to how more Transportation Trust Fund resources might be dedicated to expanding bike safety and access improvements for both roadways and transit; to augmenting allocations to existing programs (such as Bicycle and Sidewalk Retrofit), and to directly supporting project investments to address bike accommodation on transit and to help implement Bicycle and Pedestrian Priority Area (BPPA) Plans.

Note: See also note included under 6.7, regarding the existing process for shaping the Consolidated Transportation Program.

Recommendation 6.5

Task Force members discussed that the Bikeways Program is unable to fund major capital projects due to its limited funding size. One member clarified that MDOT SHA funds must be spent in the State ROW, although utility corridors have been investigated in the past. Task Force members also emphasized that connected



networks of bicycle infrastructure were important benefits, and discussed if the state should have a mode share goal. This discussion led to edits in the recommendation as follows:

MDOT should consider expanding and consistently funding state discretionary programs such as the Bikeways Program to better assist local jurisdictions in planning and building bicycle infrastructure that improves bike safety and increases bike mode share. (Task Force members emphasized need to ensure the approach included measures for greater continuity and predictability.)

Note: The intent of this recommendation is to address access needs of all scales including local, regional, and state.

Recommendation 6.6

The Task Force members added some clarifying language to this recommendation and approved it as follows:

Local jurisdictions should explore the use of local ordinances (e.g. Adequate Public Facility Ordinances), impact fees, user fees, parking revenues, home-owners' associations, business improvement districts, Transportation Management Zones, etc., to help fund and build bicycle infrastructure.

Note: This effort may include coordinating with MDOT SHA to ensure improvements related to traffic impacts on state roadways are also addressed with appropriate bicycle facilities or that a fee in lieu approach is properly structured to best address this need.

Recommendation 6.7

The recommendation was approved as written:

Local jurisdictions should be encouraged to include bicycle and pedestrian projects in their annual priority letters to MDOT to inform the process for allocating state transportation funding.

Note: There have been several legislative initiatives in recent years regarding sources and uses of the Transportation Trust Fund. Task Force recommendations are not intended to function as a substitute for the established project prioritization and budget process, but are suggested for supplemental consideration. Stakeholders can help ensure that bike safety projects are considered for funding by urging local officials to include them in the county priority letters that help shape MDOT's Consolidated Transportation Program (CTP).

Recommendation 6.8

The recommendation was approved as written:

MDOT's MHSO should promote grant funds to support overtime for law enforcement to address bicycle safety. Overtime could be directed toward enforcement efforts for violation of the 3-foot law, as well as toward educating drivers on sharing the road with bicyclists and educating cyclists on rules of the road, the need for lights/reflective clothing, etc.

Recommendation 6.9

The Task Force members discussed making the language more flexible to enable bicycle projects to be eligible for general transportation funds. The recommendation was amended as follows:



MDOT and other stakeholders should proactively engage their Congressional *representatives* in advocating for greater flexibility for bicycle projects and increased funding levels for federal grant programs within any infrastructure bill and/or in the upcoming Surface Transportation Re-authorization Bill. (The current bill is set to expire in 2020).

Overview of Draft Task Force Report Structure (Task Force Consultant Team – 10 mins)

The Consultant team explained the report incorporates the context papers, all issues and recommendations, and addresses the legislation. Each section begins with the context, followed by the key issue areas, and then the recommendations. Appendices contain meeting notes, public comment, the resource list, glossary list, and explanations of acronyms. Task Force members also suggested including a mission statement, and an explanation of the importance.

Discussion of Draft Task Force Recommendations (Task Force Consultant Team – 40 mins)

The Consultant Team reviewed all recommendations in the draft report and asked the Task Force members to comment if they would like to make any changes before the revised draft report is issued. The recommendations as circulated, and integrated into the report were approved and the following recommendations were subject to further discussion and amendment:

Data/Research

- 2.14 *State and local agencies as well as regional entities should collaborate to explore new methods for collecting ridership, exposure data, and non-reported crashes. This should include consideration of automated counters, user surveys, and crowdsourced data.*

Note: Task Force members emphasized that crash data is not a sufficient indicator of safety and access needs for cyclists, because off-road facilities are not captured, and areas that are avoided due to safety issues could also be avoided and thus underreported. The intent of this recommendation would include helping identify targeted areas for benchmarking and target-setting to address mode split and safety goals. Not intended to include mountain biking data.

Maintenance and Signage

- 2.4 *MDOT SHA should provide local jurisdictions with draft language for a local Ordinance designed to identify maintenance responsibility to expedite construction of bicycle and pedestrian facilities. Explore best practices for shared responsibility for maintenance*

Note: Some Task Force members expressed a desire to introduce legislation allowing the State to pay for maintenance of sidewalk and shared-use path facilities. It was noted, however, that budgetary implications would make it difficult to pass such legislation. Additional concerns were noted to include both short-term and long-term maintenance, and noting the importance of protected bike lanes



- 2.5 *State and local transportation agencies should consider developing a uniform bicycle route signage system for wayfinding on state and local roads.*

Note: A funding mechanism would need to be identified to implement this recommendation.

Identifying Needs/Hot-Spots

- 2.6 *MDOT SHA should expand the use of models that analyze multimodal access as part of its project development and access management process ensure that the safety of all road users is not compromised by prioritizing vehicle throughput. Development mitigation requests should include consideration of impacts to bike infrastructure and safety and seek to improve these at SHA access points and intersections.*

Note: The Task Force requested that additional language be developed to clarify the intent of this recommendation.

Guidelines

- 3.5 *MDOT SHA should clarify and consider adding flexibility to its process for including bike accommodation for new developments along State roads. Consideration should be given to master planned elements, including dedicated bike path right of ways.*

Note: Task Force members requested that clarification be added regarding intent to work with local jurisdictions, etc.

- 3.6 *Local jurisdictions should be encouraged to explore a mechanism to accept a fee in lieu of improvements on the state roadway to address implementation of master planned bike elements in and around the adjacent area. (Addressed in Report Ch. 3)*

Note: Task Force members expressed concern that current access management and design waiver processes often result in uneven and illogical implementation that are ill-suited to a specific context. Interest was expressed for a state level fee in lieu program, however, it was noted that state agencies do not generally have a mechanism for collecting impact fees, which are assessed at the local level. (In discussion, it was also suggested that consideration be given to whether this recommendation belongs in the legislative section)

POLICY

- 1.3 *The Task Force strongly encourages the Maryland Transportation Authority to adopt a complete streets policy. (See Report Ch. 3)*

Note: The Task Force noted that MDTA is a separate entity from MDOT and does not have representation on the Task Force. They wished to express the opinion, however, that this entity should also adopt a strong policy to ensure exploration of bike accommodation as part of the



project development process. They emphasized the importance of bridges in particular, due to the longevity of these infrastructure investments.

Report Comments, Confirmation and Next Steps (20 mins)

The Consultant Team reviewed the amended timeline for the report. On November 13th, the revised draft report will be distributed to the Task Force members for comment, which can be sent to Marty Baker until November 17th. On November 22nd, the draft report will be posted to the Task Force website and the public may email comments to BikeSafetyTaskForce@mdot.state.md.us until December 6th. Inputs from the public will be shared with the Task Force and reflected in the Public Comment appendix to the report. The final report will then be assembled and submitted to the Legislature on December 15th. The Task Force agreed to this schedule for completing the report of their approved recommendations.



Appendix C: Resource List

Documents

- Maine's *LD 1130 An Act to Provide Traffic Safety Education in Schools*
- Massachusetts Department of Transportation *Separated Bike Lane Planning and Design Guide*. 2015
- FHWA *Manual on Uniform Traffic Control Devices*
- Maryland *Manual on Uniform Traffic Control Devices*
- Montgomery County Planning Department *Bicycle Facility Design Toolkit*
- National Association of City Transportation Officials *Urban Bikeway Design Guide*. 2011
- Maryland State Highway Administration *Bicycle Policy & Design Guidelines*. 2015
- Maryland Transportation Code
- Governors Highway Safety Association, *A Right to the Road Report*
- Maryland's Bicycle and Pedestrian Master Plan (2014).

Websites

- http://www.mdot.maryland.gov/newMDOT/Planning/Bike_Walk/Task-Force.html
- <http://www.bikesafetyquiz.com/>
- <http://towardzerodeathsmd.com/>
- <http://www.sha.maryland.gov/index.aspx?PageId=357>
- <http://beststreetsmart.net/index2.php>
- <http://bikeleague.org/content/bike-law-university-vulnerable-road-user-laws>
- <http://www.sha.maryland.gov/ohd/MainStreet.pdf>
- https://www.youtube.com/watch?v=qIkLQTLfNUM&feature=c4-overview&list=UU9T5bd9B7i72pF_CQOurycA
- <http://bikeleague.org/content/ranking>
- http://www.roads.maryland.gov/oppen/sha_complete_street_policy.pdf
- <http://www.bikede.org/bfda/safe-yielding/>
- <http://www.mva.maryland.gov/safety/mhso/state-highway-safety-plan.htm>



Appendix D: Glossary of Terms and Acronyms

Definitions

Bicycle

Vehicle that (i) is designed to be operated by human power; (ii) has two or three wheels, of which one is more than 14 inches in diameter; and (iii) has a drive mechanism other than by pedals directly attached to a drive wheel or (2) an electric bicycle. (3) a moped. (2016 Maryland Transportation Code TR §11-104)

Bicycle path

"Bicycle path" means any travelway designed and designated by signing or signing and marking for bicycle use, located within its own right-of-way or in a shared right-of-way, and physically separated from motor vehicle traffic by berm, shoulder, curb, or other similar device. (2016 Maryland Transportation Code TR §21-101)

Bicycle Way

"Bicycle way" means: (i) Any trail, path, part of a highway, surfaced or smooth shoulder, or sidewalk; or (ii) Any other travelway specifically signed, marked, or otherwise designated for bicycle travel. (2016 Maryland Transportation Code TR §21-101)

Bike Lane

"Bike lane" means any portion of a roadway or shoulder designated for single directional bicycle flow. (2016 Maryland Transportation Code TR §21-101)

Bike Signal

Traffic signal using Bike emblems that regulates movement of bikes only through an intersection. Bike Signals are not in the MUTCD or MD-MUTCD, but are allowable under the Federal Highway Administration's Interim Approval-16 and may be included in the next version of the MUTCD.

Complete Streets

Complete Streets is a transportation policy that requires and designs for streets to be planned, designed, operated, and maintained to enable safe, convenient and comfortable travel and access for users of all ages and abilities regardless of their mode of transportation.

HAWK Signal

A HAWK beacon (High-Intensity Activated crosswalk), also known as a Pedestrian Hybrid Beacon, is a pedestrian-activated traffic signal used to stop road traffic and allow pedestrians to cross safely.

MUTCD



The Manual on Uniform Traffic Control Devices (MUTCD) is a document issued by the United States Department of Transportation that specifies the standards (e.g. color, size, shape) by which traffic signs, road surface markings, and signals are designed, installed, and applied.

MdMUTCD

The *Maryland* Manual on Uniform Traffic Control Devices (MUTCD) is a document applicable to roads in Maryland, and is based largely on the MUTCD, but with some additions and exceptions.

Major Capital Improvements

Major projects are projects that undergo several years of planning and generally include: those costing more than \$10 million; bridge replacements; additional roadway capacity over one lane-mile; or those that are otherwise considered to be regionally significant.

System Preservation Projects

System preservation projects are smaller than Major Capital Improvements, are initiated as requests from a County or Municipality and target poor operational roadway performance.

Contributory Negligence

Legal terms for the failure of an injured plaintiff to act prudently in such a way that contributes to their injury. For example, not wearing a bike helmet or using a bike light has been cited as contributory negligence, limiting the amount recovered from the defendant.

Crash

An Event that produces injury and/or property damage, involves a motor vehicle In transport, and occurs on a trafficway or while the vehicle is still in motion after running off the trafficway. (NHTSA Fatal Analysis Reporting System [FARS])

Level of Service

Letter grade A – F, associated with traffic congestion, wherein each letter grade corresponds to a measureable and modelable amount of vehicle delay. Intersection LOS refers to the amount of delay required to traverse an intersection, while arterial delay refers to the amount of delay experienced to traverse a roadway segment, relative to uninhibited free flow speed.

Design Waiver

Request to reduce or eliminate required elements designated in applicable design guidelines.

E-bikes

E-bikes or electric bicycles are defined as a bicycle that is human powered with the assistance of an electric motor, is equipped with fully operable pedals, has two or three wheels, has a motor rating of 500 watts or less,



and is capable of a maximum speed of 20 miles per hour or less. (2016 Maryland Transportation Code, TR § 11-117.1)

Highway

"Highway" means:

- (1) The entire width between the boundary lines of any way or thoroughfare of which any part is used by the public for vehicular travel, whether or not the way or thoroughfare has been dedicated to the public and accepted by any proper authority; and
- (2) For purposes of the application of State laws, the entire width between the boundary lines of any way or thoroughfare used for purposes of vehicular travel on any property owned, leased, or controlled by the United States government and located in the State. (2016 Maryland Transportation Code TR §11-127)

Pedestrian

"Pedestrian" means an individual afoot. (2016 Maryland Transportation Code TR §11-145)

Serious Injury

An *incapacitating injury* as indicated on a Police Crash Report as injury severity-4 based on the KABCO scale of 1-5 (5 = fatal injury). Assessed by the responding officer. (NHTSA Fatal Analysis Reporting System [FARS])

Trafficway

Means any highway, road, street, cul-de-sac, or alley. "State Road" identifies trafficways under the jurisdiction of the Maryland Department of Transportation, (SHA) or the Maryland Transportation Authority.

Vulnerable Users

A general term used in the transportation industry to refer to users that have a higher risk of being killed or seriously injured when involved in a traffic crash; specifically, people walking and bicycling, as well as older and younger travelers.

Strategic Highway Safety Plan

The Maryland Strategic Highway Safety Plan is a statewide, coordinated, comprehensive, traffic safety plan that provides the framework for reducing highway fatalities and serious injuries on all public streets and highways. It establishes overall goals and objectives as well as objectives and strategies within each of six key emphasis areas.

Acronyms

ADA

American's with Disabilities Act



APFO

Adequate Public Facilities Ordinance

BPPA

Bicycle and Pedestrian Priority Areas

MBPAC

Maryland Bicycle and Pedestrian Advisory Committee

MUTCD

Manual for Uniform Traffic Control Devices

ROW

Right of way

TIS

Traffic Impact Study

LOS

Level of Service

MDOT

Maryland Department of Transportation

MSP

Maryland State Police

DNR

Department of Natural Resources

SHA

State Highway Administration

MHSO

Maryland Highway Safety Office

TSO

Transportation Secretary's Office



MVA

Motor Vehicle Administration

SHSP

Strategic Highway Safety Plan

TAP

Transportation Alternatives Program

SRTS

Safe Routes to School

RTP

Recreational Trails Program

POS

Program Open Space

CIP

Capital Improvement Plan



Appendix E: Public Comment - Draft Task Force Report

All Task Force meetings were open to the public and invitation for public comment was given at the end of each meeting. Comment cards and the option to submit comments via email (BikeSafetyTaskForce@mdot.state.md.us) were made available to ensure adequate opportunity for public input. Questions and comments from the public were regularly checked and shared at Task Force meetings. During the last Task Force meeting, The Chair explained that any substantive comments addressing issues that the Task Force did not consider as a group would not be contained in the body of the report, but would be reflected in the appendix.

The public was asked to submit any edits, final observations, and comments upon reviewing the Draft Task Force Report from November 22, 2017 – December 6, 2017. Many helpful comments were received in addition to several observations about topics not fully covered and issues where consensus was not fully achieved. The Project Consultant Team and Task Force Staff made efforts to address comments in the final report where appropriate, and have included all public comments on the Draft Report in Appendix E.

Comments from the Public

Commenter: Anonymous:

Bicycles should be treated as equal users of existing road right of ways, and not relegated to separate lanes within the roadway. Instead of bike lanes, additional signage should be pursued to emphasize that “Bikes may use full lane.”

Commenter: Anonymous

State and local players should seek federal funding and technical assistance from the Accelerated Innovation Deployment program to test two key bicycle safety related projects: 1) The adoption of bicycle signals for the Maryland Avenue cycle track in Baltimore City (pedestrian signals are not visible); and 2) the development of a full cycle track on MD 450 to connect the Baltimore and Annapolis Trail to downtown Annapolis (would be the first cycle track on a state roadway). The projects would be good candidates for this program.

Commenter: Various

Several recommendations would require coordination with entities and stakeholders who did not participate in the Task Force proceedings and are not explicitly called out in the report. For example, implementing uniform bicycle route signage system (Rec. 2.6) and developing an inventory of bicycle facilities (Rec. 2.8) must involve coordination with the State of Maryland’s Department of Planning, Department of Natural Resources, and Department of Commerce (Office of Tourism Development) in addition to local stakeholders. Members of the Maryland Bicycle and Pedestrian Advisory Committee, the Maryland Heritage Area Authority including Heritage Area Directors, and other stakeholders and staff will be critical partners in advancing these and several other recommendations in the report.

Commenter: Dr. Bruce Kinzinger, Bike Harford (Original bold emphasis retained)

Thank you for your dedicated efforts in attending the task force meetings. I was only able to be there October 12th and November 9th, but was very impressed with the quality of the exchange each time, to improve safety and access for the vulnerable road user, and all of us who would like to get out there on bicycles, but care too much about our lives to do so. Many good ideas surfaced, and I hope they can be funded and put into practice.



I'd like to propose that **\$30M be earmarked from the state budget every year to advance the work that you have discussed for the "active road user."** This is about \$5/ year for each state resident. Colorado spends this amount per person, and is making great headway. Other states are making similar investments. Where will Maryland stand? Ideally, this \$30M state budget would be overseen by groups that would assure that we are maximizing meaningful advances in infrastructure from this investment.

Many residents cannot afford a gym membership, or they want to be outdoors. Their bikes are rusty and dusty from disuse, or it is in a landfill... they cycled years ago, and somewhere along the way it just got too unsafe.

According to brand new hypertension guidelines this week from the American Heart Association, 46% of Americans need a way to get good, safe, practical, fun exercise. The other 54% would still benefit, also, as would the environment.

As a physician, **I have seen the obesity rate double in my career.** It's almost 40% now. Obesity is a big reason people can't see their primary care doctor any more. Because people with diabetes, depression, hypertension, hyperlipidemia, strokes, heart attacks, complications of diabetes, etc. (all obesity-related) all need extra care, and this has all increased along with our sedentary lifestyle. **Diabetes has quadrupled** from 1 in 50 people to one in 12! So, despite all that modern medicine has to offer, our health is suffering.

Individuals have some responsibility in this, yes. So does our infrastructure. "Infrastructure is destiny," you might say. At this time, **the state holds a shared liability in this loss of mobility, freedom, safety, health, access to healthcare, and even longevity.** This Task Force work also stands as an opportunity for the state to start to right this wrong.

I could not help but notice in one of the exchanges, that explicitly prioritizing safety of all road users over car throughput created embarrassment for SHA. While safety is an implicit priority of roadway function, a proposal to make it explicit caused a lot of hesitation, and was met with reluctance. This hesitation speaks volumes about what is actually prioritized (and not), in current SHA projects.

IN SUMMARY, let's make a meaningful annual investment to fund some great ideas, keep upgrading this neglected piece of infrastructure, make sure these funds are wisely used, and please take this opportunity to re work our infrastructure for a future of lower obesity, better health, fewer pills and doctor visits, more freedom, cleaner air, fewer cars, better chances to enjoy our environs, more opportunities for tourists and the small businesses that they support, and improved quality of life in our shared, beautiful state.

Comments from Maryland Bicycle and Pedestrian Advisory Committee (MBPAC)

Commenter: Richard Cushwa, Former MBPAC Member

- "I served on MBPAC from Oct 2005 - Oct 2015, and am presently a member of the Hagerstown Bicycle Advisory Committee. I support the recommendations of the Draft Report. It should help Maryland become a safer state to bike in."



Commenter: Greg Hinchliffe, Current MBPAC Member

“Just a few quick comments on the draft report:

- The text on p. 24 describes the state's "BLOC D or better" goal as 80%, while the graph on p. 25 shows it as 59%.
- The map of Short Trip Opportunity Areas on p. 26 is made less clear by the green areas, which appear to be related to population density, but are not explained. Are they necessary? Are they removable?

I believe there is a comma missing on p. 36 in the description of System Preservation Projects. First paragraph, last sentence, between "improvements" and "upgrade".”

Commenter: Jon Morrision, Current MBPAC Member

“As a driver (approximately 12,000 miles per year) and a cyclist (approximately 1,000 miles per year), a member of several cycling advisory boards and civic associations, I offer the following feedback on the draft report from the Task Force:

Legislative tools:

I heartily approve of those items listed, except for recommendation 1.7 - the ability to artificially set speed limits slower on roadways. If a facility is intended to be bicycle and pedestrian oriented, then block it off from motorized traffic entirely. Otherwise, low end speed limits are already low enough for shared use roadways. If additional lateral separation is needed, add a shoulder, marked lane, narrow the travel lane or when available, perform a ‘road diet’ to create car free space. Please drop 1.7 from the list of recommendations.

I would suggest the inclusion of the following items as additional recommendations in the Legislative tools section:

- 1) Clarification of ‘protected bike facilities’ as shoulders, not as ‘bike lanes’;
- 2) Removal of mandatory use regulation for ‘bike lanes’; and
- 3) Revising the language of the law to require MDTA to provide bike accommodations on any new or renovated facilities unless sufficient documented justification is provided (current language allows, but does not require, such facilities).

Please consider the recently enacted legislative changes made in our adjoining neighbor, Delaware Governor John Carney signed the Bicycle Friendly Delaware Act on Thursday, October 5, 2017 in Newark

<http://www.bikede.org/2017/10/03/bicycle-friendly-delaware-act/>



The Delaware legislation was mentioned in the body of the draft report, but the key components were not included in the recommendations – safe passing, safe yielding, no honking among those. Please add these to the list of recommendations.

Utility and Park linear corridors:

While this document is focused on “Maryland Highways” a recommendation that greater use of our linear parks and utility right of way corridors to provide for discrete bike/ped facilities would greatly allow for enhanced cyclist safety by providing direct and long linear corridors free of motor vehicles. This provides the cyclists with a massively increased level of comfort along with segregating the modes of transportation, increasing the comfort level of drivers as well. This recommendation could go in any number of sections – Infrastructure guidance as well Site Access and Utilities.

We cannot continue to segregate interrelated infrastructure opportunities and address only individual parts of the big picture. Looking solely at Highways absent parks and utility corridors prevents a complete solution perspective. The task force documented some of this discussion on p40 of the draft, but did not include a recommendation that this be pursued. I would suggest a recommendation be added by the Task Force.

Education and awareness:

Recommendation 4.3 can be further enhanced by adding an additional Education recommendation: All individuals renewing or receiving their driver’s licenses must complete a guided, on street, bicycle ride as part of their driver training (with applicable ADA exceptions) to become more cognizant of the relationship and vulnerabilities of vehicles sharing highway space.

A similar recommendation would be that all State employees be required to periodically (annually?) complete a guided bicycle ride (not just classroom education) to greater appreciate the perspective of cyclists (be they kids trying to pedal to school, adults commuting to work, cycling for errand, physical fitness or otherwise) and thus be able to relate it to the design, implementation, or whatever work they perform.



Site Access and Utilities

High speed roadways were touched upon on p42, but no recommendations were issued. It should be noted that many higher speed limited access roadways already are permitted use under MDOT regulations. One roadway that does not currently provide such access that would be a great pilot program for further consideration is the Intercounty Connector (MD-200).

As the promised, complete, parallel hiker/biker path was not built about the highway in substantial portions of the corridor, a recommendation to permit cyclists on the shoulders of MD-200 from MD-97 to US-29 as a pilot program would be most appropriate. Please add a recommendation that such a pilot program be created with the longer-term objective of permanent use of this segment.

P 15 – last sentence – “In 2014....” This law existed well before 2014. I believe what changed was the permission to pedal across ramps and turn lanes specifically as those were not explicitly considered part of the already permitted shoulder.

Thank you for your consideration.

I appreciate the work this entire Task Force put in and the time and energy devoted. I wish that there had been a longer period to permit greater consideration and inclusion of others in the process. Having only weekday meetings during the working day severely restricted attendance and participation of those who could not take time off work. I further wish that more proactive communication methods had been used to share the work of the Task Force with the community and not have to hunt for blog postings or other updates that sometimes didn't appear until weeks afterward.”

Commenter: Jim Titus, Current MBPAC Member

Dear Task Force,

Thank you for the opportunity to provide comments. The tone and conclusions are generally reasonable. Please construe my comments as suggestions for making the report better rather than as a complaint about what the authors have done or failed to do.

General Comments

My primary concerns are twofold. First, the quality could be improved with careful fact checking, editing to delete or clarify vague sentences, and careful incorporation of the comments of reviewers. Fact checking and editing by someone not involved in production of the report is usually the best way to ensure accuracy; but even people involved can do so if they are rigorous about checking sources and thinking about each sentence. The published schedule does not provide sufficient time to do this unless members are prepared to drop everything during the next 9 days. Even if the report it is likely to support specific Legislation, it would be better to have a higher quality report in time for the hearings on the bill, rather than a medium quality report by mid-December.

Second, it would be useful to identify 5 or at most 10 key recommendations, and instead of simply stating them in the executive summary, provide a compelling paragraph that both justifies them and addresses the strongest argument against them. As it stands, the recommendations look like a long list of good ideas, which is fine—but the process started out with a list of good ideas. Narrowing the priorities would give it some force. To some extent, the chapters themselves provide a narrative related to recommendations, though the



narrative tends to be related facts rather than a compelling argument building on facts. That's probably all will be able to do in the chapters, but some key recommendations with compelling arguments in the executive summary would make the report more useful.

The rest of my comments are paragraph-specific suggestions that either point out incorrect facts or key omissions that can be easily remedied. Feel free to email me at jtitus@risingsea.net or call me at 301-602-5421 if you need specific citations for any of the assertions that I have made.

Detailed comments on specific paragraphs

Page 14. There is some information about crashes, but nothing about the causes—much less information about causes that would tend to support safety recommendations, the report should explain why the authors believe that they can make safety-based recommendations without information on whether those recommendations mitigate the causes of crashes. There are possible valid reasons, but the lack of an empirical basis for the recommendations in the report should be clarified or acknowledged.

Section 1. pages 15 et seq. This section needs work. Every legal assertion needs either a statutory citation or a citation to caselaw, for two reasons. First, some of the assertions here are wrong and there is nothing like checking your citations to make sure it is correct. Second, a reader has not real way to verify assertions without the citation.

Page 16, last paragraph. This explanation is garbled. It implies that bicyclists were not allowed to ride on shoulders before 2014 for roads >50mph. Instead, the second sentence needs to state the general law about >50mph. Then simplify the third sentence to explain the narrow exception that was carved out for entrance and exit ramps, etc.

Page 16. 4th bullet. This requirement for a rear light is new, if it exists at all. For many years one needed either a rear reflector or a rear light. If there is a new (or poorly known) requirement for a rear light this should be cited.

Page 17, paragraph 1, line 4. "...which requires motorists..." Please check the statute to make sure that this requirement is limited to motorists. Last I checked it applied to all vehicle operators, including cyclists.

Page 17 "Ride to right." Please check the statute. Last I checked, it does not apply to cyclists traveling less than the posted speed limit. There is a requirement to be traveling with the speed of traffic. That is, the posted speed limit is a maximum not a minimum. While parts of MD law do seem to officially sanction speeding, this statute is not an example. If the speed limit is 45 mph, for example, and there is no traffic other than bicyclists traveling at 15 mph, then the speed of traffic is 15 mph, not 45 mph. This section probably should also note that cyclist may ride two abreast when doing so does not impede traffic. Finally, the paragraph should mention that the MUTCD and SHA have implemented the last sentence with hundreds of R4-11 signs (bicyclists may use full lane) signs.

Page 17. Intentional dooring. This paragraph should also mention the section that prohibits drivers from opening the door into traffic. That is, the vehicle in the lane has right of way over someone wanting to open a door. So accidental dooring is illegal as well. While that is outside the topic of the paragraph heading, it would be a bit misleading to not at least give this a mention, since most doorings are almost certainly accidental.



Page 17. Other examples of aggressive driving toward cyclists should be mentioned even if there is not a specific section in the bicycle code but rather the practice is illegal by a general section in the rules of the road. Aggressive horn honking, and aggressive right hooks (see section requiring right turns from as far right as possible) are both illegal.

Page 17 and/or Page 21. Under lights, you should mention that some cyclists are increasingly using day time running lights, but that the front mounted flashing amber lights are technically not allowed. See section on amber lights in the vehicle code. That section was intended for motor vehicles. While no police officer would ticket a cyclist for such a safety light, amending the code to allow it would have some educational encouragement.

Page 20. In the discussion of vulnerable users, or perhaps somewhere else, the text could also mention the existing power of MVA to suspend a driver's license when there is a deadly crash due to a violation, as well as the relatively new criminal negligence statute. Losing a driver's license is small compared to losing a life, but it is more significant than having to show up in court.

Page 23. The problem of speed is recognized indirectly in a number of places, rather than directly. The text should make it clear that speed of motor vehicles is both the most important hazard to cycling on roadways and the most important factor discouraging people from doing so. A few stark realities need to be specifically called out, most important is the fact that speeding is ubiquitous to the point where obeying the speed limit is socially unacceptable. Localities that wish to have safe streets are prevented from doing so by the combination of state law requiring speed limits to be unsafely high, and official tolerance of exceeding speed limits by 37mph. The notion that communities must tolerate traffic at 37mph even where elected officials want streets to be safer needs to be mentioned, even if the task force is unwilling to call for a change in this state of affairs.

Page 20—section on contributory negligence. This discussion should also mention that in 2014, House Bill 52 would have limited contributory negligence to cases where a crash was caused by a failure of a cyclist to obey the law, which is more modest than DC's complete repeal of contributory negligence but would address the most unjust cases (i.e., when a cyclist with the right of way is found contributorily negligent). Hearings were held in the Environmental Matters committee, which referred the bill to Judicial Proceedings too late in the session for a hearing that session. In the following year, WABA, the main force for the reform, shifted its focus to reforming the law in DC, where the law on contributory negligence was more problematic. The law is less harsh in Maryland, because PIP insurance which covers injuries to cyclists regardless of fault is mandatory in Maryland, but not in DC.

Page 32. The section on state and local maintenance of state highways only hints at two of the issues that should be addressed. The discussion is too vague for people to see the issues. First, the idea that state maintenance might not be desirable or practical is a glib assertion that needs to be explained. One sentence should explain each side of this issue so that a reader can understand why this may or may not be desirable in a given case. More importantly, the text should mention that the statute prohibits state maintenance, which means that the statement that "in many cases this may not be practicable" misses the point. To justify the existing policy, the report needs to explain why state maintenance of bike-ped facilities is ****never**** desirable. If the authors can not defend that position, then at the very least it logically follows that the statute should be revised to allow the state to maintain facilities.



Page 42. The reference to the 85th percentile as a justification for speed limits requires some explanation and a sentence justifying it, as well as a sentence analyzing whether that standard is appropriate on any road with bicycles and pedestrians, given that drivers pick a speed based on their own perception of safety rather than the safety of others. The final paragraph requires some elaboration as to whether “best” refers to a world where there are no resource constraints or the world in which resource constraints dominate what is done. The tradeoff between speed and required spending on separate facilities should be explicitly mentioned: Where traffic is slow there is no need for separate facilities, where facilities are separate—including grade-separated intersections—speed of motorists does not matter.

The assertion that speed limits are not effective at reducing driver behavior needs a citation or significant modification. There is plenty of evidence that speeds have declined in DC which has both conservative speed limits and strict enforcement. That is not to say it is always preferable, but in Maryland the main reason to not enforce speed limits is that strict enforcement is generally not politically popular among those who get the tickets. But that fact alone does not justify the state prohibiting localities enforcing the speed limit where doing so is politically popular.

The text should specifically mention the 12mph exceedance that the state allows where there are traffic cameras, and provide some justification or suggest changes. In particular, it should note the difference between a 60mph highway where 12mph is only a 20% differential, and a residential 25mph street where it is nearly a 50% differential.

Comments with no specific page associated.

Somewhere the problem of drivers not stopping for pedestrians in crosswalks needs to be mentioned. Cyclists now have the same rights to have drivers stop, and some cyclists are willing to dismount anyway. But drivers simply do not stop for vulnerable users even in marked crosswalks, much less unmarked crosswalks, unless someone puts themselves directly in front of the vehicle. If drivers began to stop for pedestrians, they would have to be paying attention to small things not directly in their path, and thus also be more likely to notice cyclists.

Somewhere a few paragraphs are needed to discuss the need for people to ride their bikes more safely. The focus should not be on the laws that cyclists regularly violate, but rather on the important ways of riding that make one safer. Enforcement of bicycle laws could also be part of the picture, but directed toward those laws whose violation creates the greatest hazard.

Commenter: John Z Wetmore, Current MBPAC Member

“A few comments and suggestions on the Draft Report.

- Page 13. Figure 1. The label for the vertical axis is not clear. Perhaps change to "Bicyclist crashes per 10,000 population"
- Page 20. Last paragraph. Change first sentence to read "was one of only four states"
- Page 21. D. Three Foot Law. Trash trucks are far worse than transit vehicles since they stop many times more often. Change the last sentence to "(e.g., when passing a stopped trash truck, a slow farm vehicle, etc.)."



- Page 40. Utility Easements as Right-of-Way for Paths. Pipelines have major potential as well as power lines, such as a pipeline right-of-way already used for a trail in Olney. Change the first sentence to read "High-voltage power lines and gas pipelines that cross the state offer opportunities to"
- Overall, I think it is a good report.
- Page 47. Third paragraph. Redundant sentence on the P.G. safety plan.
- Page 51. Context. remove redundant word. "including support for planning and building bike-related"
- Page 52. Highway Safety Grants. An alternative wording would be "Targeted Crosswalk Enforcement Operations" rather than Crosswalk stings."

MPO Comments

Commenter: Matthew Mullenax, Hagerstown/Eastern Panhandle Metropolitan Planning Organization

"Good morning, overall I think this is an outstanding document! I would like to submit a comment on the Draft Report of the Task Force to Study Bicycle Safety on Maryland Highways:

- Pg 50, last sentence – Only MPOs that are TMAs (transportation management areas) with an urbanized population >200,000 receive and award a suballocation of TAP/RTP funds. Currently only 3 of 7 MD MPOs are TMAs

If you have any questions or need additional details on this comment please let me know."

State Agencies Comments

Commenter: Maryland Department of Planning

"Hello,

Please consider the following text in the draft report under the Infrastructure Tools, Guidance, and Performance Measures section.

"Local jurisdictions should address bicycle and pedestrian travel safety and accommodations in either a local comprehensive plan and/or a bicycle and pedestrian plan. These local plans should include not only broad bicycle and pedestrian policies but also improvement strategies and recommendations, priorities, funding mechanisms, and roles and responsibilities of public agencies and private developers. State agencies and MPOs are encouraged to provide assistance to help local jurisdictions develop bicycle and pedestrian policies, strategies, and plans.

Note: The Land Use Article, Annotated Code of Maryland requires local comprehensive plans to address bicycle and pedestrian access and facilities. In addition, one of Maryland's Twelve Planning Visions includes Transportation, which provides an opportunity for local jurisdictions to address a multimodal transportation system to facilitate "the safe, convenient, affordable, and efficient movement of people, goods, and services."



Although most local comprehensive plans discuss bicycle and pedestrian planning, some plans are limited to include only broad policy statements and provide no specific strategies or improvement recommendations let alone any discussions on priorities, funding mechanisms, and implementation."

Thank you for your consideration."

Commenter: Department of Natural Resources

I have reviewed the Task Force Report. Didn't see much related to DNR, which was expected. I was pleased to see a brief mention of utility corridors as a means to create a regional trails network. I am concerned that RTP has become such an "onerous" task that it really won't be a viable trails funding alternative.

County Comments

Commenter: Tanya Asman, representative of the Office of Transportation for Anne Arundel County

"Under legislative tools, suggest legislation to identify the areas to be targeted as mentioned in the Task Force Recommendations as high risk areas or STOAs.

There should be some language that provides for the States to require bike ped improvements during the development process when a development is adjacent to a State road, even when there is no access permit required that would trigger a State review and comment. At a minimum, there should be a mandate that the County implement it's requirements under those circumstances.

State should require that all jurisdictions update any outdated APF modeling with regard to traffic. There should be increased education of enforcement officers on proper and thorough crash data collection at the scene of an incident. Should also push for electronic means of reporting to achieve more accurate data.

Under #2.8, should include partnering with BG&E to put bike ped facilities in their right of ways. This has been done already in Columbia and Glendale Maryland and in many places nationwide.

Commenter: Howard County Office of Transportation

"Hello,

On page 46, the document says the following:

Events throughout Maryland often serve as opportunities to promote biking and bike safety. The most widely-recognized event is Bike to Work Day, which is typically the third Friday in May. In 2017, the State of Maryland sponsored over 50 pit stops for Bike to Work Day, with many of these stops located in Baltimore City and the denser-populated areas surrounding Washington, DC. There are many additional pit stops outside these core cycling areas in Howard County, Frederick, Anne Arundel County and Baltimore County, sponsored by local jurisdictions, MPOs and private entities.

The State of Maryland does not sponsor these pit stops; they are typically sponsored by private entities through either the Baltimore Metropolitan Council in the Baltimore region or through MWCOG in the Greater Washington region. Please clarify the language in this section to reflect that fact."



Commenter: Montgomery County Planning Department

We strongly support Recommendation 1.1. Montgomery County's draft Bicycle Master Plan includes recommendations for neighborhood greenways and shared streets. In addition, this recommendation should specify that the statutory / default speed limit should be lowered from 30 to 25 mph for all highways in a business district and undivided highways in a residential district in the State of Maryland.

- Recommendation 2.11 should be expanded to include two-way separated bike lanes.
- Recommendation 2.11 should be expanded to include protected intersections.
- Recommendation 3.1: Disagree that local jurisdictions should be encouraged to explore a mechanism to accept a fee in lieu of improvements on state roadways to address implementation of master planned bike elements. Incremental implementation of bicycle facilities is an established practice in Montgomery County and our draft Bicycle Master Plan identifies a process for safe implementation of incremental bikeways. It would be helpful if the Task Force could provide guidance for successful implementation, which could include state and federal funding mechanisms.
- A change is needed to the Bicycle Pedestrian Priority Area (BPPA) section of the state code ((c) (1) (ii) (2)) to decouple the state's designation of a Bicycle Pedestrian Priority Areas from implementation of a BPPA plan. Both the state designation and the plan have independent utility, but the State Highway Administration is rejecting BPPA applications because they have a backlog of plans to develop.
- Repeal the mandatory use law (Section 21-1205.1(b)(2)). There is a legacy of poor bicycle lane design in much of the state, including narrow bike lanes, bike lanes that end short of intersections, and bike lanes that are placed to the right of right-turning traffic. Until safe bike facilities are ubiquitous across the state, bicyclists should have the right to decide where it is safe to ride.
- Conduct a "Rules of the Road" assessment to identify gaps and inconsistencies in the legal framework supporting bicycling.
- Replace the Marked Bike Lane Policy with one that is consistent with achieving a low-stress bicycling network. While conventional bike lanes are appropriate for some locations, they are a poor use of the public right-of-way when implemented on roads with four or more lanes of traffic, a 30 mph or faster posted speed limit, or a road that is traveled by more than 6,000 vehicles per day, because few people will be comfortable using them.
- Develop standards for trail crossings at major roads.
- Develop protocols for bicycle facility closures and detours to ensure that comparable bikeways (and walkways) are provided to the extent possible, adequate signing is supplied to communicate the detour to bicyclists (and pedestrians) and the public is given adequate notice of the detour. When a public right-of-way occupancy permit authorizes blockage of a sidewalk or bikeway, the holder of the permit should be required to provide safe accommodation for bicyclists (and pedestrians) using the same traffic control practices that would be applied when a motor vehicle lane is closed.
- Develop a policy that strongly encourages land owners to consolidate driveways along major roadways, especially those that have separated bicycle facilities such sidepaths or separated bike lanes. Reducing curb cuts and directing access to signalized intersections with cross streets is also safer for drivers.



Comment from Bikemore

Hello,

I am writing to provide Bikemore's comments on the draft report of the Bicycle Safety Task Force. Our original letter was returned to sender today, so I am hoping that these abbreviated comments sent via email can still be incorporated despite the expired deadline.

- 1) We believe that the executive summary's recommendations are a great start, but that they should be prioritized, and that ten priority improvements should be selected for a one-year implementation timeframe, and the rest of the recommendations more clearly prioritized in an implementation schedule.
- 2) SHA and local jurisdictions need to follow NCMUTCD recommendations to abandon using "SHARE THE ROAD" signs. This antiquated and ambiguous wording doesn't provide protection or direction for people driving or biking and is a poor excuse for SHA's Complete Streets policy implementation. For SHA managed roadways with more than one lane, recommend use of a CHANGE LANES TO PASS sign. While not being a substitute for low-stress bicycle facilities, this cost-effective measure would more provide clearly direction to motorists.
- 3) In the DATA and REPORTING section, the report states that crowdsourced data is costly to purchase at a statewide level. This statement is incorrect. Strava offers statewide bicycle data for \$22,000 which is magnitudes less than SHA consultants would charge for statewide traffic data collection. MDOT SHA needs to update their procurement procedures to secure this base level data, especially as stated in Section 3B of the report that "there is insufficient bicycle and pedestrian data to inform such [multi-modal] models."
- 4) Bicycle Level of Comfort (BLOC) needs to be updated or replaced. BLOC is a poor model to use for achieving multi-modalism, as it is based on vehicular traffic conditions. In many cases, removing a travel lane to apply a bicycle lane may actually reduce BLOC levels in assumptions that motor traffic volumes will remain constant. Creating low-stress bicycle facilities is proven to increase bicycle traffic for all users, thus instilling a mode shift that would reduce motor vehicle volumes.
- 5) While SHA does have a Complete Streets policy, it does not provide for low-stress Complete Streets practices. Applying bicycle lanes to major arterials where operating speeds are in excess of 40 mph will not create the mode shift needed to justify bike lane application. If anything it does more harm than good. Not only does it invite users to unsafe roadway conditions, but the additional 5' - 6' impervious bike lane space on larger projects increases the need for more stormwater management areas; thus causing more environmental impacts. SHA needs to adapt a Complete Streets policy that emphasizes separated facilities (whether on or off road) that encourages mode shift. SHA should adopt the recently issued NACTO guidance on low-stress bicycle facilities. And to measure the effects of SHA's Complete Streets Policy, before and after multi-modal counts should be performed with all projects. This provides a true quantitative measure of success and evaluation of projects.
- 6) The use of helmets in marketing campaigns reinforces an aging stigma in bicycle culture. Helmets imply a degree of risk that is not unique to cycling. Helmets are also impractical for riders from group with religious, cultural, or ethnic considerations in hairstyle or head covering. More head injuries occur with automobile crashes, or even in walking than bicycle accidents. Helmet use is not as necessary where low-stress bicycle facilities are built.

Jed Weeks
Policy Director
 **Bikemore**



Comment from Washington Area Bicyclists Association (WABA)



December 6, 2017

Marty Baker
Office of Planning & Capital Programming Department of Transportation
P. O. Box 548 7201
Corporate Center Drive Hanover, MD 21076 --- 0548

Re: TASK FORCE TO STUDY BICYCLE SAFETY ON MARYLAND HIGHWAYS

Ms. Baker,

The Washington Area Bicyclist Association (“WABA”) is pleased to have the opportunity to provide public comments on the Maryland Bike Safety Task Force, and the Task Force Draft Report. WABA staff and board members attended all of the Task Force meetings, but as non---Task Force members, were only able to give input into the process in the last 15 minutes of each meeting. As one of the largest bicycle advocacy organizations in Maryland, with 1,500 members more than 16,000 supporters who are Maryland residents, it would have been appropriate for WABA to have an official appointment to the Task Force. Because we did not have a full opportunity to engage in the Task Force discussions, it is our hope that readers of the Report will pay special attention to WABA’s comments, as they reflect the analyses and priorities of a significant force of bicycle advocacy efforts and thought in Maryland.

Another major concern, reflected in our ‘Additional Comments’ section, is that portions of the Draft Report include background information about issues written in such a manner that implies those topics were discussed by the Task Force when in fact they were not (for example, the sections on helmet use and public outreach campaigns). The Task Force did not reach consensus on these topics. We request that these paragraphs be deleted or amended to avoid being misleading about to the content and outcomes of the discussion.

The Task Force Recommendations in the Draft Report propose many positive potential actions by the Legislature and State Highway Administration (“SHA”), including specific recommendations made by the cohort of bicycle advocates who were members of the Task Force. (See, e.g., 1.1, 1.3, 1.4, 1.5, 2.1, 2.11, 2.12, 2.5, 2.6, 2.8, 2.9, 3.1, 3.2, and 5.3., which incorporate recommendations made by the cohort of bike advocates members of the Task Force. However, we note that many of the recommendations made by advocate Task Force members during meetings, which we have included in full below, are not sufficiently addressed by the Draft Report, (e.g., Advocate Recommendations I.1---2, III.2---10, IV.4, IV.6, IV.8, and V.4---5).



Research and lived experience show that the most important factor in making bicycling safer and encouraging more people to bicycle in Maryland is to increase the amount of protected infrastructure on the roads. Unsurprisingly therefore, a central theme of the first Task Force meeting discussion was the importance of building more protected infrastructure. In particular, we believe the report should strongly recommend that SHA begin to build protected bike lanes on State Highways within the next two years, especially where local jurisdictions have included protected facilities in their Bike Master Plans. Likewise, WABA urges legislative action eliminating the statutory prohibition on the State paying for maintenance for bike facilities on or running alongside state highways and to allow local jurisdictions to lower speed limits on state highways. We also wish to highlight that a number of key recommendations made by the advocates on the Task Force have no counterpart in the Draft Report.

We therefore urge all readers of the Final Report to take special note of the complete list of advocate recommendations, included in full below.

Advocate Recommendations

- I. Safety issues and operations of bicycles and motor vehicles on highways in the State
 1. The State should adopt a Vision Zero Commitment for Maryland to end all traffic deaths within 10--15 years.
 2. The legislature should consider passage of a safe yielding law for bicyclists (Delaware version ----- <http://www.bikede.org/bfda/safe---yielding/>
 3. or Idaho Stop Law)
 4. The legislature should consider passing a law which would eliminate the narrow road exception in the 3 foot passing law. (See 1.3--1.4)
 5. The legislature should consider passage of a Vulnerable Road User law (<http://bikeleague.org/content/model---vulnerable---road---user---law>). (see 1.1)
 6. Create a process for Bicycle Safety Audits (similar to audits for motorized safety audits) in order to improve safety especially in higher risk areas. (Same as 2.9)
- II. Adequacy of infrastructure and issues related to traffic control devices
 1. The legislature should consider removing prohibitions on safety cameras on state highways to allow their use on any state highway at any time where speed enforcement is needed (not just in school zones and work zones). (Stronger than 1.5)
 2. SHA should allow bicycle--specific traffic signals on or crossing state roads. This would mandate a reevaluation of the threshold standards SHA employs when reviewing implementation of bicycle and pedestrian signals. In addition, SHA should allow greater flexibility for signal warrants and other improvements when evaluating trail crossings of State roads and for traffic on State roads where there is a strong safety argument for bike signals or other bike improvements but the traffic signal does not meet traffic 'warrants'. (adds threshold language to 2.11)
 3. MDOT and all its sub--agencies should be required to adhere to SHA's complete streets policy for any roadway or facility design. (Same as 3.2)



III. Policy implementation and public education

1. The legislature should consider passing a law which would end contributory negligence as the standard for crashes involving motor vehicles and vulnerable road users and move to a Comparative Negligence
2. standard as DC has done recently.
3. The legislature should fund universal bike education in public schools (as the DC Public Schools does for all 2nd Graders).
4. The legislature should consider allowance of lower speed limits on all roads (15 mph on local roads, 55 mphs on State Highways), including a mechanism for a county or municipality to set a lower default speed limit.
5. SHA should set a new higher mode share goal for bicycles on State roads including benchmarks against other states.
6. The State should provide safe passing education and testing for drivers as it relates to vulnerable road users (including, but not limited to, that drivers should give 3 feet, not enter oncoming lane without adequate sight distance, that it's ok for drivers to wait for a safe passing opportunity, and that bicyclists have a right to be in the road).
7. State and local law enforcement agencies should incorporate curriculum on the rights and responsibilities of vulnerable road users into training of law enforcement personnel.
8. SHA should utilize modeling software that assesses and prioritizes multimodal transportation options in its planning processes.
9. State and local law enforcement agencies should increase officer hours devoted to enforcement of speeding, distracted, impaired, and aggressive driving.
10. State and local law enforcement agencies should accept video submissions for evidence of dangerous driving.
11. SHA should place a trained bicycle planner in every District Office of SHA and mandate baseline annual training on bike planning and related issues for all SHA planners.

IV. Funding to support/encourage the safe operation of bicycles in the State

1. Legislature should consider reversing prohibition on SHA paying for maintenance of bicycle and pedestrian infrastructure within State Road right-of-way but outside the roadway (Title 2 § 8-630) so that the State can pay for maintenance of sidewalks, trails, and protected bike lanes. (2.5 is too vague)
2. In partnership with a local municipality or county, SHA should initiate in the next year 5 pilot projects on state roads to test the maintenance needs and practices for various configurations of protected
3. bike lanes allowing flexibility for the State and local jurisdictions to pay for maintenance of the facility built. (2.5 is too vague)
4. The legislature should expand funding for the Bicycle Pedestrian Priority Program (BPPA), as well as Bicycle & trail programs which will promote establishment of new BPPA areas, including in areas which provide walkable and bikeable access to transit. (Combine with or substitute for 5.3)
5. Expand funding for the Bicycle Retrofit and Sidewalk Retrofit programs to better support local jurisdictions in completing their bicycle networks using state right of way.



6. Provide funding for completion of connected trail networks in the state, such as the Capital Trails Coalition regional trail network in the Washington Metropolitan Region, Baltimore Greenways Network, Patapsco Greenway Network, and other emerging trail networks. (Combine with 2.8)
7. The State should increase funding for multimodal access to transit by retrofitting bike cars and adding bike racks to MARC trains so that in three years a passenger can reliably bring a full-size bicycle on any train in service on any line, and by increasing funding for high capacity bike parking around transit.
8. The State should consider a “fee in lieu” policy and improve state
9. and local collaboration to ensure that bicycle infrastructure is added where it is needed most. (3.1 only notes a local fee scheme and report says State does not collect such fees)
10. Dedicate specific funding streams or percentages of transportation budgets to the creation of safe, low-stress bicycle facilities, including bicycle-only projects, not just add-ons to road projects.

V. Bicycle infrastructure design, siting, and best practices

1. SHA should update its design guidelines to be on-par with MassDOT’s Separated Bicycle Planning and Design Guide, Montgomery County Planning Department’s bikeway Facility Design Guide, the NACTO
2. Urban Street Design Guide, ITE Protected Bikeways Practitioners Guide, and FHWA Separated Bike Lane Planning and Design Guide to
3. include tighter roadway geometry, protected bike lanes, and intersection treatments that prioritize vulnerable user safety. (Comparable to parts of 2.11)
4. SHA should explicitly allow and encourage the installation of
5. single direction and bidirectional protected bike lanes on State Highways. (More directive than 2.11)
6. 3. SHA should establish design guidelines for “main streets” on state highways that prioritize safe and low-stress bicycling and walkability over motor vehicle speed. (More specific than 2.12 on prioritization of low stress bikeways)
7. SHA should remove its exemption process for bicycle infrastructure on state highways. This policy allows for sharrows and “bikes may use full lane” signs on state highways which are not advisable
8. whatsoever as they do not provide safe facilities for bicycles.
9. SHA should adopt 10-foot travel lanes as the default on roadways in urban areas to reduce speeding (as is done in Montgomery County).
10. Institute a comprehensive bicycle route signage system for wayfinding on state and local roads. (Comparable to 2.6)

VI. Data Issues

1. Legislature should identify MDOT as the primary keeper of data for
2. traffic crashes, injuries/fatalities, and citations and that MDOT should maintain an open database. (Comparable to 2.1)
3. 2. SHA should implement a statewide counting program of biking and walking on state roads including placement of automated counters, user surveys, and crowdsourced data. (stronger than 2.1)



Other Comments on Draft Report

1. On p.17 (and p.21) of the draft, there is a discussion about helmet use by bicyclists. The reasoning behind opposition to mandatory bike helmet laws is not discussed (i.e. --- that such laws will result in taking many (primarily) younger and poorer cyclists off the road, thus resulting in a less safe biking environment overall). Moreover, the Report implies that the Task Force actually engaged in an extended conversation about helmet use, which it did not, and implies that Task Force members support mandatory helmet use laws because of potential health benefits. This whole paragraph should be deleted because it is misleading. Barring full deletion, the final sentence should be amended to read: “A bill to expand helmet requirements to apply to “all ages” [was] introduced in the 2013 legislative session, for example, but did not win support of the Environment and Transportation Committee [and was strongly opposed by the bicycling and advocacy community].”
2. P.18 includes information about the restrictions on bike parking some jurisdictions impose. Again the Draft implies that the Task Force discussed these restrictions, yet there is no mention of advocates’ recommendation to expand bike parking options and availability of bike parking on and off---road. This paragraph should either be more balanced to make note of the paucity of bike parking options or this paragraph should be deleted from the Final Report.
3. On p.19, the discussion on Bicycle and Pedestrian Priority Areas (“BPPAs”) should include more background about this program, including the number of applications accepted and rejected, and the amount of funding local jurisdictions receive through this program. The paragraph notes that SHA has a year to consider local applications for BPPAs, but no rationale for why such an extended response period is needed or any recommendation for streamlining that process.
4. On p.21, the discussion of Mandatory Use of Bike Lane(s) does not include the lack of many such lanes, protected or not, on any SHA roads. Statistics on the amount of miles of bike lanes on SHA roads should be included to give this some needed context, instead of citing the “claims” of cyclists.
5. P.24 notes that SHA’s goal regarding Bicycle Level of Comfort (“BLOC”) is a rating of ‘D’ on 80% of eligible state roads. Even this unambitious goal has not been achieved and the Report should explain that this goal has not been met, why it has not been met, and note the inadequacy of the goal of a ‘D’ grade.
6. P.27 notes the goal in the Annual Attainment Report on Transportation System Performance of increasing the number of miles of bike facilities by 2% each year, but has no data as to whether that goal is being met annually.
7. On P.31, the discussion of “Low Stress” Infrastructure does not mention of the complete lack of protected bike lanes on SHA roads.
8. P.32 notes the concept of “Short Term Opportunity Area” Analysis but does not include any data on what the analyses has shown.
9. On p.32 the discussion of short term and long term maintenance of bike facilities on SHA roads should include advocates’ recommendation of eliminating the prohibition of SHA paying for such maintenance.



10. P.40 states “Task Force members agreed that paths and trails are often more desirable than bike lanes on State Highways”, a very misleading and inaccurate statement. As members of the public who attended the meetings and also had extended conversations with advocates on the Task Force, we recall no such conclusion by “Task Force members.” This statement should be deleted from the Final Report. This paragraph also should include the advocates’ recommendation that the prohibition on SHA paying for maintenance of bike facilities on state Highways be overturned by the legislature.
11. In the discussion of Vision Zero, the draft report notes on P.47 that the benefits of a Vision Zero approach are limited given the overlap between that approach and the current Strategic Highway Safety Plan’s Towards Zero Deaths. Since a true Vision Zero effort would entail a much shorter time frame (10---15 years) to achieve zero traffic deaths and major injuries than the current ‘Towards Zero Deaths’ approach, which only aims to reduce deaths and injuries by 50% in 13 years, there is a substantial quantitative difference between the two approaches. There are considerable public health advantages of adopting the significantly more ambitious Vision Zero approach.

The Final Report should note these distinctions at a minimum, including the difference in number of deaths that will be averted according to current fatality rates. See, for example, this chart from NYC comparing two different fatality reduction goals based on current rate of reductions over time:



12. In the discussion of Education and Outreach, P. 45, the “public safety campaigns” are listed and discussed without reference to an objective metric to measure effectiveness. Again, this uncritical mention of programs under the guise of providing context implies consensus within the Task Force that these programs are appropriate or effective, when in fact, they were not discussed in depth in any of the Task Force meetings, and routinely receive substantial criticism from the broader public and advocates. See, e.g., <https://www.vox.com/2015/3/31/8319189/pedestrian---safety---campaign>; <https://twitter.com/ColinTBrowne/status/794282256907075584>. We believe that if these programs remain in the Report to provide context for the State’s efforts, further context must be provided to convey that they are not universally considered appropriate or effective, or else mention of these programs should be deleted,



since they are not, strictly speaking, reflective of the work of the Task Force and do not, therefore, belong in the report.

Thank you for the opportunity to raise these concerns and for convening a Task Force to focus necessary attention on increasing the safety and popularity of bicycling in Maryland. We hope to see many of the recommendations included in these comments and the Final Report taken up by policymakers and lawmakers in the coming months and years.



List of Draft Report Public Comments and Preliminary Response.

Source/Reference	Topic	Comment	Response/Notes
Anonymous		Bicycles should not be relegated to separate lanes within the roadway. Additional signage should be pursued to emphasize that “Bikes may use full lane.”	New perspective, not fully debated by Task Force.
Anonymous		State/local players should seek federal funding to test bicycle signals for the Maryland Avenue cycle track in Baltimore City and to explore implementation of a cycle track on a MD Highway (450) from the Balt-Annapolis Trail into Annapolis.	To consider for implementing Task Force recommendations re: design/MUTCD updates and for federal funding.
Various		Several recommendations would require coordination with entities and stakeholders who did not participate in the Task Force proceedings and are not explicitly called out in the report.	Coordination across many state/local, private and non-profit partners is implied and expected.
Richard Cushwa / MBPAC (former)	All	Support Recommendations.	
Greg Hinchliffe / MBPAC	Infrastructure	Review BLOC D or better numerical goal matches on pages 24 (80%) and 25 (59%).	Addressed.
Greg Hinchliffe / MBPAC	Infrastructure and Data	P 26: Clarify STOA map.	No change: The STOA map is presented as published in the 2014 Bike Ped Master Plan which was a reference document for the Task Force.
Jon Morrison / MBPAC	Legislative Tools	Remove rec. 1.7 (Allowing lower speed limits).	No change to report text. Task Force developed this recommendation and debated its language.
Jon Morrison / MBPAC	Legislative Tools	Add rec. to legislative section (re: Shoulders, Use of Bike Lanes, and mandating MDTA bike accommodation).	No change to report. The Task Force did not have a chance to consider this idea.
Jon Morrison / MBPAC	Legislative Tools	Add rec. to emulate Bike Friendly Delaware Act.	New input: Task Force gave brief consideration to the effort but did not fully embrace all of its elements.
Jon Morrison / MBPAC	Utility	Add rec. regarding greater use of linear parks and utility right of ways.	No response: The Task Force sought to address this to the extent possible.



Source/Reference	Topic	Comment	Response/Notes
Jon Morrison / MBPAC	Education / awareness	Add rec requiring a guided, on street, bike ride as part of the driver license process and for State employees.	No response: The Task Force recommended other training requirements.
Jon Morrison / MBPAC	Site Access / Utilities	Page 42: Permit cyclists on the shoulders of MD-200 from MD-97 to US-29 as a pilot program would be most appropriate.	No response: Idea noted.
Jon Morrison / MBPAC	Consistency	Page 15, last sentence, "In 2014....": This law existed well before 2014.	Addressed.
Jon Morrison / MBPAC	Task Force Process	Task Force should have sought more proactive public engagement and held weekend meetings.	Note: Ample opportunity for public input was made throughout the process. Timeline was short.
Jim Titus / MBPAC	General	Additional fact checking and editing is advised. Insufficient time for full research required.	Partially addressed: Additional factchecking on several items was pursued. Timeline to cover broad range of issues was non-negotiable.
Jim Titus / MBPAC	Crashes	Page 14: Data: Additional data regarding causes of crashes is needed to address the issues.	Note: Task Force debated shortcomings in data at length, and made recommendations in this regard.
Jim Titus / MBPAC	Legislation	Section 1, P 15 et seq. Clarify legislative citations.	Legislative references were checked for consistency. Note: The Task Force report is not intended as a compendium of all bike-related legal references, but as a broad overview of some key issues to inform discussion.
Jim Titus / MBPAC	Legislative Tools	Page 16, last paragraph. Fix language to clarify cyclists use of shoulders for roads >50mph.	Addressed.
Jim Titus / MBPAC	Legislative Tools	Page 16, 4th bullet. Check reference to rear light.	Addressed: Language corrected.
Jim Titus / MBPAC	Legislative Tools	Page 17, paragraph 1, line 4. Clarify who this applies to.	Addressed.
Jim Titus / MBPAC	Legislative Tools	Page 17: Check ride to the right statute. Note that 2 cyclists can ride abreast.	Addressed.
Jim Titus / MBPAC	Legislative Tools	Page 17. Statute regarding dooring is broader than language suggests.	Addressed.



Source/Reference	Topic	Comment	Response/Notes
Jim Titus / MBPAC	Legislative Tools	Page 17. Add other aggressive driving behaviors such as horn honking, and aggressive right hooks as generally illegal.	Addressed.
Jim Titus / MBPAC	Legislative Tools	Page 17 and/or Page 21. Lights. Should acknowledge increased use of day time running lights, etc.	No change.
Jim Titus / MBPAC	Legislative Tools	Page 20. Add note that MVA can suspend a driver's license when there is a deadly crash due to a violation, and reference new criminal negligence statute.	No change: Not addressed in Task Force proceedings.
Jim Titus / MBPAC	Legislative Tools	Page 23. Address importance of speed as the most important obstacle to safe cycling.	No change: Addressed directly later in document.
Jim Titus / MBPAC	Legislative Tools	Page 20. Add reference to House Bill 52 of 2014, to limit contributory negligence where a crash was caused by a failure of a cyclist to obey the law.	No change: Task Force chose to highlight comparative negligence instead.
Jim Titus / MBPAC	Maintenance	Page 32. Maintenance and Signage. Expand treatment and mention that statute prohibits state maintenance.	Addressed, in part: Note that language in statute had been included in footnote 8.
Jim Titus / MBPAC	Legislation and speed limits	Page 42. Speed limit discussion requires further explanation and justification.	Addressed (partially).
Jim Titus / MBPAC	General	Include reference to drivers' failure to yield to pedestrians in crosswalks as a key issue (also for cyclists).	No change: For future consideration, but not specifically treated during Task Force deliberations.
Jim Titus / MBPAC	Safe way of riding	Cyclist behavior should also be addressed as key to safety.	No change: Task Force members acknowledged that this issue deserves further attention than may have been reflected in the outreach/training recommendations.
John Z Wetmore / MBPAC	Format	Page 13. Figure 1. Clarify label for vertical axis.	Addressed.
John Z Wetmore / MBPAC	Writing	Page 20. Last paragraph. Change first sentence to read "was one of only four states".	Addressed.



Source/Reference	Topic	Comment	Response/Notes
John Z Wetmore / MBPAC	Writing	Page 21. D. Three Foot Law. Change the last sentence to "(e.g., when passing a stopped trash truck, a slow farm vehicle, etc.)."	Addressed.
John Z Wetmore / MBPAC	Writing	Page 40. Utility Easements as Right-of-Way for Paths. Change the first sentence to include gas pipelines.	Addressed.
John Z Wetmore / MBPAC	Writing	Page 47. Third paragraph. Redundant sentence on the P.G. safety plan.	Addressed.
John Z Wetmore / MBPAC	Writing	Page 51. Context. Remove redundant word. "including support for planning and building bike-related"	Addressed.
John Z Wetmore / MBPAC	Writing	Page 52. Highway Safety Grants. Reference "Targeted Crosswalk Enforcement Operations" rather than Crosswalk stings."	Addressed.
Matthew Mullenax / Hagerstown/Eastern Panhandle Metropolitan Planning Organization	Access to TAP/RTP	Page 50, last sentence – Clarify which MPO's are involved in TAP selection, etc.	Addressed.
Maryland Department of Planning	Local jurisdictions	Add emphasis that local jurisdiction should address bicycle and pedestrian travel safety and accommodations in planning efforts.	Task Force observed this gap in their comments in Appendix A, but did not reach a recommendation.
Department of Natural Resources	RTP	Federal funding for recreational trails has become too difficult to manage for state agencies as well as local agencies.	No change: Task Force recommendation regarding need to simplify federal funding speaks to this concern.
Tanya Asman / Office of Transportation for Anne Arundel County	Legislative Tools	Legislation should address identification of targeted areas, for example as high risk or Short Trip Opportunity Areas.	Note: Statute mandates that MDOT "Identify" bicycle and pedestrian priority areas, which resulted in defining STOA's in 2014. SHA and locals designate BPPAs, also per statute.
Tanya Asman / Office of Transportation for Anne Arundel County	Data	Improve crash data collection at the scene and allow electronic reporting.	Task Force recommendations sought to address this.



Source/Reference	Topic	Comment	Response/Notes
Tanya Asman / Office of Transportation for Anne Arundel County	Development	State should require that all jurisdictions update APF modeling with regard to traffic. G43.	Not specifically addressed in proceedings.
Tanya Asman / Office of Transportation for Anne Arundel County	Partnerships	Under #2.8, include partnering with BG&E to put bike ped facilities in their right of ways.	No change: Multiple partnerships with a broad range of utilities implied by existing language.
Howard County Office of Transportation	Events	Page 46, Events: Clarify the nature of pit-stops in Maryland.	Addressed.
Montgomery County Planning Department	Vulnerable Users	Rec. 1.1 should specify that the statutory speed limit should be lowered from 30 to 25 mph for all highways in a business district and undivided highways in a residential district in the State of Maryland.	Task Force debated, but determined they could not be more specific on this issue.
Montgomery County Planning Department	Guidelines	Rec. 2.11 Expand to Include Two Way Separated bike lanes.	New recommendation for consideration in Bike Design Guideline Update.
Montgomery County Planning Department	Guidelines	Rec. 2.11 Expand to include protected intersections.	New recommendation for consideration in Bike Design Guideline Update.
Montgomery County Planning Department	Site Access/Utilities	Rec. 3.1 Disagree that local jurisdictions should explore accepting a fee in lieu of improvements on state roadways.	No change to report: Task Force members recommended this approach to introduce needed flexibility, but also recognized could be detrimental.
Montgomery County Planning Department	BPPA	Decouple BPPA designation from the BPPA plan implementation to alleviate backlog of plans required and expedite additional designations.	New recommendation.
Montgomery County Planning Department	Legislation	Repeal the mandatory use law (Section 21-1205.1(b)(2), due to a legacy of poor bicycle lane design in much of the State.	New recommendation.
Montgomery County Planning Department	Legislation	Conduct a “Rules of the Road” assessment to identify gaps and inconsistencies in the legal framework supporting bicycling.	New recommendation.



Source/Reference	Topic	Comment	Response/Notes
Montgomery County Planning Department	Legislation	Replace the Marked Bike Lane Policy with one that is consistent with achieving a low-stress bicycling network.	New recommendation.
Montgomery County Planning Department	Trail crossings	Develop standards for trail crossings at major roads.	New recommendation for consideration in Bike Design Guidelines.
Montgomery County Planning Department	Facility closures	Develop protocols for bicycle facility closures and detours to ensure that comparable bikeways are provided and to ensure adequate notice and signage.	New recommendation.
Montgomery County Planning Department	Land owners	Encourage land owners to consolidate driveways and minimize curb cuts along major roadways.	New recommendation.
Bikemore	Prioritization	Prioritize recommendations and establish implementation timeline.	No change: Further prioritization effort not possible in timeline.
Bikemore	Policy	Abandon "Share the Road" signs in MUTCD (per NC) in favor of "Change Lanes to Pass" signs on appropriate roadways.	New recommendation: Not addressed by Task Force.
Bikemore	Data	Bike ridership data is important and not as cost-prohibitive as implied.	No change: Existing recommendation mandates further exploration of all options. Problems cited regarding existing sources are accuracy and completeness as well as cost.
Bikemore	Data	BLOC is a poor measure as it over-emphasizes vehicular traffic conditions. Focus on separated and low stress facilities, and multimodal counts before/after projects.	New/Alternative recommendations - No alternatives for BLOC identified, but no new targets recommended by Task Force.
Bikemore	Policy	Amend complete streets policy to emphasize provision of separated facilities. Conduct before and after multi-modal counts for projects as a measure.	New/Alternative recommendation - overlaps with several existing elements in Task Force report.
Bikemore	Guidelines	SHA should adopt NACTO Guidance on low stress bicycle facilities.	No change, for consideration in Bike Design Guideline Update.



Source/Reference	Topic	Comment	Response/Notes
Bikemore	Education / Awareness	Helmets should not be shown in marketing campaigns as they imply a degree of risk that is not unique to cycling.	New issue. Not discussed by Task Force.
WABA	Input	Limited opportunities to provide input.	No change: Report explains multiple avenues for public input throughout the Task Force proceedings.
WABA	Background	Context paper treatments of topics imply full debate and consensus so are misleading. (e.g. helmet use and public outreach campaigns).	Drafts of the context paper in this report were distributed to Task Force members for their review and to inform discussion.
WABA	Infrastructure	The Report should strongly recommend that SHA begin to build protected bike lanes on State Highways within the next two years.	No consensus on this issue.
WABA	All Areas Below	Advocate Recommendations: Several advocate recommendations (included in Appendix A) were not addressed by the Draft Report.	Note: The Task Force received the full list of advocate recommendations and made an effort to address many of them. WABA's letter requests readers to refer to the original list (included in Appendix A) and reiterated in their letter and at left, where some discrepancies are noted.
WABA	Advocate Recommendations Reiterated	The State should adopt a Vision Zero Commitment to end all traffic deaths within 10-15 years.	
WABA	Bike operations	The legislature should consider passage of a safe yielding law for bicyclists or Idaho Stop Law	
WABA	Bike operations	Rec. 1.3-1.4: The legislature should consider passing a law which would eliminate the narrow road exception in the 3-foot passing law.	
WABA	Bike operations	Rec. 1.1: The legislature should consider passage of a Vulnerable Road User law.	
WABA	Bike operations	Same as Rec. 2.9: Create a process for Bicycle Safety Audits in order to improve safety especially in higher risk areas.	
WABA	Infrastructure /traffic	Stronger than Rec. 1.5: The legislature should consider removing prohibitions on safety cameras on state highways.	



Source/Reference	Topic	Comment	Response/Notes
WABA	Infrastructure / traffic	Add threshold language to Rec. 2.11: SHA should allow bicycle-specific traffic signals on or crossing state roads and greater flexibility for signal warrants and other improvements when evaluating trail crossings of State roads.	<p>Note: The Task Force received the full list of advocate recommendations and made an effort to address many of them. WABA's letter requests readers to refer to the original list (included in Appendix A) and reiterated in their letter and at left, where some discrepancies are noted.</p>
WABA	Infrastructure / traffic	Same as Rec. 3.2. MDOT should be required to adhere to SHA's complete streets policy for any roadway or facility design.	
WABA	Policy implem. / public education	The legislature should consider passing a law to change from contributory negligence to Comparative Negligence standard.	
WABA	Policy implem. / public education	The legislature should fund universal bike education in public schools	
WABA	Policy implem. / public education	The legislature should consider allowance of lower speed limits on all roads.	
WABA	Policy implem. / public education	SHA should set a new higher mode share goal for bicycles on State roads.	
WABA	Policy implem. / public education	The State should provide safe passing education and testing for drivers as it relates to vulnerable road users.	
WABA	Policy implem. / public education	State and local law enforcement agencies should incorporate curriculum on the rights and responsibilities of vulnerable road users into training of law enforcement personnel.	
WABA	Policy implem. / public education	SHA should utilize modeling software that assesses and prioritizes multimodal transportation options in its planning processes.	
WABA	Policy implem. / public education	State and local law enforcement agencies should increase officer hours devoted to road laws enforcement.	



Source/Reference	Topic	Comment	Response/Notes
WABA	Policy implem. / public education	State and local law enforcement agencies should accept video submissions for evidence of dangerous driving.	<p>Note: The Task Force received the full list of advocate recommendations and made an effort to address many of them. WABA's letter requests readers to refer to the original list (included in Appendix A) and reiterated in their letter and at left, where some discrepancies are noted.</p>
WABA	Policy implem. / public education	SHA should place a trained bicycle planner in every District Office of SHA and mandate baseline annual training on bike planning and related issues for all SHA planners.	
WABA	Funding	Rec. 2.5 is too vague: Legislature should reverse prohibition on SHA paying for maintenance for off-road infrastructure in their right of way.	
WABA	Funding	Rec. 2.5 is too vague: SHA should initiate in the next year 5 pilot projects on state roads to test the maintenance needs and practices for various configurations of protected bike lanes.	
WABA	Funding	Combine with or substitute for Rec. 5.3. The legislature should expand funding for the BPPA and Bicycle & trail programs.	
WABA	Funding	Expand funding for the Bicycle Retrofit and Sidewalk Retrofit programs.	
WABA	Funding	Combine with Rec. 2.8. Provide funding for completion of connected trail networks in the state.	
WABA	Funding	The State should increase funding for multimodal access to transit by retrofitting bike cars and adding bike racks to MARC trains and increase funding for high capacity bike parking around transit.	
WABA	Funding	Rec 3.1. The State should consider a "fee in lieu" policy and improve state and local collaboration to ensure that bicycle infrastructure is added where it is needed most.	



Source/Reference	Topic	Comment	Response/Notes
WABA	Funding	Dedicate specific funding streams or percentages of transportation budgets to the creation of safe, low-stress bicycle facilities.	<p>Note: The Task Force received the full list of advocate recommendations and made an effort to address many of them. WABA's letter requests readers to refer to the original list (included in Appendix A) and reiterated in their letter and at left, where some discrepancies are noted.</p>
WABA	Infrastructure Design	Comparable to Rec. 2.11. SHA should update its design guidelines to be on-par with other industry's guides to include tighter roadway geometry, protected bike lanes, and intersection treatments that prioritize vulnerable user safety.	
WABA	Infrastructure Design	More directive than Rec. 2.11. SHA should explicitly allow and encourage the installation of single direction and bidirectional protected bike lanes on State Highways.	
WABA	Infrastructure Design	More specific than Rec 2.12. SHA should establish design guidelines for "main streets" on state highways that prioritize safe and low-stress bicycling and walkability over motor vehicle speed.	
WABA	Infrastructure Design	SHA should remove its exemption process for bicycle infrastructure on state highways. This policy allows for sharrow and "bikes may use full lane" signs on state highways which are not advisable whatsoever as they do not provide safe facilities for bicycles.	
WABA	Infrastructure Design	SHA should adopt 10-foot travel lanes as the default on roadways in urban areas to reduce speeding.	
WABA	Infrastructure Design	Comparable to Rec. 2.6. Institute a comprehensive bicycle route signage system.	



Source/Reference	Topic	Comment	Response/Notes
WABA	Data	Comparable to Rec. 2.1. Legislature should identify MDOT as the primary keeper of data for traffic crashes, injuries/fatalities, and citations and that MDOT should maintain an open database.	Note: The Task Force received the full list of advocate recommendations and made an effort to address many of them. WABA's letter requests readers to refer to the original list (included in Appendix A) and reiterated in their letter and at left, where some discrepancies are noted.
WABA	Data	Stronger to Rec.2.1. SHA should implement a statewide counting program of biking and walking on state roads including automated counters, user surveys, and crowdsourced data.	
WABA	Other	Pages 17 and 21: Delete full paragraph about helmets because it is misleading. Amend language to address previous failed bills.	No change.
WABA	Other	Page 18: Paragraph about bike parking should either be more balanced to make note of the paucity of bike parking options or be deleted.	No change: Information provided to meet legislated mandate and clarify current treatment in statute.
WABA	Other	Page 19: Add more information about the BPPAs.	New request. Not addressed by Task Force.
WABA	Other	Page 21: Include statistics on the amount of miles of bike lanes on SHA roads, instead of citing the "claims" of cyclists.	No change. Data available is presented.
WABA	Other	Page 24: Report should explain that SHA BLOC goal of D on 80% has not been met and why, why it has not been met, and note the inadequacy of the goal of a 'D' grade.	No change. Task Force discussion did not highlight this as a best focus of attention, given concern for more targeted investments to provide coherent low stress infrastructure.
WABA	Other	Page 27: Provide data to assess if the increase in number of miles of bike facilities by 2% is being met annually.	Data had been included in Figure 3. Language updated.
WABA	Other	Page 31, The discussion of "Low Stress" Infrastructure does not mention of the complete lack of protected bike lanes on SHA roads.	Minor clarifications added.



Source/Reference	Topic	Comment	Response/Notes
WABA	Other	Page 32: STOA Analysis does not include any data on what the analyses has shown.	No change. Intent and background to STOA Identification is covered in the document and its development covered in more detail in state's current Bicycle and Pedestrian Master Plan which was a resource document for the Task Force.
WABA	Other	Page 32: Issues should include reference to advocate recommendation to eliminate prohibition of SHA paying for such maintenance.	Recommendation included notes on this issue. Additional note added to "issues" discussion.
WABA	Other	Page 40: Clarify intent behind stated Task Force preference for separate facilities over bike lanes on highways.	Clarifications added.
WABA	Other	Vision Zero presents a preferred strategy to address bike safety due to more aggressive schedule and targets.	See above and notes provided in report.
WABA	Other	Page 45: Provide further context to convey that the "public safety campaigns" are not universally considered appropriate or effective, or delete these from the report, since they do not reflect the work of the Task Force.	New concern - The Task Force was provided with information on these ongoing safety campaigns, including draft language in the report for consideration. Concerns were not raised in the meeting.