



# Local Strategic Highway Safety Plan

## Suggested Guidelines/Manual for Development

Created by the Baltimore Metropolitan Council (BMC) in collaboration with the Maryland Department of Transportation Motor Vehicle Administration's Highway Safety Office (MHSO)



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# Introduction

This section explores the roles of Strategic Highway Safety Plans in relation to federal, state, and local safety planning.

This manual relates to Strategic Highway Safety Plans (SHSP), which are in line with other planning brands such as Vision Zero, Toward Zero Deaths, Local Road Safety Plans (LRSP), and Comprehensive Safety Action Plans. Those terms are used frequently by different agencies and partners in traffic safety, most notably the Comprehensive Safety Action Plans in the Safe Streets and Roads for All (SS4A) program, and address the same concept. Each of those are strategic planning processes with a focus on traffic safety.

## Strategic Highway Safety Plans

Strategic Highway Safety Plans (SHSP) were introduced in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) transportation bill that was authorized in 2005. Subsequent transportation bills have included SHSPs as data-driven, statewide coordinated plans to provide a comprehensive framework for reducing traffic-related crashes, injuries, and fatalities. It is meant to incorporate other planning processes including the Highway Safety Improvement Program (HSIP), Highway Safety Plan (HSP), and the Commercial Vehicle Safety Plan (CVSP) to provide a holistic approach to statewide strategic planning.



Source: Federal Safety Performance Management Webinar

## Maryland Strategic Highway Safety Plan

Maryland has developed, implemented, and evaluated SHSPs since 2003, initially modeled after the American Association of State Highway and Transportation Officials (AASHTO) plan, and is currently in the fourth plan that covers 2016-2020. As a function of the current plan, former Maryland Secretary of Transportation Pete K. Rahn began encouraging each of Maryland's 24 jurisdictions to develop local strategic plans. Analyses of traffic crash data found that a significant portion of crashes occur on locally-maintained roadways and roads that are under the jurisdiction of local law enforcement agencies. Understanding the value of local ownership and implementation of a strategic plan, letters encouraging plan development were sent from the Secretary to jurisdictional executives in 2017.

### Initiation

Although executives received a letter from the State Secretary of Transportation in 2017 and Local SHSPs have continued to be discussed by subsequent Secretaries and the Governor's Highway Safety Representative, the Administrator of the Maryland Department of Transportation Motor Vehicle Administration (MDOT MVA), one should not assume that all stakeholders are aware of or invested in developing a local plan. Therefore, the first point of contact to begin discussing such an effort is critical. Experience has borne out that contacting familiar colleagues within a jurisdiction, regardless of field of practice, is a successful approach.

Local partners are typically familiar with and work closely with each other, so one solid connection in a jurisdiction will most likely open doors to the others. As most plans are led by enforcement and engineering agencies, it is suggested that working through law enforcement grantees of the Maryland Highway Safety Office (MHSO), engineering partners that work closely with the State Highway Administration (MDOT SHA) District offices, or Metropolitan Planning Organization (MPO) partners may be a good start. Using established networks, it will be possible to identify someone that is familiar with MHSO and (hopefully) the SHSP.

When first reaching out, especially if it's a cold call, be sure to explain that this is not a requirement for any funding or certification and there are no guidelines or rules. A local SHSP is meant to be for the jurisdiction's benefit to strategically share resources and evaluate efforts. The development, implementation, and evaluation of a local SHSP is a means to build connections that may save time and facilitate applications for grant funds as a team.

# Key Partners

## Steering Committee

It is critical to build a Steering Committee that is multidisciplinary and composed of representatives with decision-making power or access to decision-makers with each agency. It is also valuable to identify one or two lead agencies or points of contact for the Steering Committee; that designation is solely meant to identify a member that may be contacted initially with questions or requests of the group. A comprehensive sample roster is included in the Resources section of this document and key representatives of the 4 Es (Education, Emergency Medical Services, Enforcement, Engineering) are shown below:

- Maryland Department of Transportation (MDOT) State Highway Administration District Traffic Engineer;
- Maryland State Police Barrack Commander;
- MDOT Motor Vehicle Administration's Highway Safety Office (MHSO) Partnerships, Research, and Outreach coordinator and/or Law Enforcement Liaison;
- Local Department of Public Works and/or Transportation
- Engineering
- Highways
- Traffic Engineering
- Local Sheriff's Office and/or Police Department(s);
- Local Department Fire and/or EMS;
- Local Public School System; and
- Local Health Department.

## Implementation Committee

As the Steering Committee includes the major traffic safety stakeholders in the jurisdiction and state, it is vital that a larger group of stakeholders is brought together into an Implementation Committee or Team. This group will implement the plan itself and be responsible for regularly tracking progress on each action step and communicating with the Steering Committee. A comprehensive sample roster is included in the Resources section of this document and common partners are shown below:

- Department of Aging;
- Liquor Control Board;
- Hospital outreach program coordinators;
- Local trauma centers;
- Towing companies;
- Trucking companies; or
- Mothers Against Drunk Driving (MADD).

# Strategic Planning

This section explores how Strategic Highway Safety Plans are developed and explores the standard language and terminology used in this plan.

There are several approaches to building a strategic plan, all containing the same core elements for problem identification, project implementation, and program evaluation. One standard strategic planning process has been developed by the Center for Community Health and Development at the University of Kansas. This method, commonly known as VMOSA provides a clear, defined step by step process to link the vision to discrete actions to achieve success. Those steps are shown below and may be found at <https://ctb.ku.edu/en/table-of-contents/structure/strategic-planning/vmosa/main>.

Identifying the **vision** and ultimate goal (e.g. to reduce traffic fatalities to zero).

Developing a concise **mission** statement on how that goal will be achieved.

**Objectives** may be defined as **Emphasis Areas**, which identify the most critical factors that impact traffic safety.

**Strategies** are broad statements as to how the team will organize efforts to achieve the mission and vision statements. Commonly, the Strategies are focused on the 4 Es of traffic safety and other significant areas identified by the Steering Committee.



Sometimes the **Action Plan** is named the **Implementation Plan** and contains the specific projects within each strategy. Each project will have an assigned lead agency, partners, timeline, and evaluation metric. Establishing those items for each project before implementing the plan is critical to its success because it provides the framework over the life of the plan for any partner who may wish to participate.

## Plan Components

Utilizing the VMOSA approach identified in the previous section will allow the Steering Committee to follow a sequential process. However, teams may wish to include or exclude any components as part of the customization. It is not recommended to copy another strategic plan outright without working through the process. A jurisdiction may have common components, but it would be rare for an entire plan to be most appropriate for more than one team. Common differences may include:

**Goals and Targets** – there are several methodologies for setting targets and this is one of the most important decisions that a Steering Committee must agree upon.

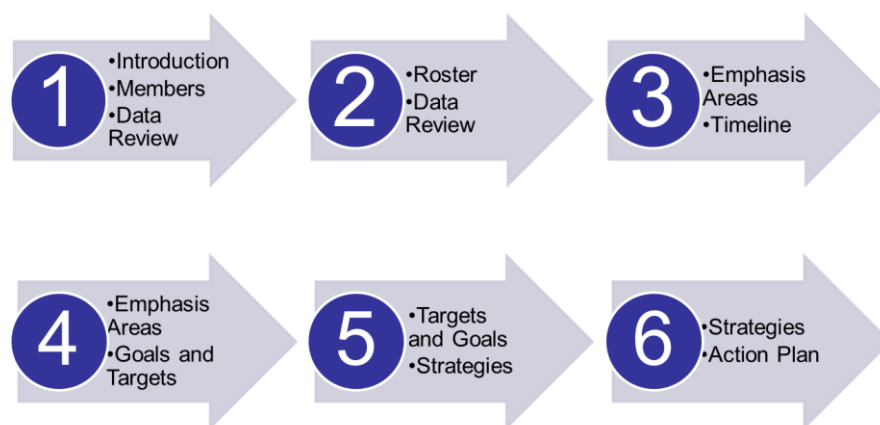
**Emphasis Areas** – jurisdictions may have differing priority program areas due to differences in population, politics, or resources.

**Action Plan** – some action items may not be supported by different executives or agency management teams. Some action items may not be legislatively possible in different jurisdictions (e.g. automated enforcement).

These are clear reasons for developing local plans and having the local partners drive the process. State-level partners or outside consultants may not always grasp a jurisdiction's unique situations or may attempt to have all plans be the same.

## Plan Process

This section explores how a plan may be created by a local stakeholder Steering Committee and each step of the process. An aggressive timeline would produce a strategic plan for executive endorsement within one year. Most jurisdictions are able to complete the plan development between one and two years because unforeseen circumstances and competing priorities may affect partners' availability. It is recommended that the process begin with regular meetings until all plan components are agreed upon, then strict deadlines for draft reviews and revisions should be instituted. The graphic below shows how those plan components may be finalized with six meetings.



## Vision and Mission

Typically, local mission and vision statements will align with other safety plans to reach zero traffic fatalities. While the overall vision is to eliminate fatalities, and possibly serious injuries, the mission statements is meant to explain the plan's approach. This may be to 'form a multidisciplinary team of safety partners that will strategically implement programs focused on reducing crashes, injuries, and fatalities' or something similar.

## Target-setting Methodologies

Common methodologies for identifying long-term goals and interim targets include *Toward Zero Deaths*, *Vision Zero*, or statistical projections based on recent trend data. The vision and mission of the Maryland SHSP helps bridge Vision Zero (vision statement for zero fatalities and serious injuries) to data-driven targets (exponential trends based on recent crash data) nicely. Goals are aspirational and targets are data-driven and against which the plan will be evaluated.

During this stage of local plan development, it will be important to identify which data metric the team will use to structure the plan. Oftentimes, the number of fatalities at the jurisdictional level is small and trends are erratic. It is recommended that teams consider using the number of injuries or even crashes for target-setting. Note that preventing a crash also prevents an injury and preventing an injury also prevents it from becoming a fatality.

Each state is required to submit targets for five metrics: fatalities, fatality rate per 100 million Vehicle Miles Travelled (VMT), serious injuries, serious injury rate per 100 million VMT, and non-motorized fatalities and serious injuries. Rates are used to control for variability in populations, driving habits, environmental conditions, and other factors that may affect how and how often people are on the roadways.

Some teams may wish to discuss incorporating other travel characteristics, such as:

- New and upgraded safety equipment becoming more common as part of the vehicle fleet lifecycle,
- Increasing freight movement in the county, especially on state roadways, or
- Congestion.

The following page shows several approaches using different timeframes. This format was created for each local team and shared to Steering Committee members could determine the most appropriate and realistic target-setting methodology for the plan. The *Toward Zero Deaths* approach sets a goal of 50% reduction with a fitted exponential trend line. This was used in the Maryland SHSP 2016-2020 with a baseline of the 2008-2012 average and endpoint of 2030. The *Vision Zero* approach sets a goal of 0 with a fitted linear trend line. Tables 1 and 2 use a baseline of the 2008-2012 average and endpoint of 2030, Tables 3 and 4 use a more recent baseline of the 2013-2017 average and endpoint of 2030, and Tables 5 and 6 use the more recent baseline of the 2013-2017 average and an extended endpoint of 2040.



Table 1 Toward Zero Deaths				Notes
	2008-2012 avg	2020 Target (2018-2022 avg)	2030 Goal (2028-2032 avg)	**State Methodology and Timeline *2030 goal is 1/2 of 2008-2012 average *exponential trend line fitted
Overall (Persons)				
Fatalities	72	50	35	
Injuries	6,483	5,036	3,487	
Serious Injuries	500	373	301	
Fatal Crashes	67	47	33	
Injury Crashes	4,447	3,476	2,384	
Percent Decrease			50%	

Table 2 Vision Zero				Notes
	2008-2012 avg	2020 Target (2018-2022 avg)	2030 Goal (2028-2032 avg)	**Traditional Vision Zero and State Timeline *linear trend line fitted from 2008-2012 average
Overall (Persons)				
Fatalities	72	36	0	
Injuries	6,483	3,241	0	
Serious Injuries	500	250	0	
Fatal Crashes	67	34	0	
Injury Crashes	4,447	2,224	0	
Percent Decrease			100%	

Table 3 Toward Zero Deaths				Notes
	2013-2017 avg	2021-2025 Target	2030 Goal (2028-2032 avg)	**State Methodology and Current Timeline *2030 goal is 1/2 of 2013-2017 average *exponential trend line fitted
Overall (Persons)				
Fatalities	63	44	32	
Injuries	6,800	4,708	3,400	
Serious Injuries	416	288	208	
Fatal Crashes	59	41	30	
Injury Crashes	4,707	3,258	2,354	
Percent Decrease			50%	

Table 4 Vision Zero				Notes
	2013-2017 avg	2021-2025 Target	2030 Goal (2028-2032 avg)	**Traditional Vision Zero and Current Timeline *linear trend line fitted from 2013-2017 average
Overall (Persons)				
Fatalities	63	29	0	
Injuries	6,800	3,173	0	
Serious Injuries	416	194	0	
Fatal Crashes	59	28	0	
Injury Crashes	4,707	2,197	0	
Percent Decrease			100%	

Table 5 Toward Zero Deaths				Notes
	2013-2017 avg	2021-2025 Target	2040 Goal (2038-2042 avg)	**State Methodology with Current & Extended Timelines *2040 goal is 1/2 of 2013-2017 average *exponential trend line fitted
Overall (Persons)				
Fatalities	63	51	32	
Injuries	6,800	5,434	3,400	
Serious Injuries	416	332	208	
Fatal Crashes	59	47	30	
Injury Crashes	4,707	3,761	2,354	
Percent Decrease			50%	

Table 6 Vision Zero				Notes
	2013-2017 avg	2021-2025 Target	2040 Goal (2038-2042 avg)	**Traditional Vision Zero with Current & Extended Timelines *linear trend line fitted from 2013-2017 average
Overall (Persons)				
Fatalities	63	43	0	
Injuries	6,800	4,624	0	
Serious Injuries	416	283	0	
Fatal Crashes	59	40	0	
Injury Crashes	4,707	3,201	0	
Percent Decrease			100%	

## Problem Identification (Emphasis Areas)

This process should begin with an extensive review of traffic records data, primarily crash report data, with the guidance of data collectors, epidemiologists, and statisticians. Typically MHSO will be able to provide this information and those resources; however, if that information and personnel is available, it may be beneficial to use local data and experts. Locally available data are more timely and manageable because the processes will be conducted within Steering Committee member agencies.

Initial Steering Committee discussions should determine:

- Is the plan going to include all crashes in the jurisdiction?
- Is the plan going to include just crashes on locally-maintained roadways?
- Is the plan going to include just crashes investigated by local law enforcement agencies?

These are critical parameters to set because interstates are the responsibility of state agencies, state roads are the responsibility of MDOT SHA and local law enforcement, and local roads are the responsibility of local agencies. One example is Howard County: the county owns and maintains 85% of roadways, of which the majority are neighborhood streets and local connections, and MDOT SHA owns and maintains 15% of roadways, including major roads and interstates which are characterized by higher speeds, greater distances between intersections, and more lanes. Analyzing all crashes in a jurisdiction may point to interventions on interstates and higher speed roads, but implementing engineering or enforcement projects on those roadways will require close state partnerships. Municipal agencies are also critical partners.

Upon completion of that problem identification stage, the Steering Committee will identify Emphasis Areas. Emphasis Areas are priorities identified within the strategic plan around which efforts will be focused to meet the targets and achieve the goal. Those identified priorities will account for most traffic crashes, injuries, and fatalities. By identifying the top priority areas and focusing efforts, it is anticipated that the greatest effect and reduction in fatalities and injuries may be achieved. Emphasis Areas help partners and stakeholders focus programs and share resources most effectively.

## Strategy Development

Within each Emphasis Area, the team will identify Strategies by which the Action Plan will be structured. In SHSPs, Strategies are often structured around the 4 Es of traffic safety to better coordinate partners and resources. Strategies do not have to follow the same structure within each Emphasis Area, they may be fluid and customized throughout the plan. Typically, Emphasis Areas and Strategies are the static parts of a strategic plan and do not change over the life of the plan. The Steering Committee should identify Strategies that are feasible, achievable, and clearly understood by all implementation partners.

## Action Plan

The Action Plan is built by projects related to each Strategy within each Emphasis Area in the SHSP. This section of the plan is more malleable throughout the life of the plan because some projects may be completed, others may prove ineffective, and still others may be developed after the plan begins. The following are key components of an Action Plan and should be identified for each project:

- Lead Agency – primary point of contact for project tracking and evaluation
- Partner Agencies – other stakeholders that should be included in the project
- Timeframe – how often the project will be conducted or when it should be finished
- Status – a current/ongoing project or a new idea that has not started before the plan was created
- Evaluation metric – means by which to evaluate the effectiveness of the project (more information in next section)

## Evaluation Plan

During the initial development of a strategic plan, it is important to identify means to evaluate each component of the plan. When projects are designed without evaluation considered, it is often difficult to identify appropriate means to determine effectiveness. There are several different types of evaluation that may be used and more than one method may be appropriate for a single project. Those evaluation types are listed below.

It is also important to establish a schedule for evaluating the plan itself. That schedule may depend on reporting requirements to agency or jurisdictional leaders. One example may be to have the Steering Committee continue to meet quarterly to discuss concerns and progress and at those meetings a descriptive evaluation will be presented for the team to consider. Status updates will be recorded and used to develop that evaluation for the next meeting. Those ongoing evaluation reports will culminate in a comprehensive, formal evaluation of the plan every year. At the end of the plan's lifecycle, a full evaluation of the strategic planning, implementation, and evaluation processes will be compiled.

### Types of Evaluation

Evaluation Type	Definition	Uses	Examples	
<b>Formative</b>	Evaluates a program during development in order to make early improvements	When starting a new program	How well is the program being delivered?	-# agencies collaborating -sufficient funding on hand -customer survey re: logistics
	Helps to refine or improve program	To assist in the early phases of program development	What strategies can we use to improve this program?	
<b>Summative</b>	Provides information on program effectiveness	To help decide whether to continue or end a program	Should this program continue to be funded?	-% attendance/cancellations -attendee survey re: overall impression, suggested changes
	Conducted after the completion of the program design	To help determine whether a program should be expanded to other locations	Should we expand these services to all other after-school programs in the community?	
<b>Process</b>	Determines if specific program strategies were implemented as planned	To determine why an established program has changed over time	Did your program meet its goals for recruitment of program participants?	-# of meetings, presentations -# of cancellations by reason (low attendance, location, etc) -attendee survey re: message delivery, content, format, frequency
	Focuses on program implementation	To address inefficiencies in program delivery of services	Did participants receive the specified number of service hours?	

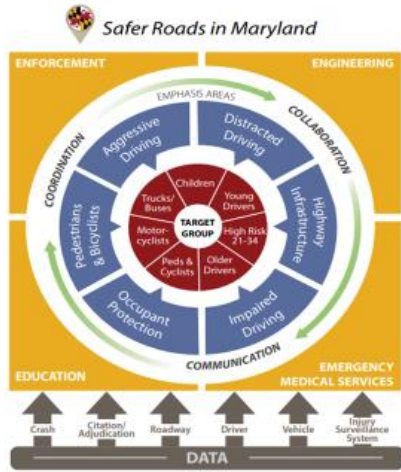
		To accurately portray to outside parties program operations (e.g., for replication elsewhere)		
<b>Outcomes</b>	Focuses on the changes in comprehension, attitudes, behaviors, and practices that result from programs activities	To decide whether program/activity affect participants outcomes	Did your participants report the desired changes after completing a program cycle?	-# of outcomes (personal crashes, citations, desired changes, etc) -attendee survey re: message recall, increased knowledge, changed behaviors
	Can include both short and long term results		What are the short or long term results observed among (or reported by) participants?	-# of fatalities, serious injuries
		To establish and measure clear benefits of the program		
<b>Impact</b>	Focuses on long term, sustained changes as a result of the program activities, both positive/negative and intended/unintended	To influence policy	What changes in your program participants' behaviors are attributable to your program?	-# of outcomes (whole area crashes, citations, desired changes, etc) -attendee survey re: message recall, increased knowledge, changed behaviors
		To see impact in longitudinal studies with comparison groups	What effects would program participants miss out on without this program?	

## Endorsement

To ensure the ongoing support for and ultimate success of a strategic plan, executive approval is key. The Steering Committee may opt to seek that approval either at the beginning or end of the process, depending on local politics. Formal endorsement helps traverse any changes in leadership at the agency or jurisdiction-level, especially in cases where a non-safety minded person becomes a leader. Early executive endorsement may help bring agencies/partners to the table because they won't participate unless ordered to do so. Later endorsement may fit some jurisdictions because the partners are already focused on building the plan and it's easier to present a final product for approval.

# Resources

## Kickoff meeting presentation template



BMC

BRTB

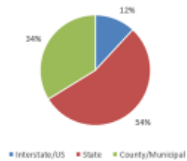


BMC

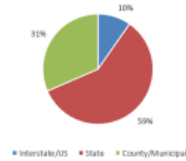
BRTB

### Is it really a local concern?

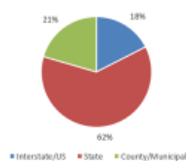
Crashes in Anne Arundel County (average 2014-2018)



Injury Crashes in Anne Arundel County (average 2014-2018)



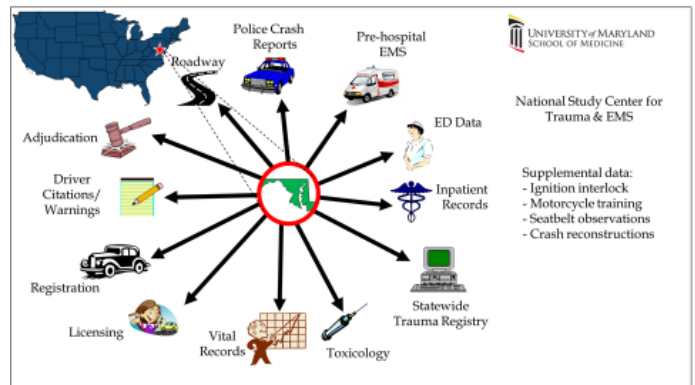
Fatal Crashes in Anne Arundel County (average 2014-2018)



Excluding crashes occurring on US government routes, other state agency-maintained roads, other public routes, parking lots, unknown

BMC

BRTB



BMC

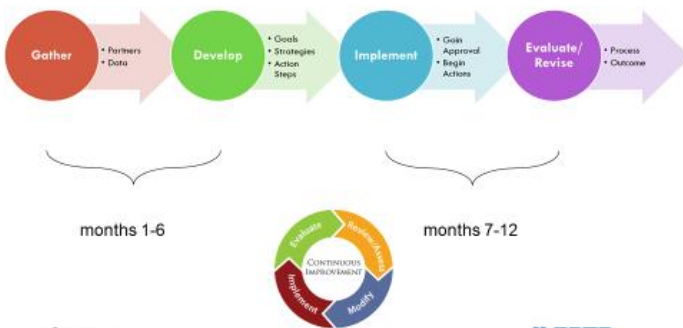
BRTB

## Steps

1. **Meet to review current status**
2. **Identify partners**
3. **Convene a kickoff meeting**  
Review planning process  
Review data  
Begin thinking of strategies
4. **Meet to finalize strategies**  
Begin thinking of Action Steps
5. **Meet to finalize Action Steps**  
Develop evaluation tool
6. **Finalize plan/get approval/ begin implementation**



## Anticipated Timeline



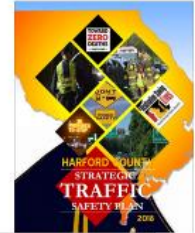
## Vision

- **Plan to include:**
  - Data-driven goals/targets and emphasis areas
  - Strategies
  - Action steps
  - Implementation plan
  - Evaluation tool
  - Ongoing tracking and evaluation with annual report/update
- **Executive support:**
  - Signature, not necessarily a committee



## Who has them?

- Five counties
- Several cities
- Several more in-process





## Executive summary template

### **Anne Arundel County Strategic Highway Safety Plan**

**Who** – all Maryland jurisdictions are strongly encouraged by MDOT to develop and implement a plan. Key partners, at a minimum, will represent the 4 Es of traffic safety: Engineering, Enforcement, Education, and EMS. Other local plans have incorporated public schools, local elected officials, private/non-profit programs, and insurance industry representatives to great success.

**What** – construct a local strategic plan focused on traffic safety that fits the needs and vision of the County.

**When** – The Local SHSP may follow any time line or structure chosen by its steering committee; state plan will update in 2021.

#### **Anticipated Timeline – AA SHSP**



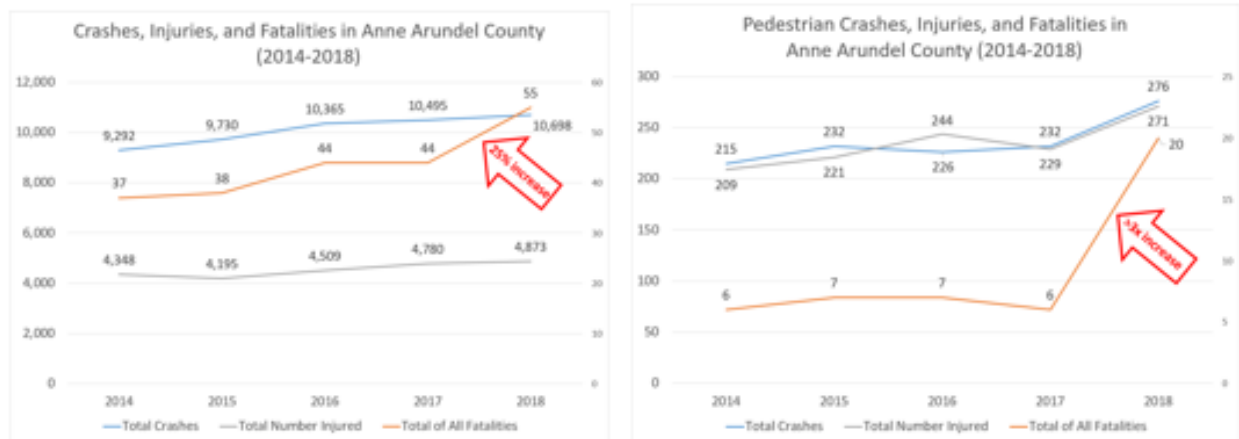
**Where** – across all parts of the county and all disciplines that impact traffic safety. Aim to foster state and local partnerships for implementation of the plan.

**Why** – to save lives on any level, it must all begin with local efforts. An SHSP will expand efforts related to the Move Anne Arundel! goal for a safe transportation system to improve safety in the county while “Move Anne Arundel addresses traffic congestion and the need for additional transit and transportation infrastructure to improve reliability and connectivity.” (May 9 press release)

Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all. First implemented in Sweden in the 1990s, Vision Zero has proved successful across Europe – and now it’s gaining momentum in major American cities. (Move Anne Arundel! draft plan)

Crashes, injuries, and fatalities have been increasing in Anne Arundel County for the last five years with a notable 25% spike in traffic fatalities from 2017-2018. There was also a significant increase in pedestrian fatalities, tripling from 2017-2018.





Source: MDOT-MVA Maryland Highway Safety Office Benchmark Reports

**How** – with BMC support and county agency investment. One staff member, Cindy Burch, is dedicated to this effort and will provide administrative and logistical support. Cindy will also support implementation, evaluation, and revision of the plan.

Two other jurisdictions in the Baltimore metropolitan region have developed plans over the past 12 months. Carroll and Howard Counties have convened steering committees, conducted extensive problem identification analyses, identified Emphasis Areas, and worked with other local partners to develop Strategies and Action Steps. Executive endorsement will be sought in the near future.

Montgomery and Prince George's Counties have implemented Vision Zero strategic plans with executive support and multi-disciplinary partners. Emphasis Areas, Strategies, and Action Steps are key components of those plans and several mirror the state plan's Emphasis Areas.

**Status** – a preliminary meeting was held on November 8, 2019 to discuss the feasibility of constructing an SHSP, how it would integrate with the Pedestrian and Bicycle Master Plan, Complete Streets policy, and Move Anne Arundel! Transportation Functional Master Plan. The following local partners were in attendance and encourage the development of this plan, most notably as a partner to Move Anne Arundel!:

Anne Arundel County Office of Transportation  
 Anne Arundel County Fire Department  
 Anne Arundel County Public Schools, Transportation  
 Anne Arundel County Department of Public Works, Traffic

MDOT-MVA Maryland Highway Safety Office  
 Baltimore Metropolitan Council

Support contact – Cindy Burch, Baltimore Metropolitan Council  
[cburch@baltometro.org](mailto:cburch@baltometro.org) 410-732-0500 x1051

November 2019

## Strategic Planning Template

University of Kansas VMOSA <https://ctb.ku.edu/en/table-of-contents/structure/strategic-planning/vmosa/main>

<b><u>Vision</u></b>	
- <i>'the dream'</i>	To save lives and reduce the burden of traffic-related injuries.
<b><u>Mission</u></b>	
- <i>what and why</i>	To reduce crashes, injuries, and fatalities through a multi-disciplinary, comprehensive approach using the 4 Es.
<b><u>Objectives/Targets</u></b>	
<i>data-based</i>	To reduce the number of aggressive-driving related fatalities in County from 100 in 2018 to 90 in 2020.
<i>SMART</i>	
<b><u>Strategies</u></b>	
- <i>how</i>	enhance skills, enhance services/support, modify access (barriers/opportunities), change consequences, modify policies
<b><u>Action Steps</u></b>	
- <i>what will happen</i>	person responsible, completion date, resources required, potential barriers, collaborators
<b><u>Evaluation Metrics</u></b>	
- <i>did it work</i>	formative, summative, process, outcomes, impact

## Data review template

Standard summary reports, such as the Benchmark Reports produced by MHSO, will be helpful in beginning the problem identification process. Additionally, roadway ownership and law enforcement jurisdiction should be considered when identifying local roads. In the case of low fatality numbers, each jurisdiction should focus on injuries while still including fatalities in the plan for good measure.

Below is a snapshot of a data review template developed at the Baltimore Metropolitan Council using Benchmark Reports. Data for major program areas were pulled and boxes placed around those areas that represent a higher proportion of fatalities and/or injuries as compared to the crashes, which is an estimate of over-representation. Highlighted areas indicate the highest number of fatalities and/or injuries.

Howard County Reports							Proportion of all crashes in County		Aggressive Driver Involved							Proportion of all crashes in County	
Crash Summary							2018	5 year average	Crash Summary							2018	5 year average
	2014	2015	2016	2017	2018	5 Year AVG.				2014	2015	2016	2017	2018	5 Year AVG.		
Fatal Crashes	16	18	21	17	19	18			Fatal Crashes	1	2	2	3	3	2	15.8%	12.1%
Injury Crashes	1,093	1,041	1,098	1,186	1,064	1,096			Injury Crashes	120	70	71	66	55	76	5.2%	7.0%
Property Damage Crashes	2,435	2,533	2,833	2,959	3,194	2,791			Property Damage Crashes	257	152	164	165	187	185	5.9%	6.6%
Total Crashes	3,544	3,592	3,952	4,162	4,277	3,905			Total Crashes	378	224	237	234	245	264	5.7%	6.7%
Total of All Fatalities	16	18	24	17	20	19			Total of All Fatalities	1	2	3	3	4	3	20.0%	13.7%
Total Number Injured	1,541	1,420	1,525	1,620	1,387	1,499			Total Number Injured	165	99	114	101	83	112	6.0%	7.5%
Distracted Driver Involved									Driver Speed Involved								
Crash Summary									Crash Summary								
	2014	2015	2016	2017	2018	5 Year AVG.				2014	2015	2016	2017	2018	5 Year AVG.		
Fatal Crashes	7	3	5	7	7	6	36.8%	31.9%	Fatal Crashes	5	3	5	5	4	4	21.1%	24.2%
Injury Crashes	607	510	597	595	533	568	50.1%	51.8%	Injury Crashes	254	149	137	135	136	162	12.8%	14.8%
Property Damage Crashes	1,239	1,145	1,410	1,441	1,559	1,359	48.8%	48.7%	Property Damage Crashes	604	388	457	436	526	482	16.5%	17.3%
Total Crashes	1,853	1,658	2,012	2,043	2,099	1,933	49.1%	49.5%	Total Crashes	863	540	599	576	666	649	15.6%	16.6%
Total of All Fatalities	7	3	5	7	8	6	40.0%	31.6%	Total of All Fatalities	5	3	6	5	4	5	20.0%	24.2%
Total Number Injured	852	687	841	840	699	784	50.4%	52.3%	Total Number Injured	347	187	196	192	199	224	14.3%	15.0%

## Economic cost breakdown

The economic costs of each crash are a significant burden on federal, state, jurisdiction, and private resources. Economic costs associated with traffic crashes, injuries, and fatalities have been estimated by national standards (<https://safety.fhwa.dot.gov/hsip/docs/fhwasa17071.pdf>). Shown below is the cost of crashes by five levels of severity (no injury, possible injury, non-incapacitating injury, serious injury, fatality).

Person Injury Severity	Economic Costs	Quality of Life Years	Total (Economic and QALY)
No injury	\$5,717	\$2,563	<b>\$8,280</b>
Possible injury	\$21,749	\$49,926	<b>\$71,675</b>
Non-incapacitating injury	\$32,105	\$97,974	<b>\$130,079</b>
Serious injury	\$84,507	\$363,324	<b>\$447,831</b>
Fatality	\$1,398,916	\$7,747,082	<b>\$9,145,998</b>
	Healthcare costs including EMS costs, medical services costs Market productivity loss including wages and fringe Household productivity loss Cost of insurance administration and attorneys to process claims Workplace costs due to employee's absence Legal costs Congestion impacts due to travel delay Property damage to vehicles, roadway, etc.	Quality-Adjusted Life Years	

## Roster Templates

<b><u>Engineering</u></b>			<b><u>Enforcement</u></b>	
Local			Local	
	DPW			PD
	DOT			Sheriff
	Planner			Crash Reconstructionist
State				Motorcycle Unit
	District			School Resource Officer
	HQ		State	
	MPO			MSP
				MDTA

<b><u>Federal Partners</u></b>			<b><u>Data Partners</u></b>	
NHTSA			MHSO	
FHWA			NSC	
	Resource Center		Washington College	
FMCSA				

<b><u>Education</u></b>			<b><u>EMS</u></b>	
Local			Local	
	Schools/Bd of Ed			Fire/EMS
	Neighborhood groups			Department of Health
State				Hospital/Trauma Center
	Maryland Highway Safety Office		State	
	AAA programs (older drivers)			Maryland EMS
	National Safety Council			Maryland Department of Health
	Department of Health			Shock Trauma Center (prevention programs)
	MVA (driver services)			

<b><u>Other Interested Parties</u></b>	
	-
	Towing Company
	Advocacy Groups
	Policy/political Partners
	Media/marketing