



Howard County Office of Transportation

October 2020

EXECUTIVE SUMMARY

Howard County is recognized as one of the best places to live in the United States and is characterized by low unemployment, a highly educated population, low crime, a nationally recognized education system, and is one of the safest jurisdictions in the state to drive, take the bus, walk, and bike. However, crashes are one of the leading causes of death and injuries for pedestrians, cyclists and motorists in both Maryland and Howard County and ensuring and improving the safety and health of Howard County's residents, visitors, and travelers is a county goal and priority. In recognition of this fact, Howard County formed a committee comprised of county and state agencies to develop a plan to addresses these crashes.

The Howard County Strategic Road Safety Plan serves as a roadmap to guide county policies and actions to reduce the number of traffic-related crashes, injuries, and fatalities using a comprehensive and strategic approach based on the four Es of traffic safety: Engineering, Enforcement, Education, and Emergency Medical Services. The Plan also aligns with the state of Maryland's Strategic Highway Safety Plan in an effort to reach zero traffic fatalities.

The Howard County Strategic Road Safety Plan is guided by a core vision:

To prevent all traffic crash-related fatalities and serious injuries and to reduce the number and severity of crashes in Howard County

To meet this vision the Strategic Road Safety Plan developed:

- Data driven and achievable goals and targets
- Selection of emphasis areas with the greatest impact on safety
- Proven and effective cooperative strategies to meet the plan goals

This method results in realistic, data-driven, and achievable goals and targets:

- A 2040 goal to reduce number of fatalities by at least 50%.
- A 2025 target to reduce the rate of fatalities by 20% to 0.35 / per 100 Million vehicle miles traveled.
- A 2025 target to reduce the rate of injuries by 20% to 28.80 / per 100 Million vehicle miles traveled.
- A 2025 target to reduce the rate of serious injuries by 19% to 2.35 / per 100 Million vehicle miles traveled.

The strategies and actions identified in this plan are anticipated to reduce the number and rate of traffic-related fatalities and serious injuries in the county and move Howard County toward its goal to prevent traffic-related fatal and serious injuries.

Howard County Strategic Road Safety Plan

2021-2025

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1. INTRODUCTION

Howard County is recognized as one of the best places to live in the United States and is characterized by low unemployment, a highly educated population, low crime, a nationally recognized education system, and is one of the safest jurisdictions in the state to drive, take the bus, walk, and bike. Ensuring and improving the safety and health of Howard County's residents, visitors, and travelers is a county goal and priority.

Crashes are one of the leading causes of death and injuries for pedestrians, cyclists and motorists in both Maryland and Howard County. The Howard County Strategic Road Safety Plan (SRSP) serves as a roadmap to guide county policies and actions to reduce the number of traffic-related crashes, injuries, and fatalities using a comprehensive and strategic approach based on the four Es of traffic safety: Engineering, Enforcement, Education, and Emergency Medical Services.

The data show:

- In 2018, in Maryland, a traffic crash occurred every five minutes; someone died in a crash every 17 hours; and someone suffered serious, potentially life-altering injuries every three hours.
- In 2018, in Howard County, a traffic crash occurred every two hours; someone died in a crash every 18 days; and someone suffered serious, potentially life-altering injuries every 3.75 days.
- In 2018, 3.9% of the state's fatal crashes occurred in Howard County.
- 7.3% of the state's vehicle miles are traveled in Howard County which has 5.3% of its population and 5.7% of its licensed drivers.
- Howard County has a population of 323,196; the 20 traffic fatalities and 1,387 injuries in 2018 represented less than one percent of the population.
- A typical measure for traffic fatalities and injuries uses vehicle miles traveled, of which there were 4,363 billion in 2018 in the county. Therefore, the County had a fatality rate 0.46 compared to the state rate of 0.86 per million vehicle miles traveled.
- There are 249,658 licensed drivers living in the county; its fatality rate was .008 which was similar to the state rate of .01.
- The economic impact of fatal crashes in 2018 was over \$180 Million dollars on federal, state, local and private sector resources.
- The economic impact of crash injuries in 2018 was over \$43 Million dollars on federal, state, local and private sector resources.

The Howard County Strategic Road Safety Plan is guided by a core vision:

To prevent all traffic crash-related fatalities and serious injuries and to reduce the number and severity of crashes in Howard County

To meet this vision Howard County initiated the Howard County Strategic Road Safety Plan to develop:

- Data driven and achievable goals and targets
- Selection of emphasis areas with the greatest safety impact on safety
- Proven and effective cooperative strategies to meet the plan goals

2. HOW TO READ THE HOWARD COUNTY STRATEGIC ROAD SAFETY PLAN

The Howard County Strategic Road Safety Plan is organized around the following seven sections:

Background

This section explores the roles of Strategic Highway Safety Plans in relation to federal, state and local safety planning and the efforts of Howard County Complete Streets including information on the economic costs of crashes on local and state government agencies and residents.

Planning Process

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

Plan Development

This section explores how this plan was created by a local stakeholder steering committee and each step of the process.

Goals and Targets

This section explores the data and methodology used to determine the goals and targets to achieve the plan's vision.

Data Review

This section explores the most recent crash data trends in Howard County and stratifies that information by route type and law enforcement agency.

Emphasis Areas

This section explores each of the six Emphasis Areas selected as priorities in Howard County for this plan. Each Emphasis Area includes Strategies that will be used by program partners to approach the issue and Action Items that will be implemented in order to achieve the goals for each area.

Implementation / Evaluation Plan

This section explores how the Action Items will be implemented and evaluated in order to track progress and work to achieve the goal.

3. BACKGROUND AND CONTEXT

STRATEGIC HIGHWAY SAFETY PLANS

Strategic Highway Safety Plans (SHSP) have been an integral part of traffic safety planning since the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) transportation bill was authorized in 2005. Subsequent transportation bills have included SHSPs as a data-driven, statewide coordinated plan 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 strategic planning.

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. Prior to those letters, leadership in Howard County agencies had been collaborating and coordinating resources to work towards safer roadways.

REGIONAL CONTEXT AND DATA







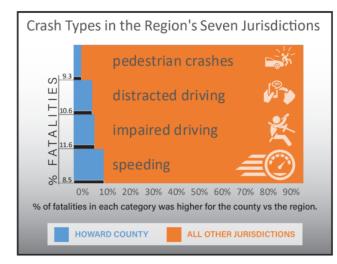
Howard County is a member of the Baltimore Regional Transportation Board (BRTB), the Metropolitan Planning Organization (MPO) for the seven jurisdictions in the Baltimore Region. Those include Anne Arundel, Baltimore, Carroll, Harford, Howard, and Queen Anne's Counties and Baltimore City. Within the region in 2018, 6.9% of all crashes and 9.0% of all fatalities occurred in Howard County. As a comparison, 12.5% of the region's licensed drivers, 11.5% of the region's population, and 15.8% of the region's vehicle miles traveled were in Howard County.

ECONOMIC IMPACTS

The economic costs of each crash are a significant burden on federal, state, county, and private resources. Economic costs associated with traffic crashes, injuries, and fatalities have been estimated by national standards (<u>https://safety.fhwa.dot.gov/hsip/docs/fhwasa17071.pdf</u>). Shown below is the cost of crashes in Howard County 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	\$8,280
Possible injury	\$21,749	\$49,926	\$71,675
Non-incapacitating injury	\$32,105	\$97,974	\$130,079
Serious injury	\$84,507	\$363,324	\$447,831
Fatality	\$1,398,916	\$7,747,082	\$9,145,998
	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	

Each year a Health Rankings & Roadmaps report is published by the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute. The rankings incorporate health factors including environmental, societal, and behavioral measures. Alcohol-impaired driving fatalities factor into the ranking and total traffic fatalities are noted, but not as a vital health factor for the rankings. In 2019, Howard County was ranked second in the state for health outcomes and first for health factors, with an improving trend in alcohol-impaired crash fatalities (<u>https://www.countyhealthrankings.org/app/maryland/2019/rankings/howard/county/outcomes/overall/snapshot</u>).



As shown in the Crash Types graphic, Howard County accounted for less than 10% of crashes in each of the categories. However, a higher percentage of fatalities in those areas occurred in the County. This shows that pedestrian, distracted driving, and impaired driving crashes were more severe in Howard County because its share of the fatalities was higher than its share of the crashes.

Howard County Complete Streets Policy

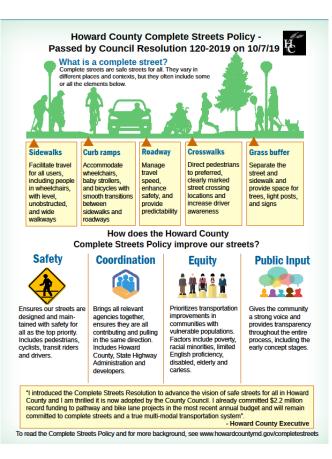
On October 7, 2019, the Howard County Council adopted the Howard County Complete Streets Policy though Council Resolution 120-2019.

This policy states that public and private streets in Howard County shall be safe and convenient for residents of all ages and abilities who travel by foot, bicycle, public transportation or automobile. It makes the safety of vulnerable road users the top priority in decisions related to transportation infrastructure and the use of public space, and it sets complete streets as the default for transportation planning, programming, design, land acquisition, engineering, construction and reconstruction. Exceptions are limited and must follow a transparent approval process.

The Policy also includes a strong equity component, identifying census tracts with concentrations of vulnerable populations for transportation and prioritizing improvements in these areas.

The Resolution requires related county regulations, standards, and plans, such as the Design Manual and Subdivision and Land Development Regulations, to be updated within a stated timeline to incorporate the Complete Streets Policy.

For more background and information on the Howard County Complete Streets Policy, see <u>https://www.howardcountymd.gov/Departments/County-Administration/Transportation/Complete_Streets</u>.



4. PLANNING PROCESS

The Howard County Strategic Road Safety Plan was developed using the Vision, Mission, Objectives, Strategies, and Action Plans strategic planning method 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. (<u>https://ctb.ku.edu/en</u>)

The plan was developed by following the VMOSA steps, which are:

- Identifying the vision and ultimate goal to reduce traffic fatalities to zero
- Developing a concise mission statement on how that goal will be achieved
- **Objectives** are defined as **Emphasis Areas**, which identify the most critical factors that impact traffic safety in the county. The SRSP identified the following **Emphasis Areas**:
 - Aggressive driving and speeding
 - Distracted driving
 - Crashes caused by impaired driving
 - Crashes related to infrastructure
 - > Occupant protection, such as seatbelt and child seat use
 - Crashes involving pedestrian and cyclists, which are called out due to their unique vulnerability
- **Strategies** are broad statements as to how the team will organize efforts to achieve the mission and vision. In this plan, the Strategies are mainly focused on the 4 Es of traffic safety and other significant areas identified by the steering committee.
- In this plan, 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.



5. PLAN DEVELOPMENT

WHO

The multidisciplinary committee is led by the Howard County Office of Transportation and includes state and local partners from each E:

- Maryland Department of Transportation (MDOT) State Highway Administration District 7 engineer;
- MDOT Motor Vehicle Administration's Highway Safety Office (MHSO) Partnerships, Research, and Outreach coordinator;
- Howard County Department of Public Works
 - \circ Engineering
 - o Highways
 - Traffic Engineering
- Howard County Police Department
- Howard County Department of Fire and Rescue Services
- Howard County Public School System
- Howard County Health Department

WHAT

The mission and vision of the County plan, named the Howard County Strategic Road Safety Plan (SRSP), align with the state SHSP in an effort to reach zero traffic fatalities. The goals comply with the Toward Zero Deaths methodology to reduce fatalities and serious injuries by 50% by 2040. While goals related to fatalities are presented here, each part of this plan will focus on reducing the number of injuries. This is because the number of fatalities is already small and preventing an injury also prevents it from becoming a fatality. Subsequently, annual targets were identified, and an analytical problem identification process was completed (shown below).

WHEN

Development of the SRSP was initiated in 2018 in response to the County's ongoing goal to encourage safer communities.



6. GOALS & TARGETS

FATALITIES AND INJURIES

The SRSP's vision is to **"prevent all traffic crash-related fatalities and serious injuries in Howard County and to reduce the incidence of traffic crashes."** To achieve this vision, the plan sets interim targets and a 2040 goal using the Toward Zero Deaths approach as outlined in the Maryland SHSP.

The approach uses an exponential trend line connecting historical data to the 2040 goal year. Five-year averages are used to calculate projections, and the targets for each individual year are taken from the midpoint of the five-year average (e.g., 2030 annual interim target = midpoint of the 2028-2032 average). 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, the target and goals were also calculated using rates for million vehicle miles traveled (MVMT). This method results in realistic, data-driven, and achievable goals and targets:

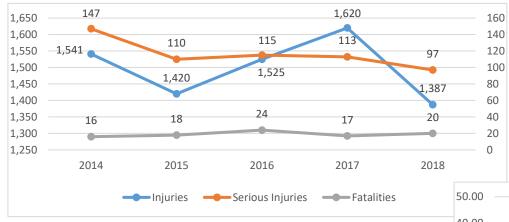
- A 2040 goal to reduce number of fatalities by at least 50%.
- A 2025 target to reduce the rate of fatalities by 20% to 0.35 / per 100 Million vehicle miles traveled.
- A 2025 target to reduce the rate of injuries by 20% to 28.80 / per 100 Million vehicle miles traveled.
- A 2025 target to reduce the rate of serious injuries by 19% to 2.35 / per 100 Million vehicle miles traveled.

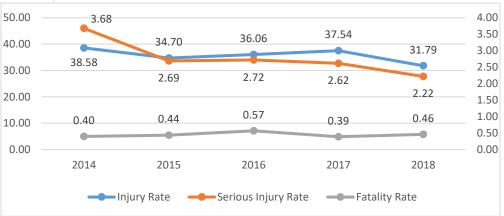
The data show that the Howard County fatality rate is significantly lower compared to the 2018 statewide fatality rate of 0.85 and national rate of 1.13 / per 100 MVMT. Additionally, crash and fatality rates are impacted by a number of factors, including:

- Distracted driving, especially related to the use of cellphones, texting, and social media.
- While using rates does help control for changes in travel habits, other critical factors can impact rates, including:
 - o New and upgraded safety equipment becoming more common as part of the vehicle fleet lifecycle,
 - o Slowdowns in the vehicle fleet replacement rate,
 - o Increasing freight movement in the county, especially on state roadways,
 - o Congestion, and
 - o Ridesharing.

FATALITY AND INJURY RATES

	Total County Figures					Rates per 100 Million Vehicle Miles Traveled			
	2014-2018 Annual Average	2021-2025 Annual Target	2040 Goal (2038-2042 average)	2014-2018 Annual Average	2021-2025 Annual Target	2040 Goal (2038-2042 average)			
Fatalities (persons)	19	14	10	0.45	0.35	0.23			
Injuries (persons)	1,499	1,153	749	35.74	28.17	17.87			
Serious Injuries (persons)	116	91	58	2.79	2.23	1.39			
Fatal Crashes	18	14	9						
Injury Crashes	1,096	839	548						



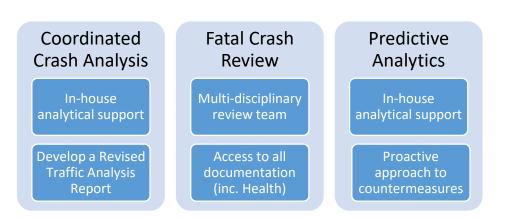


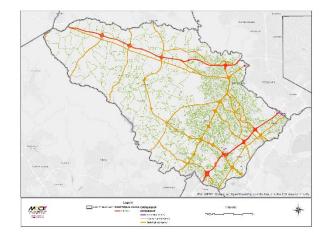
7. DATA REVIEW

ALL CRASHES

The Steering Committee began this process with an extensive review of traffic records data, primarily crash report data provided by the Maryland Department of Transportation Motor Vehicle Administration's Highway Safety Office and the Howard County Police Department. Data related to crashes, injuries, and fatalities from 2014-2018 were analyzed in several different ways: by behavioral and infrastructure-related program areas, by state and locally maintained roadways, and by responding law enforcement agency.

	All Howard County Crash Reports											
						5 Year						
	2014	2015	2016	2017	2018	AVERAGE						
Fatal Crashes	16	18	21	17	19	18						
Injury Crashes	1,093	1,041	1,098	1,186	1,064	1,096						
Property Damage Crashes	2,435	2,533	2,833	2,959	3,194	2,791						
Total Crashes	3,544	3,592	3,952	4,162	4,277	3,905						
Total of All Fatalities	16	18	24	17	20	19						
Total Number Injured	1,541	1,420	1,525	1,620	1,387	1,499						





MDOT SHA roadways in red and orange, Howard County DPW roadways in green

CRASHES BY ROAD TYPE

Howard County is served by roads owned and maintained by Howard County and the Maryland Department of Transportation State Highway Administration (MDOT SHA). Howard County owns and maintains 85% of roadways, of which the majority are neighborhood streets and local connections. MDOT SHA owns and maintains 15% of roadways, including major roads and interstates in the county which are characterized by higher speeds, greater distances between intersections, and more lanes.

Behavioral Types*	Howard County, Crashes by Roadway (2014-2018)							
		State Roads			Local Roads			
	Total Crashes	Injury Crashes	Fatal Crashes	Total Crashes	Injury Crashes	Fatal Crashes		
Aggressive Driving	991	272	6	281	98	5		
Motorcycle-Involved	165	135	5	98	76	6		
Distracted Driving	5,988	1,808	18	2,823	838	10		
Speeding	2,144	536	14	829	217	8		
Impaired Driving	746	254	17	422	123	12		
Young Driver-Involved	1,615	461	5	1,214	315	6		
Older Driver-Involved	1,390	464	7	953	331	5		
Pedestrian	74	55	17	127	111	2		
Bicycle	24	20	0	53	44	1		

* These Behavioral Types are not mutually exclusive

The following information shows the proportion of all crashes that resulted in at least one injury by type on each type of roadway:

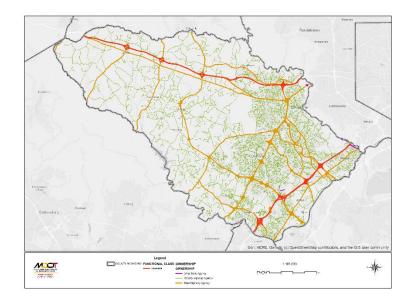
	State Roads (%)	Local Roads (%)	Odds of being injured	Key Points
Aggressive Driving	28	37	1.3 times higher on local roads	Higher speeds on state roads may account
Motorcycle	85	84	equal on local and state roads	for higher odds.
Distracted	30	30	equal on local and state roads	Crashes on local roads are as serious as
Speeding	26	27	equal on local and state roads	those on state roads in Howard County.
Impaired	36	32	1.12 times higher on state roads	
Younger	29	26	1.11 times higher on state roads	
Older	34	35	equal on local and state roads	
Pedestrian	97	89	1.09 times higher on state roads	
Bicycle	83	85	1.02 times higher on local roads	

CRASHES BY LAW ENFORCEMENT AGENCY

Similar to the differences in road types, there are also differences based on law enforcement agency jurisdiction. The Maryland State Police (MSP) are responsible for all enforcement and crash responses on interstate roadways and the Howard County Police Department (HCPD) is responsible for all other roads throughout the County. Distinguishing between locations where Howard County Police may enforce traffic safety laws is critical to developing any enforcement plan and collaborating with state and municipal agency partners.

Howard County Crashes by Law Enforcement Agency (HCPD / MSP)											
						5 Year					
	2014	2015	20106	2017	2018	AVERAGE.					
Fatal Crashes	13/3	14 / 4	16/5	13 / 4	16/3	14/4					
Injury Crashes	921 / 172	871/170	899 / 199	950 / 236	870 / 194	902 / 194					
Property Damage Crashes	1,874 / 561	1,934 / 599	2,162 / 671	2,260 / 699	2,330 / 864	2,112 / 679					
Total Crashes	2,808 / 736	2,819 / 773	3,077 / 875	3,223 / 939	3,216 / 1,061	3,029 / 876					
Total of All Fatalities	13/3	14 / 4	19 / 5	13 / 4	17/3	15 / 4					
Total Number Injured	1,291 / 250	1,203 / 271	1,237 / 288	1,296 / 324	1,128 / 259	1,231 / 268					

This map shows MSP-patrolled roadways in red (interstates 95 and 70) and HCPD-patrolled roadways in orange and green.



8. EMPHASIS AREAS

Emphasis Areas are priorities identified within the strategic plan around which efforts will be focused to achieve the goal. During the Data Review phase, the Steering Committee identified behaviors that account for the 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. The six Emphasis Areas in this plan help the partners and stakeholders focus programs and share resources most effectively. The plan identifies the following emphasis areas and presents the historical crash data, the targets and goals, and the ongoing and recommended actions and program, along with estimated costs to implement the recommendation.

Emphasis Areas			Key to Emphasis Area Tables		
Aggressive driving and speeding	<u>=</u> 0	> Strategy	Strategies are broad statements on how work will be organized into efforts to achieve the mission and vision		
		> Action Item	The specific action undertaken to implement the strategy		
Distracted driving		Lead Agency	Primary agencies responsible for implementing the action		
 Crashes caused by impaired driving 	×	> Partners	Secondary agencies involved in implementing actions		
 Crashes related to infrastructure 		≻ Status	OG: On Going - signifies projects or practices that have been implemented in the County and will continue NS: Not Started - signifies projects that have been proposed or		
Occupant protection, such as	//		are in development, but have not been executed in the County		
seatbelt and child seat use	фо	Evaluation Metric / Cost	For On Going action items, the evaluation metric used, such as the number of datasets		
Crashes involving pedestrian and cyclists, which are called out due to their unique vulnerability		Cost Estimate	For Not Started items, the cost to implement the action		



8A AGGRESSIVE / SPEEDING

Aggressive driving is defined by Maryland statute §21-902.1 and is identified from crash report data as a driver reported as exhibiting one of the following behaviors in each of the first two contributing circumstance fields: failed to yield right of way, failed to obey a stop sign, failed to obey traffic signal, failed to obey other traffic control, failed to keep right of center, failed to stop for school bus, wrong way on one way road, exceeded speed limit, too fast for conditions, followed too closely, improper lane change, or improper passing. Due to the complex nature of an aggressive driving designation, speeding is often used as a surrogate; speeding is identified as driving exceeding the speed limit or driving too fast for conditions.

As seen below, aggressive driving crashes are less common than speeding crashes. The following goals and targets have been set related to aggressive driving and speeding, following the same methodology previously explained.

	Aggressive Driving Crashes											
	2014	2015	2016	2017	2018	2014-2018 Average	2021-2025 Target	2040 Goal (2038-2042 average)				
Fatal Crashes	1	2	2	3	3	2	2	1				
Injury Crashes	120	70	71	66	55	76	69	38				
Property Damage Crashes	257	152	164	165	187	185						
Total Crashes	378	224	237	234	245	264						
Total of All Fatalities	1	2	3	3	4	3	2	1				
Total Number Injured	165	99	114	101	83	112	104	56				
				Speeding C	rashes							
	2014	2015	2016	2017	2018	2014-2018	2021-2025	2040 Goal				
						Average	Target	(2038-2042 average)				
Fatal Crashes	5	3	5	5	4	4	4	2				
Injury Crashes	254	149	137	135	136	162	155	81				
Property Damage Crashes	604	388	457	436	526	482						
Total Crashes	863	540	599	576	666	649						
Total of All Fatalities	5	3	6	5	4	5	4	2				
Total Number Injured	347	187	196	192	199	224	212	112				



The following <u>Aggressive / Speeding</u> Strategies and Action Items been developed to move the County towards the stated goals:

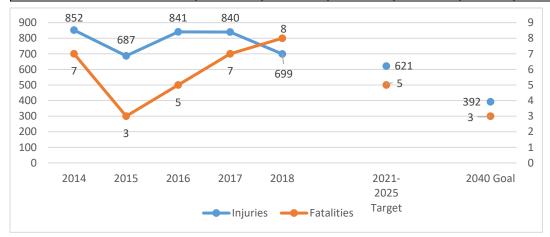
Strategy	Action Item	Lead Agency	Partners	Status	Evaluation Metric / Cost Estimate
Conduct data analyses to identify locations for speed	Identify and obtain data sets (crash, citation, roadway, complaints)	DPW / HCPD / DFRS / SHA / MSP	MHSO / BMC	OG	no. of datasets
enforcement and traffic calming	Identify locations for traffic calming countermeasures	DPW	SHA / DPZ	OG	no. of locations
	Identify locations for speed enforcement using the monthly radar road list	НСРО	MHSO	OG	no. of locations
Conduct aggressive / speed enforcement in conjunction	Participate in statewide campaigns	HCPD / MSP		OG	no. of hours no. of contacts
with statewide and national campaigns	Continue enforcement efforts in addition to statewide campaigns	НСРД	MSP	OG	no. of hours no. of contacts
Conduct outreach efforts related to speeding and	Conduct at least one traffic safety program including speed / aggressive driving (younger and older)	HCPD / HCPSS / DFRS	HCHD / Dept of Aging	NS	Low-cost; incorporate into existing program
aggressive driving in schools and communities.	Continue Aggressive Driving letters effort	HCPD		OG	no. of letters sent
communities.	Continue Help Arriving Students Through Enforcement (HASTE) and You Are Responsible	HCPD / HCPSS	HCHD	OG	no. permits approved no. of student views
	Incorporate traffic safety into the Alternatives to Suspension program	HCPSS		NS	Low-cost incorporate into existing program
Implement and evaluate	Evaluate need for additional school zone cameras	HCPD	SHA	OG	no. of locations
automated red light, school zone speed, and school bus enforcement programs.	Review current status, market success, and next steps for the regional automated enforcement center	BMC / MHSO		NS	\$11,250 (0.25 FTE)
emoreement programs.	Implement school bus automated enforcement	HCPD / HCPSS		NS	Dependent on design
Pursue policies related to	Conduct a research analysis of best practices	DPW / OoT / DFRS	SHA	NS	
Complete Streets.	Identify at least one location for consideration	DPW / OoT / DFRS	SHA	NS	\$11,250 (0.25 FTE)
Utilize public information, education, and awareness	Implement state, regional, and local messaging into partner agency social media accounts	OoT / DPW / HCPD / HCHD / DFRS		OG	no. social media messages
campaign materials from local, regional, and state partners.	Promote state, regional, and local aggressive / speed campaign materials in the County.	OoT / DPW / PD / HCHD / DFRS		OG	no. materials distributed
	Work with state agencies to use uniform messages.	BMC	MHSO / SHA	OG	no. messages sent
Total Cost					\$22,500 (0.50 FTE)

8B DISTRACTED

Distracted driving is identified from crash report data as a driver reported as using a handheld cell phone or failure to pay full time and attention. In 2015, with the advent of a new electronic reporting system, a new element was introduced that identified distracted driving so that was also included in the definition. Failure to pay full time and attention is a very common contributing circumstance and has been used abundantly for many years.

The following goals and targets have been set related to distracted driving, following the same methodology previously explained.

	Distracted Driving Crashes											
	2014	2015	2016	2017	2018	2014-2018 Average	2021-2025 Target	2040 Goal (2038-2042 average)				
Fatal Crashes	7	3	5	7	7	6	5	3				
Injury Crashes	607	510	597	595	533	568	449	284				
Property Damage Crashes	1,239	1,145	1,410	1,441	1,559	1,359						
Total Crashes	1,853	1,658	2,012	2,043	2,099	1,933						
Total of All Fatalities	7	3	5	7	8	6	5	3				
Total Number Injured	852	687	841	840	699	784	621	392				





The following **Distracted** Strategies and Action Items have been developed to move the County toward the stated goals:

Strategy	Action Item	Lead Agency	Partners	Status	Evaluation Metric / Cost Estimate
1. Conduct data collection projects to		DPW / HCPD / DFRS / SHA			
observe distracted driving behaviors	Identify and obtain data sets (crash, citation)	/ MSP	MHSO	OG	no. of datasets
	Conduct observational studies	OoT	MHSO	NS	
	Identify locations for distracted driving enforcement	HCPD / MSP	MHSO	NS	\$22,500 (0.50 FTE)
2. Conduct data analyses related to		DPW / HCPD / DFRS / SHA	IVIII ISO	113	\$22,500 (0.5011L)
the Move Over Law and support	Identify and obtain data sets (crash, citation)	/ MSP	мнѕо	OG	no. of datasets
outreach and enforcement efforts.	Document findings of the data analysis to quantify the problem	DPW / HCPD / DFRS / SHA / MSP	MHSO / BMC	NS	\$11,250 (0.25 FTE)
	Participate in state, regional, and local				
2 Conduct distracted driving	campaigns related to the Move Over Law	DPW / HCPD / DFRS / SHA	MSP	NS	\$ TBD – grant funding no. of hours
3. Conduct distracted driving enforcement in conjunction with	Participate in statewide campaigns	HCPD	MSP	OG	no. of contacts
statewide and national campaigns.	Conduct at least one enforcement effort in				no. of hours
	addition to statewide campaigns	HCPD	MSP	OG	no. of contacts
4. Conduct outreach efforts related to	Conduct at least one safety program including				Low-cost; incorporate
distracted driving in schools.	distracted driving with school age children	HCPSS / HCPD	HCHD	NS	into existing program
	Continue Help Arriving Students Through				no. permits approved
	Enforcement (HASTE) and You Are Responsible	HCPD / HCPSS	HCHD	OG	no. of student views
5. Conduct outreach efforts to older	Conduct at least one safety program including		Americans for		
driver populations related to	distracted driving with an older population	HCPD / Dept of Aging /	Older Driver		Low-cost; incorporate
distracted driving.	(senior center or event).	DFRS	Safety	NS	into existing program
6. Utilize public information,	Implement state, regional, and local messaging				no. social media
education, and awareness campaign	into partner agency social media accounts	OoT / HCPD / DFRS	HCHD	OG	messages
materials from local, regional, and	Promote state, regional, and local distracted				no. materials
state partners.	driving campaign materials in the County.	OoT / DPW / HCPD / DFRS	HCHD	OG	distributed
	Work with state agencies to disseminate uniform				no. coordinated
	messages.	BMC	MHSO / SHA	OG	messages sent
Total Cost					\$33,750 (0.75 FTE)

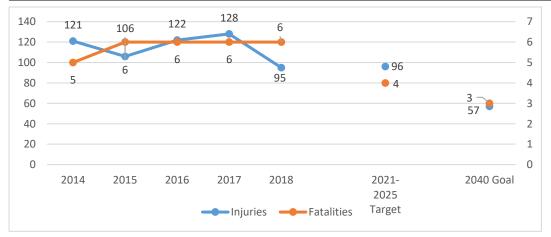
8C IMPAIRED



Impaired driving is identified from crash report data as a driver reported to be under the influence of alcohol and / or drugs. That determination may be captured in several fields on the report including, but not limited to, chemical test results, driver condition, or contributing circumstance. The impairment may be due to alcohol, prescription medication, or illicit drugs.

The following goals and targets have been set rela	ted to impaired driving	following the same met	nodology previously explained
The following goals and targets have been set rela	teu to impaneu unving	, ionowing the same met	louology previously explained.

Impaired Driving Crashes								
	2014	2015	2016	2017	2018	2014-2018 Average	2021-2025 Target	2040 Goal (2038-2042 average)
Fatal Crashes	5	6	6	6	6	6	4	3
Injury Crashes	89	77	79	87	72	81	69	40
Property Damage Crashes	180	154	165	168	192	172		
Total Crashes	274	237	250	261	270	258		
Total of All Fatalities	5	6	6	6	7	6	4	3
Total Number Injured	121	106	122	128	95	114	96	57





The following **Impaired** Strategies and Action Items have been developed to move the County toward the stated goals:

Strategy	Action Item	Lead Agency	Partners	Status	Evaluation Metric / Cost Estimate
1. Conduct data analyses to					
evaluate trends in impaired	Identify and obtain data sets (crash, citation, treatment)	DPW / HCPD / SHA / MSP	MHSO / HCHD	OG	no. of datasets
driving citations,		DPW / HCPD / DFRS / SHA /	MHSO / HCHD /		
adjudications, enforcement,	Document findings to quantify the problem	MSP	BMC	NS	\$11,250 (0.25 FTE)
crash characteristics, and	Identify top locations for impaired driving enforcement using				
treatment outcomes.	methodology for Friday & Saturday enforcement efforts	HCPD / MSP	MHSO	OG	no. of locations
2. Conduct impaired driving					no. of hours
enforcement in conjunction	Participate in statewide campaigns	HCPD / MSP	MSP	OG	no. of contacts
with statewide and national	Continue Friday & Saturday enforcement efforts in addition				no. of hours
campaigns.	to statewide campaigns	НСРО	MSP	OG	no. of contacts
3. Evaluate the county DUI	Connect with and obtain data from the DUI Court	BMC / State's Attorney	MHSO	NS	
Court and identify resources		BMC / State's Attorney / HCPD			
required to continue the	Document findings to quantify the problem	/ HCHD	MHSO	NS	
specialty court program.	Identify resources necessary to maintain and / or expand the	BMC / State's Attorney / HCPD			
	DUI Court, if deemed effective	/ HCHD	MHSO	NS	\$22,500 (0.50 FTE)
 Improve outreach to liquor establishments 	Identify partners and set meetings with liquor establishments	Liquor Inspector / Board	MHSO	NS	
through training and	Identify any need for server training	Liquor Inspector /Board		OG	
enforcement.	Provide outreach materials and collaborate with liquor				
	establishments during impaired driving campaigns	Howard Liquor Inspector	MHSO	NS	-
5. Conduct outreach efforts	Identify key partners and set meetings to collaborate with				
related to impaired driving	both public and private agencies	DPW / HCPD	MHSO	NS	
through public and private partnerships.	Provide outreach materials and collaborate with during impaired driving campaigns	DPW / HCPD	мнѕо	NS	\$45,000 (1.0 FTE)
	Continue Help Arriving Students Through Enforcement				no. permits
	(HASTE) and You Are Responsible permit efforts	HCPSS	HCPD / HCHD	OG	no. of student views
6. Utilize public information,	Implement state, regional, and local messaging into partner	OoT / DPW / HCPD / HCHD /			no. social media
education, awareness	agency social media accounts	DFRS		OG	messages
materials from partners.	Promote state, regional, and local impaired driving campaign	OoT / DPW / HCPD / HCHD /			no. materials
	materials in the County	DFRS		OG	distributed
	Work with state agencies to disseminate uniform messages	ВМС	MHSO / SHA	OG	no. messages sent
Total Cost					\$78,750 (1.75 FTE)

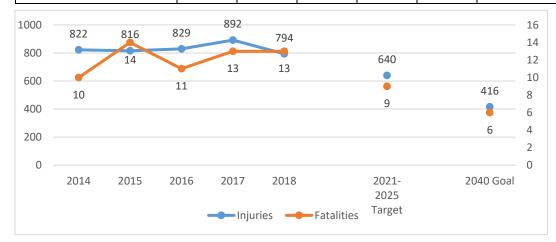


8D INFRASTRUCTURE

Infrastructure-related crashes are defined as those occurring in a work / construction zone, occurring in an intersection, or including a roadway departure (run off road). Each of those categories has been identified as situations where roadway design and / or maintenance may directly affect the occurrence and severity of crashes.

Infrastructure-related Crashes								
	2014	2015	2016	2017	2018	2014-2018 Average	2021-2025 Target	2040 Goal (2038-2042 average)
Fatal Crashes	10	14	10	13	12	12	9	6
Injury Crashes	596	601	589	658	624	613	470	306
Property Damage Crashes	1,322	1,443	1,615	1,581	1,742	1,540		
Total Crashes	1,928	2,058	2,214	2,252	2,378	2,166		
Total of All Fatalities	10	14	11	13	13	12	9	6
Total Number Injured	822	816	829	892	794	831	640	416

The following goals and targets have been set related to infrastructure-related crashes, following the same methodology previously explained.





The following Infrastructure Strategies and Action Items have been developed to move the County toward the stated goals:

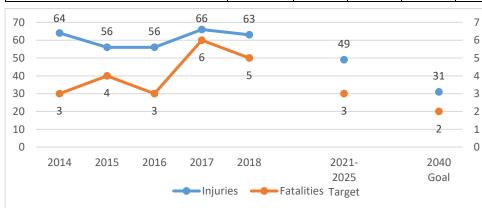
Strategy	Action Item	Lead Agency	Partners	Status	Evaluation Metric / Cost Estimate
1. Compile planned	Identify and combine lists of planned projects	DPW / OoT / SHA		OG	List of projects
infrastructure safety projects and review prioritization based	Review, and document if necessary, prioritization methodologies	DPW / OoT / SHA		NS	Low-cost; part of ongoing process
on data analyses.	Identify top locations for project completion	DPW / OoT / SHA		OG	no. of locations
2. Collaborate with other jurisdictions and conduct	Review design models and projects in other areas for feasibility	DPW (MTEC)	SHA	OG	
research on best practices.	Conduct a review of best practices and emerging technologies	DPW (MTEC)	SHA	OG	\$22,500 (0.50 FTE)
3. Collaborate with enforcement and emergency response agencies during	Identify key partners in emergency services to collaborate / consult with during project planning / design.	DPW / DFRS	SHA	OG	no. of partners
planning and design phases.	Explore the feasibility of expanding Road Safety Audits.	OoT	DPW / SHA	NS	Mid-cost
4. Collaborate with enforcement partners	Develop and share a list of restricted roadways in the County.	DPW / HCPD / OoT / MSP CVED	SHA	NS	Low-cost; part of ongoing process
regarding roadway restrictions (e.g. height and weight) and	Coordinate with safety partners to identify road use patterns related to restrictions (e.g. large vehicles on restricted roadways)	DPW / HCPD / OoT	SHA	NS	Low-cost; part of ongoing process
related traffic patterns	Identify and implement countermeasures related to restricted roadway misuse	DPW	OoT / HCPD	NS	Mid to high-cost
	Conduct enforcement efforts on restricted roadways	HCPD / MSP CVED	DPW / OoT	OG	no. of contacts no. of citations
5. Continue to implement safety projects related to visibility, crossing	Document consideration and inclusion of non-motorist and vulnerable populations in all project plans.	DPW / OoT	SHA	OG	Documentation
accommodations, and separations.	Identify top projects related to non-motorists and shared use designs for implementation.	DPW / OoT	SHA	OG	no. of locations
6. Utilize public information, education, and awareness campaign materials from local, regional, and state partners.	Implement state, regional, and local messaging into partner agency social media accounts	OoT / DPW / HCPD / DFRS	НСНД	OG	no. social media messages
	Promote state, regional, and local roadway safety campaign materials in the County.	OoT / DPW / PD / DFRS	НСНD	OG	no. materials distributed
Total Cost	Work with state agencies to disseminate uniform messages.	BMC	MHSO / SHA	OG	no. messages sent \$22,500 (0.50 FTE)

8E OCCUPANT PROTECTION

Unrestrained occupants are those reported to be traveling in a vehicle, excluding motorcycles, mopeds, and all-terrain vehicles (ATV), using an Air Bag Only or No safety equipment at the time of the crash. Proper safety equipment is identified following the Maryland Occupant Protection Laws: less than 8 years of age must be in a child safety seat, ages 8-16 must be in a seat belt, and ages 16 and over must wear a seat belt in the front seat of a vehicle (primary enforcement) and should wear a seat belt in rear seating positions (secondary enforcement).

Unrestrained Occupants in Crashes 2040 Goal 2014 2015 2016 2017 2018 (2038-2042 average) 2014-2018 average 2021-2025 Target **Restrained Occupant Fatalities** 6 5 10 5 6 7 3 2 3 4 3 6 5 5 **Unrestrained Occupant Fatalities** % of Fatalities Unrestrained 33% 44% 23% 55% 46% 40% **Restrained Occupant Injuries** 1,302 1,199 1,255 1,332 1,171 1,241 49 31 **Unrestrained Occupant Injuries** 64 56 56 66 63 61 % of Injuries Unrestrained 5% 4% 4% 5% 5% 5%

The following goals and targets have been set related to unrestrained occupants in crashes, following the same methodology previously explained.





The following **Occupant Protection** Strategies and Action Items have been developed to move the County toward the stated goals:

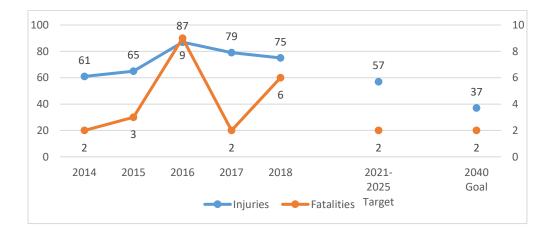
Strategy	Action Item	Lead Agency	Partners	Status	Evaluation Metric / Cost Estimate
1. Conduct data analyses to	Identify and obtain data sets (crash, citation,				
evaluate safety equipment use	observational studies, KISS)	HCPD / MSP / DFRS	MHSO / HCHD	NS	no. of datasets
among motor vehicle occupants,	Identify target populations for educational outreach				
motorcycle riders, and children.	related to safety equipment use	HCPD / DFRS	MHSO / HCHD	NS	\$11,250 (0.25 FTE)
2. Conduct occupant protection					no. of hours
enforcement in conjunction	Participate in statewide campaigns	HCPD	MSP	OG	no. of contacts
with statewide and national	Conduct at least one enforcement effort in addition to				no. of hours
campaigns.	statewide campaigns	HCPD	MSP	OG	no. of contacts
3. Conduct outreach programs	Conduct at least one traffic safety program including	DFRS / Community			Low-cost; incorporate
focused on the younger and	safety restraint use with school age children	Outreach	HCPD / HCHD	NS	into existing program
older population.	Conduct at least one outreach program related to child safety seats with child care or clinical facilities.				
	Conduct at least one safety program for the older				\$26,100 (Certification +
	population (e.g. CarFit)	DFRS	HCPD / HCHD	NS	.50 FTE)* unique rate
	Continue Help Arriving Students Through Enforcement				no. permits approved
	(HASTE) and You Are Responsible	HCPD / HCPSS	HCHD	OG	no. of student views
	Continue to implement Make It Click program	HCPSS		OG	no. of schools
4. Expand support of clinical partners educational programs	Collaborate with national, state, and regional partners			0.00	no. of partners no. of materials
related to occupant protection.	to share child passenger safety training resources.	HCGH	MDH	OG	distributed
	Provide outreach materials to all clinical partners for				no. of partners no. of materials
	education of new parents.	НССН	MDH	OG	distributed
5. Utilize public information,	•			00	
education, and awareness	Implement state, regional, and local messaging into	OoT / DPW / HCPD /			no. social media
campaign materials from local, regional, and state partners.	partner agency social media accounts	DFRS	HCHD	OG	messages
	Promote state, regional, and local occupant protection	OoT / DPW / HCPD /			no. materials
	campaign materials in the County.	DFRS	HCHD	OG	distributed
	Work with state agencies to use uniform messages.	ВМС	MHSO / SHA	OG	no. messages sent
Total Cost					\$37,350 (Certification +
					1.50 FTE)*

8F PEDESTRIAN / BICYCLE

Infrastructure-related crashes are defined as those occurring in a work / construction zone, occurring in an intersection, or including a roadway departure (run off road). Each of those categories have been identified as situations where roadway design and / or maintenance may directly affect the occurrence and severity of crashes.

Pedestrian / Bicycle Crashes								
	2014	2015	2016	2017	2018	2014-2018 Average	2021-2025 Target	2040 Goal (2038-2042 average)
Fatal Crashes	2	3	8	2	6	4	2	2
Injury Crashes	57	60	74	74	69	66	53	33
Property Damage Crashes	4	6	7	5	8	6		
Total Crashes	63	69	89	81	83	77		
Total of All Fatalities	2	3	9	2	6	4	2	2
Total Number Injured	61	65	87	79	75	74	57	37

The following goals and targets have been set related to pedestrian / bicycle crashes, following the same methodology previously explained.





The following **Pedestrian/Bicycle** Strategies and Action Items have been developed to move the County toward the stated goals:

Strategy	Action Item	Lead Agency	Partners	Status	Evaluation Metric / Cost Estimate
1. Conduct data analyses to	Identify and obtain data sets (crash, citation,	DPW / HCPD / MSP /			
identify locations for pedestrian	roadway)	DFRS / SHA	MHSO	OG	no. of datasets
and bicyclist safety and	Document findings of the data analysis to quantify				
infrastructure improvements	the problem and recommendations based on				
	Complete Streets policy	DPW / HCPD / MSP		NS	\$11,250 (0.25 FTE)
	Identify top locations for non-motorist				
	infrastructure improvements	DPW	SHA	OG	no. locations
2. Conduct pedestrian safety					no. of hours
enforcement in conjunction with	Participate in statewide campaigns	HCPD / MSP		OG	no. of contacts
regional media and outreach	Participate in MHSO pedestrian safety training for				
campaign.	law enforcement workshop	HCPD	MSP	OG	no. of participants
	Conduct at least one enforcement effort in				no. of hours
	addition to statewide campaigns	HCPD	MSP	OG	no. of contacts
3. Conduct outreach efforts	Conduct at least one traffic safety program on				Low-cost; incorporate
related to pedestrian and bicyclist	non-motorist safety targeted to drivers	HCPD / OoT	нснр	NS	into existing program
safety	Conduct at least one traffic safety program on		HCHD /		Low-cost; incorporate
	non-motorist safety targeted to non-motorists	HCPD / OoT	MIEMSS	NS	into existing program
	Continue Help Arriving Students Through				no. permits approved
	Enforcement (HASTE) and You Are Responsible	HCPSS	HCPD / HCHD	OG	no. of student views
	Conduct at least one VR Camaro challenge	MHSO / OoT		OG	\$7,500 per event
5. Utilize public information,	Implement state, regional, and local messaging				no. social media
education, and awareness	into partner agency social media accounts	OoT / DPW / HCPD / DFRS	нснр	OG	messages
campaign materials from local,			TICHE	00	messages
regional, and state partners.	Promote state, regional, and local non-motorist				no. materials
	campaign materials in the County.	OoT / DPW / HCPD / DFRS	HCHD	OG	distributed
	Work with state agencies to disseminate uniform				no. coordinated
	messages.	BMC	MHSO / SHA	OG	messages sent
Total Cost					\$11,250 (0.25 FTE)

9. IMPLEMENTATION AND EVALUATION

An Implementation, or Action Plan, has also been developed to support each of the Strategies in each of the Emphasis Areas. That plan is a 'living document' in that it is adaptable to change based on evaluation findings throughout its lifespan. The Implementation Plan is specific to each participating agency on the state and local levels and is more dynamic. Unless significant changes occur, the Goals, Targets, Emphasis Areas, and Strategies will not change before the completion of the plan. However, the Implementation Plan relies heavily on resource availability and prioritization.

Components of the Implementation Plan include Action Steps for each Strategy as well as priority, lead agency, timeline, necessary resources, goals, and evaluation metrics for each Action Step. The Steering Committee will continue to meet quarterly to discuss concerns and progress; 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. That evaluation report will be made available to the County Executive, Agency Administrators, and other Local Executives. A summary will also be posted online for public review. At the end of the five year cycle of this plan, a full evaluation of the strategic planning, implementation, and evaluation processes will be compiled. During that time, plans for the next SRSP will be forming.

ANNUAL TOTAL COST OF PLAN IMPLEMENTATION

Emphasis Area	Action Item	FTE	Cost
Aggressive Driving/Speeding	Review current status, market success, and next steps for the regional automated enforcement center	0.25	\$11,250
	Identify at least one location for consideration of Complete Street Policy	0.25	\$11,250
Distracted Driving	Conduct observational studies and identify locations for distracted driving enforcement	0.50	\$22,500
	Document findings of the Move Over Law data analysis to quantify the problem	0.25	\$11,250
Impaired Driving	Document findings of the impaired driving data analysis to quantify the problem	0.25	\$11,250
	Evaluate the county DUI Court and identify resources required to continue the specialty court program.	0.50	\$22,500
	Improve outreach to liquor establishments through training and enforcement.	1.0	\$45,000
Infrastructure-related	Collaborate with other jurisdictions and conduct research on best practices.	0.50	\$22,500
Occupant Protection	Identify target populations for educational outreach related to safety equipment use	0.25	\$11,250
	Conduct at least one outreach program related to child safety seats and one for the older population	0.50 Certification Cost	\$26,000 (unique rate) \$100
Pedestrian/Bicycle	Document findings of the data analysis to quantify the problem and recommendations based on Complete Streets policy	0.25	\$11,250
Total Cost			\$206,100

10. ACRONY	٨S		
AASHTO	American Association of State Highway and Transportation	MIEMSS	Maryland Institute for Emergency Medical Services Systems
	Officials	MPO	Metropolitan Planning Organization
ATV	All-terrain Vehicle	MSP	Maryland State Police
BMC	Baltimore Metropolitan Council	MTEC	Maryland Traffic Engineers Council
BRTB	Baltimore Regional Transportation Board	MVMT	Million Vehicle Miles Traveled
CVED	Commercial Vehicle Enforcement Division	NS	Not Started
CVSP	Commercial Vehicle Safety Plan	OG	Ongoing
DFRS	Department of Fire and Rescue Services	OoT	Office of Transportation
DPW	Department of Public Works	SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A
DPZ	Department of Planning and Zoning		Legacy for Users
DUI	Driving Under the Influence	SHA	State Highway Administration
EMS	Emergency Medical Services	SHSP	Strategic Highway Safety Plan
FTE	Full Time Employee	SRSP	Strategic Road Safety Plan
HASTE	Help Arriving Students Through Enforcement	VMOSA	Vision, Mission, Objectives, Strategies, Action Plans
HCGH	Howard County General Hospital	VR	Virtual Reality
HCHD	Howard County Health Department		
HCPD	Howard County Police Department		
HCPSS	Howard County Public School System		
HSIP	Highway Safety Improvement Program		
HSP	Highway Safety Plan		
KISS	Kids in Safety Seats		
MDOT	Maryland Department of Transportation		
MHSO	MDOT Motor Vehicle Administration Highway Safety Office		