Carroll County

STRATEGIC TRAFFIC SAFETY PLAN

2022-2026

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A special thanks to Ms. Cindy Burch, who without you, this plan would not have come to be. Your leadership and guidance have without a doubt brought this plan together and will make the roadways of Carroll County safer in the years to come, as we work toward reducing deaths and serious injuries on our roadways.

Committee:

Chair:
Mr. Christopher Letnaunchyn – Carroll County Government

Chair:
Major David Stem – Carroll County Sheriff's Office

Members:
Lieutenant Rebecca Bosley – Maryland State Police
Captain Thomas Kowalczyk – Westminster City Police
President (Fmr.) Don Fair – Carroll County Volunteer Emergency Services
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Ms. Cynthia Burch – Baltimore Metro Council
Mrs. Teri Soos – Maryland Department of Transportation

Designer:
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CONTENTS

INTRODUCTION

In 2020 in Maryland, a traffic crash occurred every five minutes; someone died in a crash every 16 hours; and someone suffered a serious injury in a crash every three hours.

In Carroll County there was a crash every five hours, a crash with injuries every 24 hours, and a fatality every 23 days. In 2020, 2.8% of the state's crash fatalities occurred in Carroll County which also comprises 2.2% of the state's vehicle miles traveled, 2.8% of the population, and 3.1% of the licensed drivers.

In 2020, there were 169,092 people living in the county so the 16 traffic fatalities and 525 injuries represented less than one percent of the population. Also, there were 135,982 licensed drivers living in the county, so that fatality rate was .01 which is the same as the state rate of .01. However, a typical measure for traffic fatalities and injuries uses vehicle miles traveled, of which there were 1,126 million in 2020 in the county so the fatality rate was 1.42 compared to the state rate of 1.13.

While these figures show that Carroll County is a safe place, although comparatively speaking, Carroll County's fatality and injury remain low based on total population, traffic safety stakeholders have made it a priority to ensure and improve the safety of Carroll County residents, visitors and other travelers on its roadways.

To meet this goal Carroll County initiated the development of the Carroll County Strategic Traffic Safety Plan (STSP) using a using a data-driven process to develop:
- Goals and targets
- Emphasis areas
- Proven strategies to meet goals

VISION AND MISSION

The vision of the STSP is to prevent all traffic crash-related fatalities and serious injuries in Carroll County and reduce the incidence of traffic crashes.

This mission is to reduce the number of traffic-related crashes, injuries, and fatalities using a comprehensive yet strategic approach with the 4 Es of traffic safety (Engineering, Enforcement, Education, and Emergency Medical Services (EMS)).

BACKGROUND

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 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 fifth plan that covers 2021-2025. As a function of the state plan, former Maryland Secretary of Transportation Pete K. Rahn began encouraging each of Maryland's 24 jurisdictions to develop local strategic plans. Analyses of statewide 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 Carroll County agencies had been collaborating and coordinating resources to work towards safer roadways.
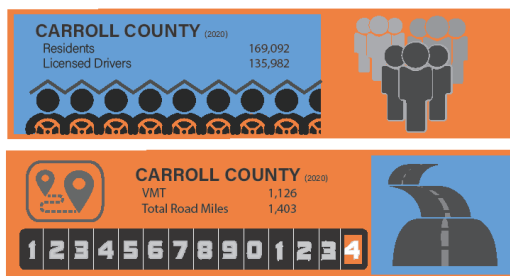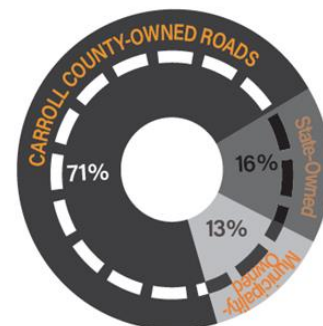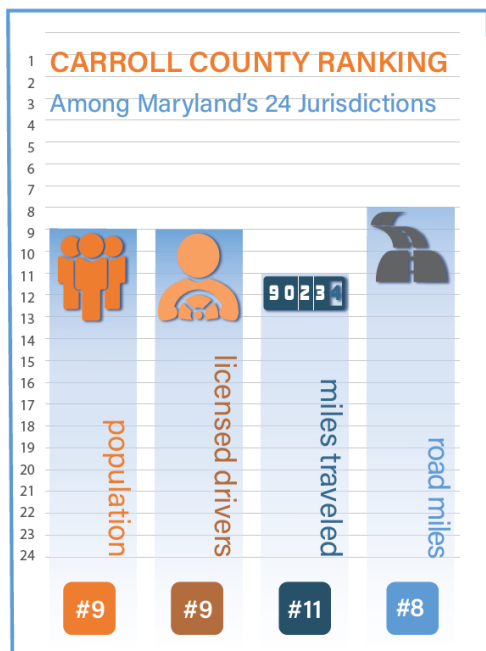

Figure 1. County Demographics

Figure 2. County Roadways

Figure 3. County Rankings in Maryland

Figures 3 illustrates Carroll County's place at #9 among Maryland jurisdictions for population, #9 for licensed drivers, #11 for miles traveled, and #8 for road miles.

Every person living and traveling through the County is important and no fatality is acceptable. The overall goal of the County's STSP is to eliminate all traffic crash-related fatalities and serious injuries through a coordinated effort of state and local stakeholders and the public. Economic costs associated with traffic crashes, injuries, and fatalities have been estimated by 2010 national standards (Harmon T, Bahar G, Gross F. Crash Costs for Highway Safety Analysis. FHWA-SA-17-071, 2018). Those costs explore the effects of crashes beyond hospital charges and incorporate quality of life outcomes for those involved as well as their families or caregivers, the cost of all agencies involved in the emergency response to the crash, the environmental costs to repair any damages from the crash, and the burden on the healthcare and insurance industries that affect future costs. Using the Federal Highway Administration estimates of economic and quality-adjusted life years costs and the Bureau of Labor Statistics inflation adjustment from 2010 to 2020, in 2020 in Carroll County traffic fatalities amounted to at least $175,848,713 and serious injuries at least $34,979,741.

Carroll 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 from 2016-2020, an average of 3.3% of all crashes and 7.6% of all fatalities occurred in Carroll County. During that time, an average of 6.7% of the region's licensed drivers, 6.0% of the region's population, and 4.8% of the region's vehicle miles traveled were in Carroll County.

PLAN DEVELOPMENT

The Board of Carroll County Commissioners and County Sheriff noted the inter-agency collaborative efforts that were already in place and utilized the directive from Secretary Rahn to encourage County agencies to form a Steering Committee and develop a plan that would encapsulate a framework for reducing traffic-related crashes, injuries, and fatalities. In early 2018, a multidisciplinary steering committee was established and led by the Carroll County

Department of Public Works and Sheriff's Office. The team included state and local partners from each of the 4 Es, such as the Maryland Department of Transportation (MDOT) State Highway Administration District 7; Maryland State Police; Westminster Police Department; Carroll County Volunteer Emergency Services Association; and Carroll County Public Schools.

The mission and vision of the County plan, named the Carroll County Strategic Traffic Safety Plan (STSP), 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 focuses 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.

This process culminated in the selection of five Emphasis Areas specific to Carroll County: speeding, distracted driving, highway infrastructure (run-off-road and intersection), impaired driving, and driver age (younger and older). Within those Emphasis Areas, other areas of concern will be addressed such as pedestrians and responder safety will indirectly be addressed as well. An additional overarching Emphasis Area related to data accessibility and quality is incorporated into the STSP; that is a unique characteristic of this local plan and a priority for the state. Also, the implementation plan (maintained in a separate working document) will stratify each Action Step by the Emphasis Area and E that is most appropriate. This will allow for a variety of evaluation methods to be conducted.

A larger group of state and local stakeholders was convened on June 12, 2019 to collaboratively develop Strategies and Action Steps for each Emphasis Area. That group included the Steering Committee members and executives from each agency as well as representatives from: the Carroll County Liquor Control Board; Carroll County State's Attorney's Office; Carroll County Health Department; Carroll County Public Schools; Carroll County Department of Public Safety; Westminster, Taneytown, Sykesville, Mount Airy, and Hampstead Police Departments; City of Westminster; Carroll County Bureau of Aging; Towing & Recovery Professionals of Maryland; MDOT State Highway Administration and Highway Safety Office; Maryland State Police; Chesapeake Region Safety Council; and the Emergency Responder Safety Institute. An evaluation measure and metric was then developed for each Action Step, which will be used independently and with other Action Steps to evaluate each Strategy and the STSP.

Upon completion and approval of the STSP by the Board of Carroll County Commissioners, an Implementation Team was convened led by the Steering Committee and involving Emphasis Area Teams / Action Step Lead Agencies / Other. This team will meet quarterly to review progress within each Strategy and Emphasis Area and share any needs or concerns with each other. From those meetings, short quarterly summaries will be developed and shared with executive partners. Ultimately, a final report will be written at the end of each calendar year which will be built

from the quarterly reports and serve as an official document for state and local executives. It will also be reviewed by the Steering Committee to determine any adjustments that should be made to the Action Steps. At the close of the plan, a five-year evaluation will be conducted using the annual reports and other relevant information. Throughout the life of the plan, locally available traffic safety data will be used to evaluate the Action Steps. This will be done to ensure the most timely and accurate evaluation.

DATA REVIEW

The Steering Committee first conducted an extensive review of traffic records data, primarily crash report trend data provided by the Maryland Department of Transportation Motor Vehicle Administration's Highway Safety Office (MHSO) and more recent crash data provided by partner law enforcement agencies in the county. Data related to crashes, injuries, and fatalities from 2016-2020 were analyzed to identify focus areas.

Table 1. All Crashes in Carroll County

All Carroll County Crash Reports						
						5 Year
	2016	**2017**	**2018**	**2019**	**2020**	**AVERAGE**
Fatal Crashes	20	21	11	14	15	16
Injury Crashes	631	570	610	562	378	550
Property Damage Crashes	1,430	1,410	1,503	1,533	1,280	1,431
Total Crashes	2,081	2,001	2,124	2,109	1,673	1,998
Total of All Fatalities	21	25	11	14	16	17
Total Number Injured	881	819	863	791	525	776

Carroll County is served by roads owned and maintained by the Carroll County Department of Public Works and Maryland Department of Transportation State Highway Administration (MDOT SHA). While the County owns and maintains the majority of roadways, MDOT SHA owns and maintains major roads and interstates. It is valuable to analyze crash data by roadway type, as seen in Table 2, to determine the best partner agency that may affect change.

Table 2. Carroll County Crashes by Roadway Type

	Carroll County, Crashes by Roadway (2016-2020)					
	State Roads			Local Roads		
	Total Crashes	Injury Crashes	Fatal Crashes	Total Crashes	Injury Crashes	Fatal Crashes
Aggressive Driving	65	23	1	20	7	0
Motorcycle	18	13	1	16	12	1
Distracted Driving	693	226	5	305	79	1
Speeding	124	33	1	50	11	0
Impaired Driving	95	38	3	70	20	1
Young Driver	230	65	1	129	31	0
Older Driver	214	78	4	97	35	0
Pedestrian	13	9	3	12	9	1
Bicycle	2	1	0	3	3	0

* These Behavioral Types are not mutually exclusive

GOALS AND TARGETS

The STSP's vision is to "prevent all traffic crash-related fatalities and serious injuries in Carroll 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 2016-2020 Maryland SHSP.

Table 3. Targets and Goals

Targets and Goals			
	2016-2020 Average	2021-2025 Target	2040 Goal
Total of All Fatalities	17	15	9
Total Number Seriously Injured	73	62	36
Total Number Injured	776	661	388
Fatality Rate per 100 MVMT	1.36	1.16	0.68
Serious Injury Rate per 100 MVMT	5.70	4.86	2.85
Injury Rate per 100 MVMT	60.14	51.22	30.07

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., 2040 annual interim target = midpoint of the 2038-2042 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 vehicle miles travelled (MVMT). This method results in realistic, data-driven, and achievable goals and targets:

- A 2040 goal to reduce the number of fatalities by at least 50% to 9.
  - A 2021-2025 interim target of 15.
- A 2040 goal to reduce the number of serious injuries by at least 50% to 36.
  - A 2021-2025 interim target of 62.
- A 2040 goal to reduce the number of injuries by at least 50% to 388.
  - A 2021-2025 interim target of 661.

Figure 4. Target and Goals

Target and Goal Trend Lines
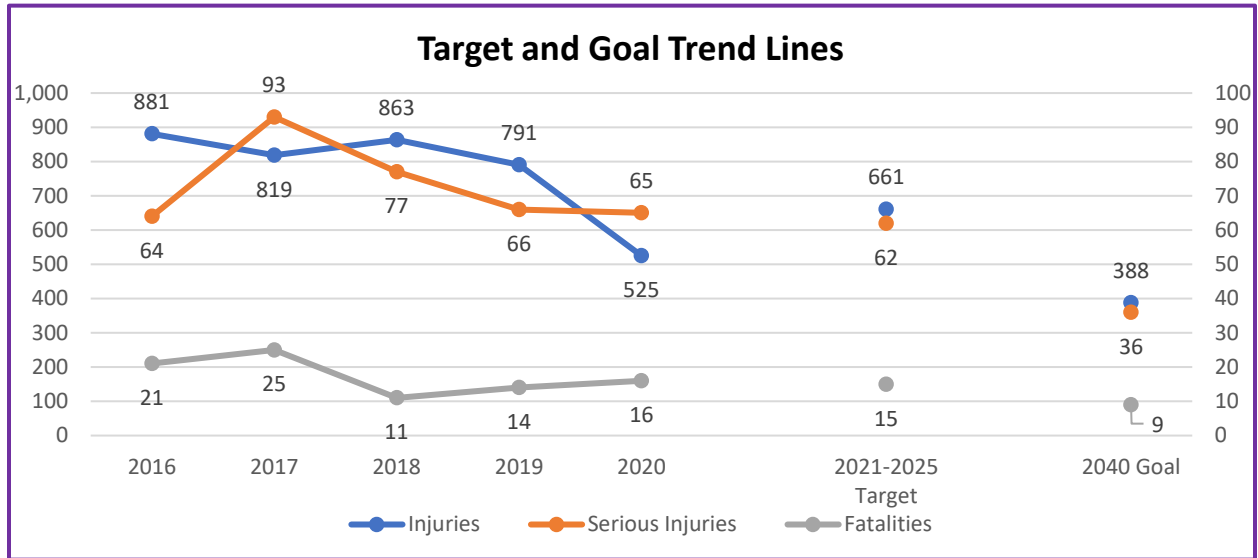
EMPHASIS AREAS
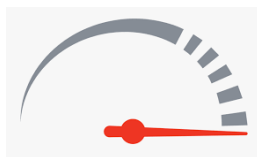
SPEEDING

The following goals and targets have been set related to **speeding**, following the same methodology previously explained.
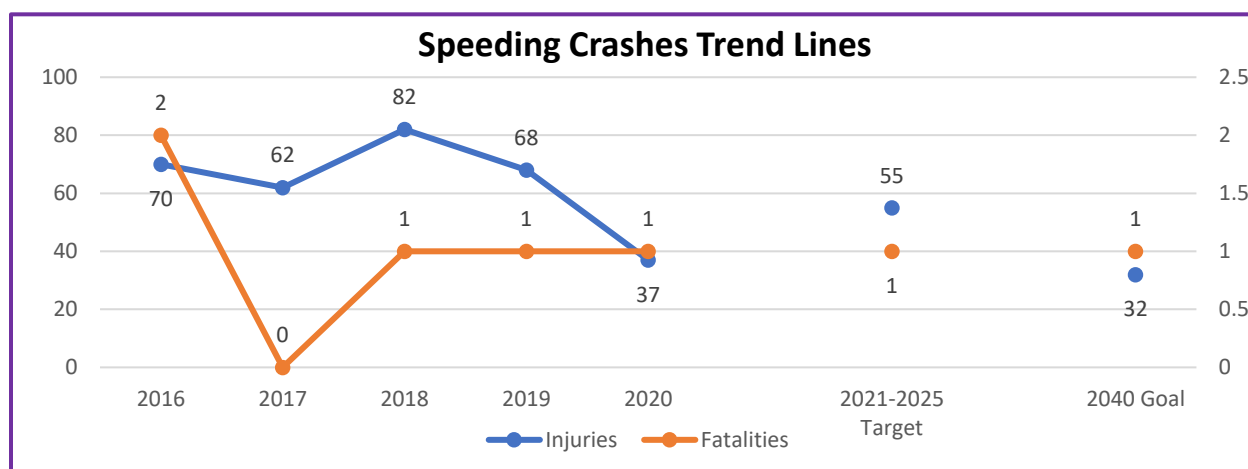
Table 4. Crashes Involving Speed

Speeding Crashes								
	2016	**2017**	**2018**	**2019**	**2020**	**2016-2020 Average**	**2021-2025 Target**	**2040 Goal** (2038-2042 average)
Fatal Crashes	2	0	1	1	1	1		
Injury Crashes	52	47	56	53	28	47		
Property Damage Crashes	131	133	144	155	107	134		
Total Crashes	185	180	201	209	136	182		
Total of All Fatalities	2	0	1	1	1	1	1	1
Total Number Injured	70	62	82	68	37	64	55	32

Strategies

- Conduct directed enforcement related to speeding drivers.
- Conduct in-depth and ongoing data analyses to steer programs and share statistics with the public.
- Implement a public education and outreach campaign focusing on speeding drivers.
- Implement an engineering strategy focused on lowering travel speeds.
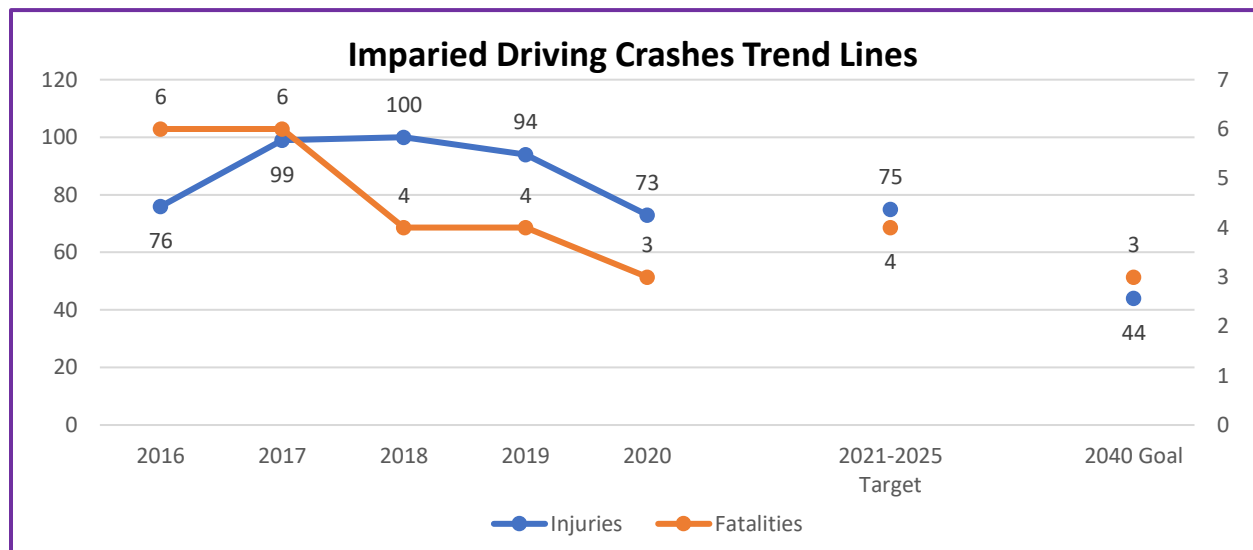
Figure 5. Speed Target and Goal

Impaired

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

Table 5. Crashes Involving Impaired Drivers

Impaired Driving Crashes								
	2016	**2017**	**2018**	**2019**	**2020**	**2016-2020 Average**	**2021-2025 Target**	**2040 Goal (2038-2042 average)**
Fatal Crashes	5	5	4	4	3	4		
Injury Crashes	53	63	68	64	52	60		
Property Damage Crashes	94	111	122	126	113	113		
Total Crashes	152	179	194	194	168	177		
Total of All Fatalities	6	6	4	4	3	5	4	3
Total Number Injured	76	99	100	94	73	88	75	44

Figure 6. Impaired Target and Goal

Strategies

- Expand the use of data to guide impaired driving enforcement.
- Expand impaired driving enforcement and adjudication programs.
- Implement a public education and outreach campaign focusing on impaired drivers.
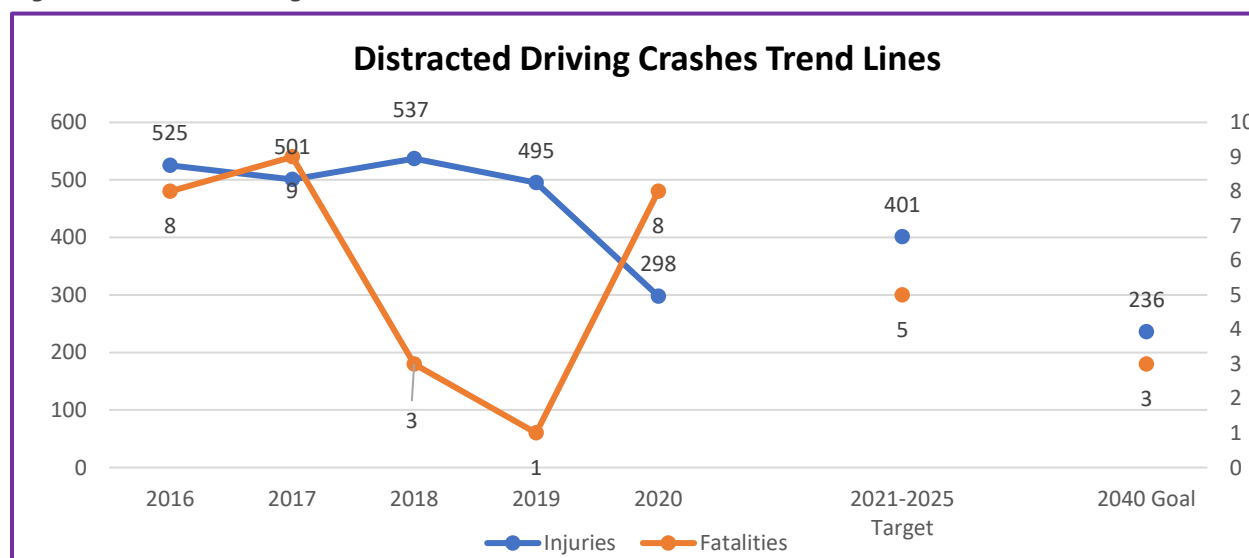
DISTRACTED

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

Table 6. Crashes Involving Distracted Drivers

Distracted Driving Crashes								
	2016	**2017**	**2018**	**2019**	**2020**	**2016-2020 Average**	**2021-2025 Target**	**2040 Goal (2038-2042 average)**
Fatal Crashes	8	9	3	1	7	6		
Injury Crashes	353	342	363	343	213	323		
Property Damage Crashes	754	788	813	817	684	771		
Total Crashes	1,115	1,139	1,179	1,161	904	1,100		
Total of All Fatalities	8	9	3	1	8	6	5	3
Total Number Injured	525	501	537	495	298	471	401	236

Figure 7. Distracted Target and Goal

Distracted Driving Crashes Trend Lines

Strategies

- Expand partnerships to develop and conduct outreach initiatives to reduce distracted driving.
- Evaluate and improve the collection, quality, and analysis of data for problem identification and program evaluation purposes.
- Enhance reviews and enforcement of distracted driving laws.
- Continue to research and foster the use of technologies and engineering applications to address distracted driving infrastructure.

ROOKIEdriver

The following goals and targets have been set related to **older and younger driver-involved crashes**, following the same methodology previously explained.

Table 7. Crashes Involving Younger Drivers (ages 16-20)

Younger Driver Crashes								
	2016	**2017**	**2018**	**2019**	**2020**	**2016-2020 Average**	**2021-2025 Target**	**2040 Goal (2038-2042 average)**
Fatal Crashes	1	4	2	2	0	2		
Injury Crashes	126	112	101	106	61	101		
Property Damage Crashes	317	288	289	280	221	279		
Total Crashes	444	404	392	388	282	382		
Total of All Fatalities	1	7	2	2	0	2	2	1
Total Number Injured	191	170	140	164	85	150	128	75

Figure 8. Younger Driver Target and Goal

Younger Driver Crashes Trend Lines
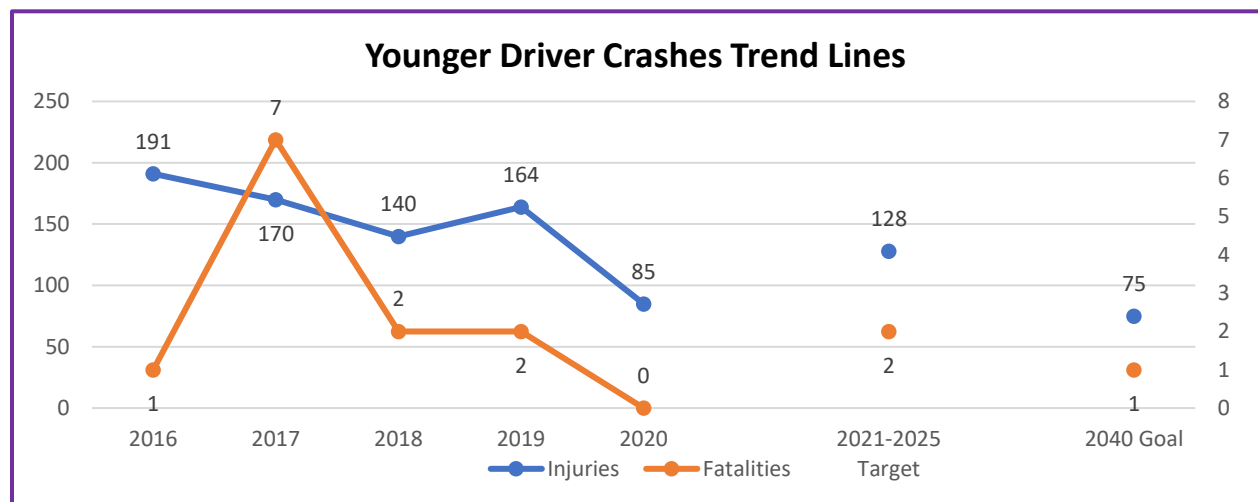
Table 8. Crashes Involving Older Drivers (ages 65+)

Older Driver Crashes								
	2016	**2017**	**2018**	**2019**	**2020**	**2016-2020 Average**	**2021-2025 Target**	**2040 Goal (2038-2042 average)**
Fatal Crashes	5	9	3	2	3	4		
Injury Crashes	120	126	124	133	102	121		
Property Damage Crashes	204	229	235	260	194	224		
Total Crashes	329	364	362	395	299	350		
Total of All Fatalities	6	12	3	2	3	5	4	3
Total Number Injured	188	202	183	193	144	182	155	91

Figure 9. Older Driver Target and Goal

Older Driver Crashes Trend Lines
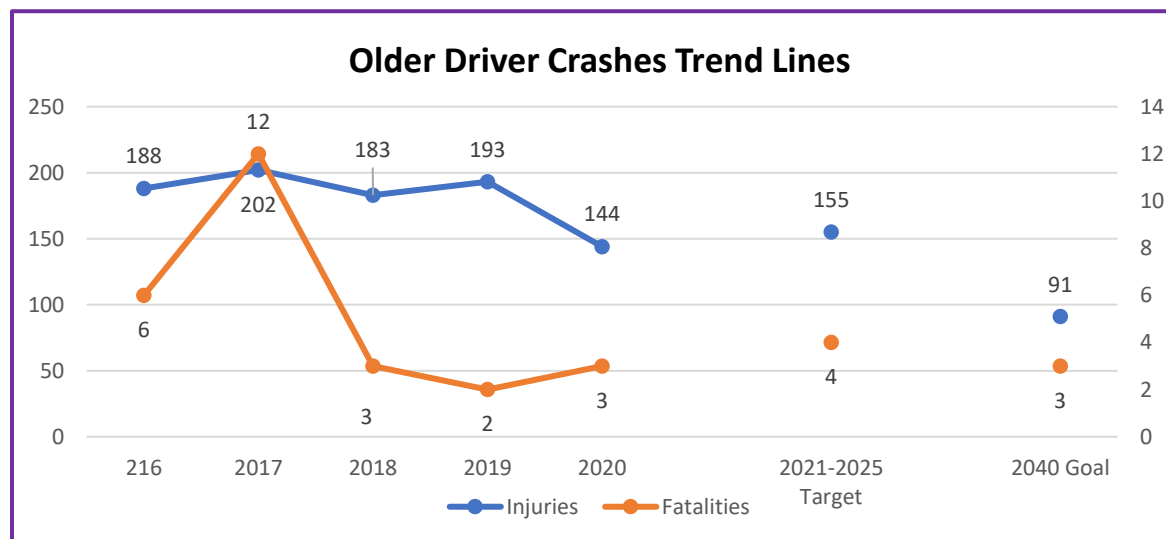
Strategies

- Identify partnerships and educational opportunities to increase awareness of age-related crash involvement.
- Identify alternative transportation opportunities for target age groups.
- Develop partnerships and outreach programs focused on older and younger driver populations.

INFRASTRUCTURE-RELATED

The following goals and targets have been set related to **infrastructure design (run-off-road and intersection crashes)**, following the same methodology previously explained.

Table 9. Crashes Involving Run-Off-Road and Intersections

Total Infrastructure-related Crashes								
	2016	**2017**	**2018**	**2019**	**2020**	**2016-2020 Average**	**2021-2025 Target**	**2040 Goal (2038-2042 average)**
Fatal Crashes	10	10	7	8	8	9		
Injury Crashes	403	374	429	372	261	368		
Property Damage Crashes	865	918	1,010	1,027	803	925		
Total Crashes	1,278	1,302	1,446	1,407	1,072	1,301		
Total of All Fatalities	10	10	7	8	9	9	8	5
Total Number Injured	532	540	616	522	368	516	439	258

Figure 10. Infrastructure Target and Goal

Infrastructure-Related Crashes Trend Lines
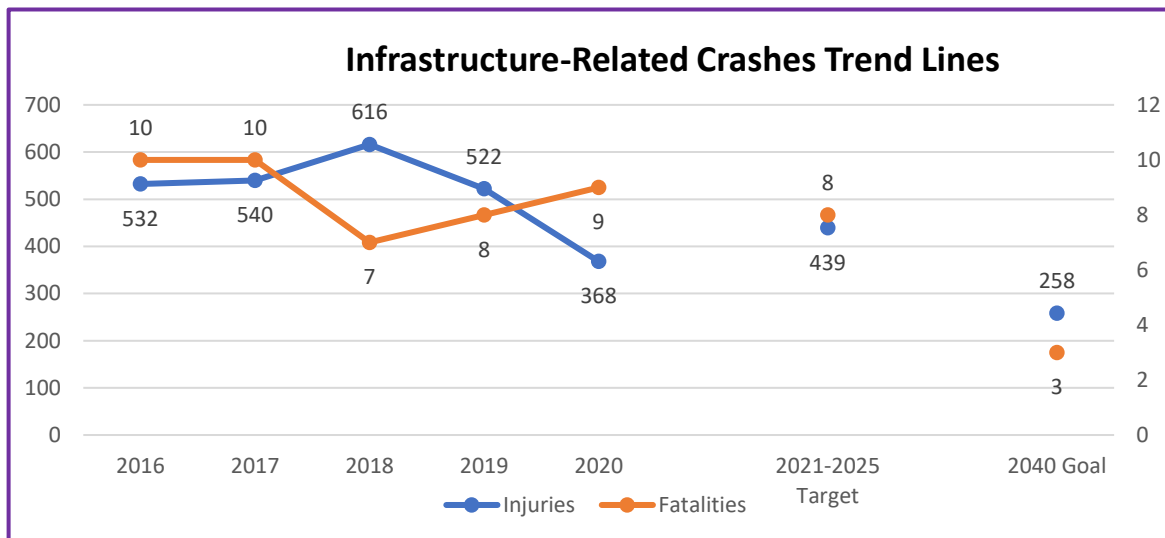
Table 10. Crashes Involving Roadway Departure and Intersections

Run-off-road Crashes								
	2016	**2017**	**2018**	**2019**	**2020**	**2016-2020 Average**	**2021-2025 Target**	**2040 Goal (2038-2042 average)**
Fatal Crashes	3	3	2	5	4	3		
Injury Crashes	152	129	138	130	89	128		
Property Damage Crashes	404	410	464	437	385	420		
Total Crashes	559	542	604	572	478	551		
Total of All Fatalities	3	3	2	5	4	3	3	2
Total Number Injured	172	154	160	154	102	148	126	74
Intersection Crashes								
	2016	**2017**	**2018**	**2019**	**2020**	**2016-2020 Average**	**2021-2025 Target**	**2040 Goal (2038-2042 average)**
Fatal Crashes	7	7	5	3	4	5		
Injury Crashes	251	245	291	242	172	240		
Property Damage Crashes	461	508	546	590	418	505		
Total Crashes	719	760	842	835	594	750		
Total of All Fatalities	7	7	5	3	5	5	4	3
Total Number Injured	360	386	456	368	266	367	313	184

Strategies

- Identify high crash corridors and applicable countermeasures
- Identify high crash intersections and applicable countermeasures.
- Identify education and outreach programs related to intersection and roadway safety.
- Identify funding necessary and locations fit for systemic infrastructure countermeasures (Safe System Approach).

IMPLEMENTATION PLAN

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 as programs are implemented. 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, so it is not included in this more static document. The Implementation Plan is available upon request.

Components of the Implementation Plan include Action Steps for each Strategy as well as lead agency, timeline, 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 of each Action Step will be presented for the team to consider. 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 Commissioners, Agency Administrators, and other Local Executives. 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 STSP will be forming.

ACRONYMS

AASHTO – American Association of State Highway and Transportation Officials

BRTB – Baltimore Regional Transportation Board

CRSC – Chesapeake Region Safety Council

CVSP – Commercial Vehicle Safety Plan

EMS – Emergency Medical Services

HSIP – Highway Safety Improvement Program

HSP – Highway Safety Plan

MDOT – Maryland Department of Transportation

MDOT SHA – Maryland Department of Transportation State Highway Administration

MHSO – Maryland Department of Transportation Motor Vehicle Administration's Highway Safety Office

MPO – Metropolitan Planning Organization

MVMT – Million Vehicle Miles Travelled

SAFETEA-LU – Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

SHSP – Strategic Highway Safety Plan

STSP – Strategic Traffic Safety Plan