FFY 2024 - 2026 MASSACHUSETTS OFFICE OF GRANTS AND RESEARCH HIGHWAY SAFETY PLAN

SUBMITTED BY:

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Introduction

On November 15, 2021, President Biden signed into law the "Infrastructure Investment and Jobs Act" (also known as the Bipartisan Infrastructure Law or BIL). The BIL provided a once-in-a-generation investment in highway safety, including a significant increase in the amount of funding available to States under the National Highway Traffic Safety Administration's (NHTSA) highway safety grants. The new law introduced expanded requirements for public and community participation in funding decisions, ensuring States are utilizing Federal funding in a more equitable manner when addressing highway safety issues in the locations where they occur.

Aside from the increased funding and expanded requirements, the legislation significantly changed the application structure of the grant programs that were in place under prior DOT authorizations, MAP-21 and the FAST Act. The BIL replaced the current annual highway safety plan (HSP), which serves as both a planning and application document, with a triennial HSP and annual grant application as well as codifying annual reporting requirements.

Unlike previous years, Massachusetts' HSP will now encompass a three-year period rather than a one-year period in relation to performance targets, programming, and funding decisions. This HSP will cover the three-year period from FFY 2024 to FFY 2026 and will include five primary components:

1. Highway safety planning process and problem identification
2. Public participation and engagement
3. Performance plan
4. Countermeasure strategy for programming funds
5. Performance report

Not only does the new HSP encompass multiple years, the entire HSP deliverable schedule is different for FFY 2024-2026. In prior years, NHTSA required an HSP to be deliver by July 1st and an Annual Report by December 31st. Going forward, NHTSA will require three documents as follows:

- Triennial HSP – due July 1, 2023
- Annual Grant application – due August 1, 2023
- FFY 2023 Annual Report – due January 28, 2024

The Annual Grant application provides project-level information on Massachusetts' HSP and demonstrates alignment with the triennial HSP. For FFY 2025 and FFY 2026, only an Annual Grant application and Annual Report are due to NHTSA. Any updates to the triennial HSP such as adjustments to performance measures or changes to countermeasure strategies for programming will be covered in the Annual Grant Application.

As part of the Executive Office of Public Safety and Security (EOPSS), the Office of Grants and Research (OGR) serves as the state administering agency for NHTSA, Department of Justice (DOJ), and Federal Emergency Management Agency (FEMA) funds awarded to the Commonwealth. The OGR is structured into five divisions: Highway Safety, Justice and Prevention, Research Policy and Analysis, Homeland Security, and Fiscal.

Under the authority of the Executive Director, OGR's Highway Safety Division (HSD) is responsible for the development, implementation, coordination, and ongoing management of the Massachusetts highway safety program. This responsibility includes identifying traffic safety priorities and working with partners and stakeholder across the Commonwealth to develop programs and initiatives to address current and future highway safety needs.

Led by acting Division Manager John Fabiano, the HSD has six highway safety professionals dedicated to improving the safety of the roadways of Massachusetts through the administration and implementation of Federally funded traffic safety programs. These dedicated professionals are:

- Brook Chipman
- Deinma Dikibo
- Deb Firlit (*Retired as of June 9, 2023*)
- Bob Kearney
- Kerrie Mahoney
- Andrea Papa

Together, the HSD has over 75 years of combined experience in highway safety programming and management.

Mission Statement

OGR's mission for traffic safety is to secure and disseminate grant funding and facilitate the development and implementation of policies, programs, and partnership designed to reduce fatalities, injuries, and economic losses resulting from motor vehicle crashes on the roadways of the Commonwealth of Massachusetts.

SECTION I: HIGHWAY SAFETY PLANNING PROCESS & PROBLEM IDENTIFICATION

This section will focus on the first component – the highway safety planning process and problem identification. First, a description of the processes, data sources, and information used by Massachusetts in its highway safety planning will be provided. This will be followed by a description and analysis of Massachusetts' overall highway safety issuesas identified through an analysis of data including, but not limited to, fatality, injury, enforcement, judicial, geospatial and sociodemographic data.

Highway safety planning process

With the enactment of the BIL, the HSP now covers three years rather than one year. This HSP will encompass FFY 2024 – FFY 2026 (October 1, 2023 to September 30, 2026). The chart below shows the tentative planning process by month:

HSP Planning Cycle	
March – April	- Begin data collection and analysis - Conduct community outreach through surveys, webinars - Conduct sessions with stakeholders, solicit feedback on improvements
May	- Begin writing Triennial HSP - Post grant applications (State Agency, MRS, Nonprofit) - Determine funding levels for triennial HSP programs
June	- Submit draft Triennial HSP to EOPSS for review and approval - Review grant applications for selection and funding - Begin work on 405 applications - Begin work on Annual Grant Application
July	- Submit Triennial HSP to NHTSA by July 3, 2023 - Submit Annual Grant Application and 405 applications to EOPSS for review - Submit Annual Grant Application and 405 applications to NHTSA by July 18, 2023
August	- Prepare Governors Memos and ensure all application documents from prospective subrecipients are complete - NHTSA's review of the Triennial HSP to be completed by August 30, 2023 - Any adjustments to HSP as requested/required by NHTSA will be completed and resubmitted to NTHSA for review
September – November	- NHTSA's review of Annual Grant Application and 405 applications to be completed by September 16, 2023 - Submit Governors Memo by September 16, 2023

	- Some program must start on October 1, 2023, to avoid a break in service for salaried employees or contracted vendors, including CPS Training, Sobriety Checkpoints, MDAA's TSRP, and Traffic Records continuation projects - Complete contracting of grantees/subrecipients - FFY 2024 begins on October 1, 2023
December – January	- Begin work on Annual Report - Submit FFY 2023 Annual Report to NHTSA by January 29, 2024

To determine performance targets and traffic safety trends in Massachusetts, the HSD staff utilized numerous data sources to analyze fatality and serious injury incidence across various elements such as county, municipality, month, day-of-week, time-of-day, gender, and age group. Mapping software was used to visualize 'hot spots' and identify high-risk crash locations in Massachusetts.

The data sources used in the FFY 2024-2026 Triennial HSP planning process are as follows:

- Fatality Analysis Reporting System (FARS) – fatalities and fatal crashes
- Massachusetts Crash Data System (CDS) – fatal and serious injury crashes
- Massachusetts Injury Surveillance Program – injuries and hospitalizations
- Massachusetts Citation Data – roadway violation citations issued to drivers
- Massachusetts Safety Belt Usage Observation Survey – seat belt usage by region and demographics
- National Occupant Protection Use Survey (NOPUS) – national seat belt usage
- FHWA Highway Statistics – Vehicle Miles Traveled (VMT), licensed drivers, and roadway miles
- U.S. Census Bureau – population, demographics, and income levels
- MassCrime website – arrest data in Massachusetts
- Massachusetts Trial Court – impaired driving court cases by county
- Data compiled from FFY 2023 grant program reporting by grantees

Coordination with Massachusetts Department of Transportation (MassDOT) was necessary to ensure that performance targets related to fatalities, serious injuries, and fatalities per 100 million VMT were identical to the same targets in the Massachusetts Highway Safety Improvement Program (HSIP) and the Strategic Highway Safety Plan (SHSP) – both which MassDOT oversees.

Partners in the Planning Process

Whether through webinars, online surveys, monthly meetings, or weekly contact with current grant subrecipients, the input and expertise solicited from partners and stakeholders are critical to the successful development of the HSP.

To help determine priority areas to focus on or improve current program offerings, HSD staff engaged many participants during the planning process, including but not limited to:

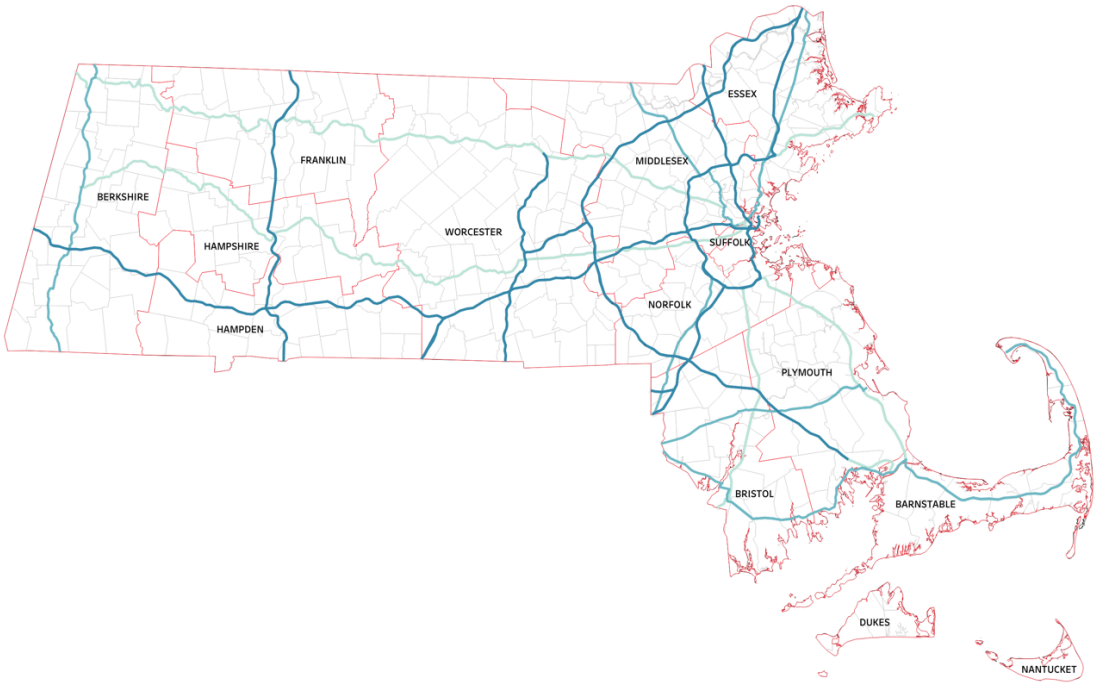
- Massachusetts Department of Transportation (MassDOT)
- Massachusetts Registry of Motor Vehicles (RMV)

- Massachusetts Department of Public Health (DPH)
- Massachusetts Department of State Police (MSP)
- Governors Highway Safety Association (GHSA)
- Massachusetts District Attorneys Association (MDAA)
- Massachusetts Executive-Level Traffic Records Coordinating Committee (ETRCC)
- Massachusetts Working-Level Traffic Records Coordinating Committee (WTRCC)
- Municipal Police Training Committee (MPTC)
- Merit Rating Board (MRB)
- University of Massachusetts Traffic Safety Research Program (UMassSAFE)
- Local police departments
- Massachusetts Chiefs of Police Association
- SHSP Executive Leadership Committee
- Boston Emergency Medical Services (EMS)
- Massachusetts Alcoholic Beverages Control Commission (ABCC)
- Massachusetts Executive Office of Health and Human Services (EOHHS)
- Safe Roads Alliance
- Colleges and Universities
- In Control Family Foundation
- WalkBoston

In collaboration and cooperation with partners, stakeholders, and grant subrecipients, OGR has worked tirelessly to ensure Massachusetts is a leader in traffic safety. For the FFY 2024-2026 HSP, the overarching goal is to have the lowest fatalities and fatality rate in the nation.

Overview of Traffic Safety Trends in Massachusetts

Affectionately called the “Bay State,” Massachusetts has 14 counties covering over 7,800 square miles of land with 77,804 miles of roadway (12,565 rural and 65,239 urban). There are several interstates (dark blue on map) running through the state – Mass Pike (I-90), I-91, I-93, I-95, and I-495 – as well as numerous major routes (light blue) such as Route 2, Route 3, Route 6, Route 9, and Route 24.

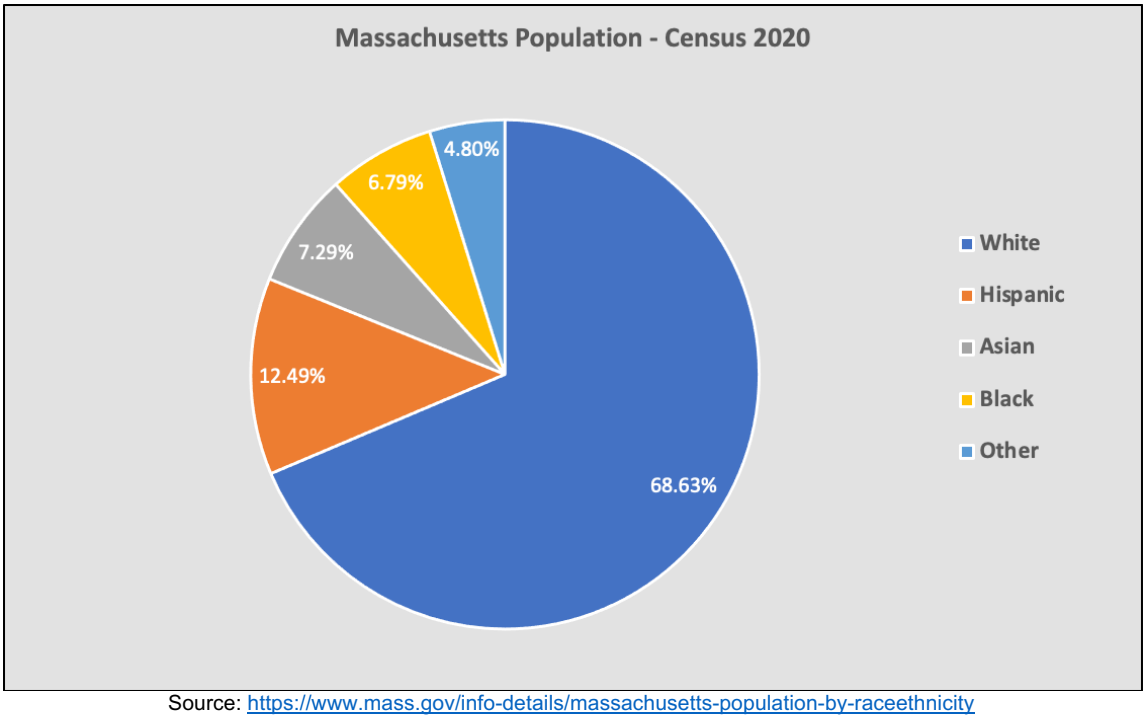


As of Census 2020, the population of Massachusetts was 7,029,917 for a population per square mile rate of 901.2 – which is among the top five states for population density in the country (the New England states of Connecticut and Rhode Island are also in top five). Over 70% of residents live in eastern Massachusetts (Bristol, Essex, Middlesex, Norfolk, Plymouth, or Suffolk County). The state capital (Boston) resides in Suffolk County.

County	Population	Pct. of Total Population
Middlesex	1,632,002	23.2%
Worcester	862,111	12.3%
Essex	809,829	11.5%
Suffolk	797,936	11.4%
Norfolk	725,981	10.3%
Bristol	579,200	8.2%
Plymouth	530,819	7.6%
Hampden	465,825	6.6%
Barnstable	228,996	3.3%
Hampshire	162,308	2.3%
Berkshire	129,026	1.8%
Franklin	71,029	1.0%
Dukes	20,600	0.3%
Nantucket	14,255	0.2%

Source: U.S. Census Quickfacts

Nearly 20% of the population is under 18 years of age and 17% is age 65 years or older. In terms of demographics, non-white population accounted for 31.4% of all residents in 2020 – up from 23.2% reported in the 2010 Census.



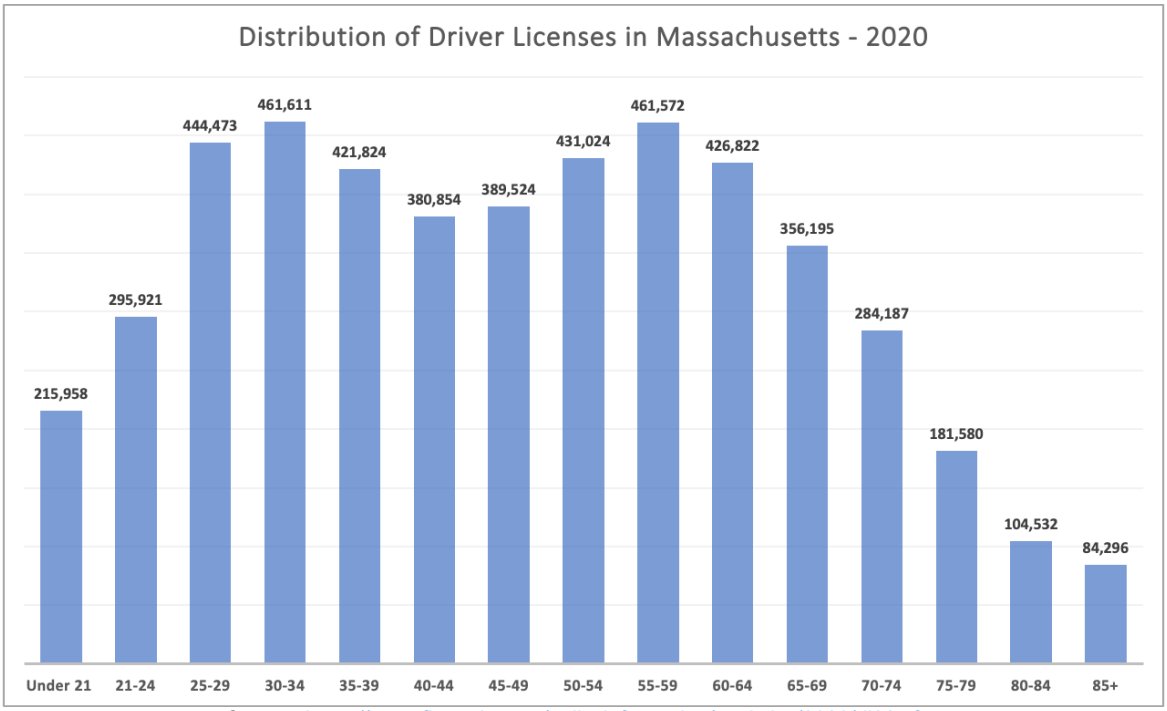
Source: https://www.mass.gov/info-details/massachusetts-population-by-raceethnicity

To get a sense of the distribution of demographics across Massachusetts communities, this list identifies towns with at least 30% non-white population as reported in Census 2020.

TOWN	Per Capita Income	White alone, Non-Hispanic	Black or African American alone, Non-Hispanic	American Indian and Alaska Native alone, Non-Hispanic	Asian alone, Non-Hispanic	Some Other Race alone, Non-Hispanic	Population of two or more races, Non-Hispanic	Hispanic, All Races	Total Non-White Population Percentage
Massachusetts	**$48,617**	**67.6%**	**6.5%**	**0.1%**	**7.2%**	**1.3%**	**4.7%**	**12.6%**	**32.4%**
Lawrence	$23,316	12.3%	2.3%	0.1%	1.7%	0.7%	1.0%	81.8%	79.8%
Chelsea	$27,627	20.2%	6.5%	0.2%	3.2%	1.6%	2.5%	65.8%	73.4%
Randolph	$39,488	26.6%	41.9%	0.2%	12.9%	2.1%	5.5%	10.9%	72.2%
Brockton	$30,508	27.8%	33.8%	0.2%	2.1%	6.9%	17.1%	12.1%	71.7%
Springfield	$23,161	28.2%	18.3%	0.2%	2.8%	0.6%	3.1%	46.7%	65.9%
Everett	$31,599	34.1%	14.1%	0.1%	7.5%	6.3%	9.3%	28.5%	65.9%
Lynn	$29,541	34.1%	10.6%	0.1%	6.7%	1.1%	3.3%	44.0%	60.0%
Malden	$38,784	40.0%	14.2%	0.1%	25.8%	2.8%	6.6%	10.4%	59.4%
Lowell	$30,620	40.6%	8.3%	0.1%	22.1%	2.2%	5.0%	21.7%	57.9%
Holyoke	$25,744	42.1%	2.9%	0.1%	1.0%	0.4%	2.2%	51.3%	55.3%
Boston	$50,344	44.6%	19.1%	0.1%	11.2%	1.4%	4.8%	18.7%	55.0%
Revere	$33,749	44.9%	4.7%	0.1%	5.5%	2.6%	4.9%	37.3%	51.1%
Worcester	$30,855	48.9%	13.7%	0.2%	7.1%	1.3%	4.2%	24.6%	46.3%
Framingham	$48,470	53.7%	5.9%	0.1%	7.2%	7.5%	8.7%	16.8%	45.8%
Quincy	$45,634	54.2%	5.4%	0.1%	30.7%	1.0%	3.5%	5.1%	45.3%
Fitchburg	$30,300	54.6%	6.1%	0.2%	3.6%	0.8%	4.6%	30.1%	44.6%
Cambridge	$65,494	55.4%	10.1%	0.1%	19.1%	0.8%	5.3%	9.1%	43.3%
Lexington	$96,170	56.7%	1.3%	0.1%	33.1%	0.7%	4.7%	3.4%	43.3%
Southbridge	$29,962	56.7%	1.9%	0.3%	1.8%	0.3%	2.8%	36.1%	43.1%
New Bedford	$27,583	56.9%	4.7%	0.3%	1.0%	3.6%	9.2%	24.3%	40.9%
Marlborough	$44,775	59.1%	3.1%	0.1%	5.9%	6.4%	9.6%	15.9%	40.7%
Methuen	$39,507	59.3%	4.1%	0.1%	3.9%	0.7%	2.6%	29.3%	39.8%
Westborough	$60,444	60.2%	2.1%	0.1%	25.8%	1.2%	4.5%	6.0%	39.6%
Waltham	$49,193	60.4%	6.8%	0.1%	12.2%	1.0%	3.1%	16.4%	38.9%
Stoughton	$44,380	61.0%	17.3%	0.1%	5.4%	2.8%	6.8%	6.6%	38.5%
Amherst	$26,341	61.5%	5.7%	0.2%	17.8%	0.5%	4.7%	9.7%	37.4%
Aquinnah	$75,318	62.6%	1.8%	21.9%	0.9%	0.5%	6.6%	5.7%	36.9%
Acton	$65,952	63.1%	2.4%	0.1%	25.1%	1.0%	4.5%	3.8%	36.7%
Shrewsbury	$53,283	63.3%	2.4%	0.1%	24.6%	1.0%	4.4%	4.2%	36.4%
Avon	$41,800	63.6%	18.6%	0.1%	4.1%	2.2%	4.9%	6.5%	35.9%
Leominster	$40,192	64.0%	6.4%	0.1%	3.2%	2.0%	5.4%	18.9%	34.7%
Somerville	$58,437	65.2%	5.2%	0.1%	10.6%	1.6%	6.0%	11.3%	34.7%
Brookline	$83,318	65.3%	3.1%	0.1%	19.1%	0.6%	5.0%	6.8%	34.4%
Holbrook	$41,324	65.6%	14.6%	0.1%	4.6%	2.0%	5.9%	7.2%	34.0%
Milford	$41,540	66.0%	2.3%	0.1%	2.2%	6.7%	10.5%	12.3%	33.7%
Haverhill	$36,534	66.3%	3.7%	0.2%	1.9%	0.8%	3.5%	23.6%	33.2%
Chicopee	$31,086	66.7%	4.0%	0.2%	1.6%	0.4%	3.6%	23.4%	33.2%
Medford	$55,098	66.8%	8.1%	0.1%	11.4%	1.9%	5.4%	6.2%	33.2%
Sharon	$71,247	66.8%	4.0%	0.1%	21.2%	0.7%	4.0%	3.3%	32.9%
Boxborough	$68,728	67.1%	2.2%	0.0%	21.5%	0.7%	4.5%	4.0%	31.5%
Ashland	$59,092	68.5%	2.7%	0.2%	13.1%	3.4%	6.0%	6.1%	31.5%
Salem	$42,944	68.5%	4.1%	0.1%	2.8%	0.7%	3.9%	19.8%	30.6%
Nantucket	$52,324	69.4%	7.1%	0.1%	1.8%	1.0%	4.3%	16.2%	30.4%

Communities with higher non-white percentages tended to be urban, high-density population areas and have a per capita income below the statewide rate of $48,617.

Based on the most recent FHWA data on licensing (2020), licensed drivers represented 70% of the total Massachusetts population. Young drivers (age 20 or younger) accounted for only 4.4% of all licensed drivers, while older drivers (age 65+) accounted for 20.5%. Over half of licensed drivers - 51% - were female.



Source: https://www.fhwa.dot.gov/policyinformation/statistics/2020/dl22.cfm

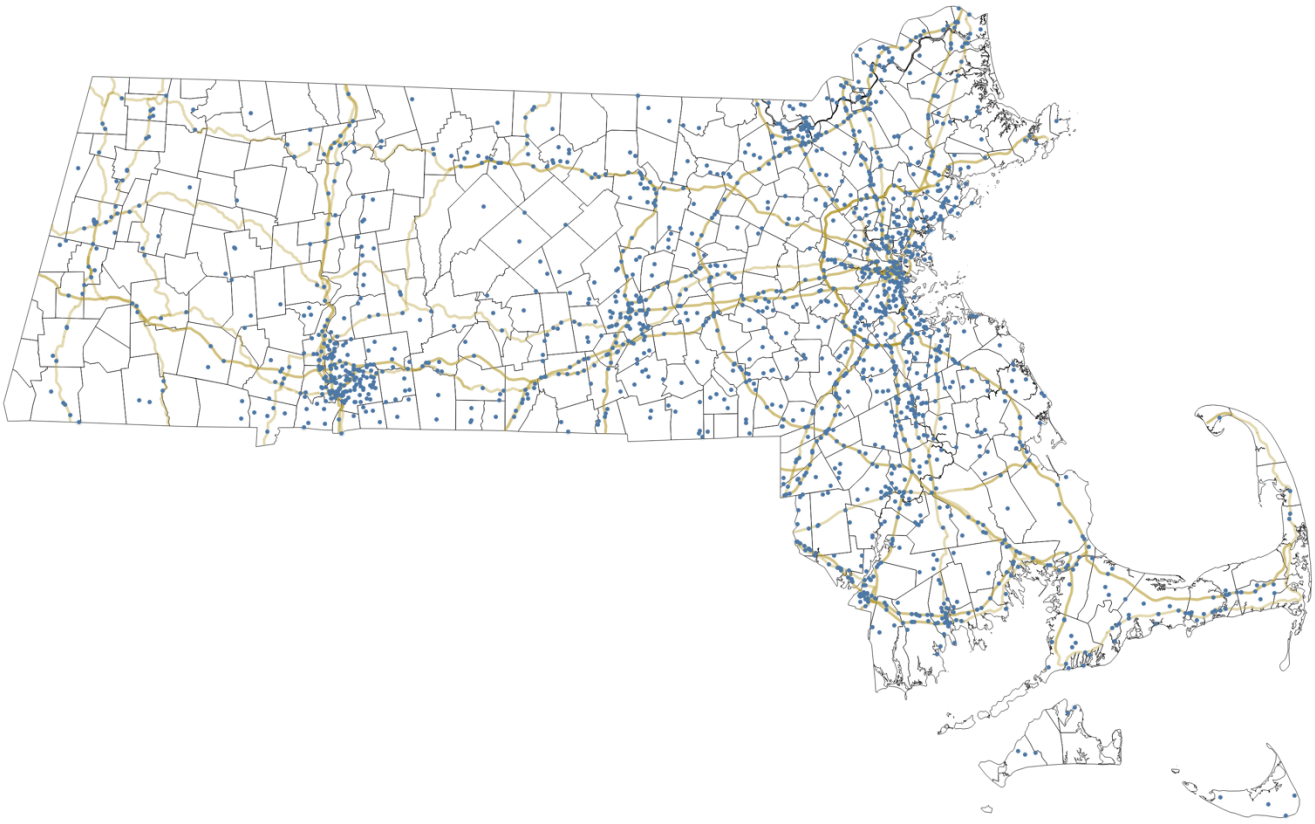
In terms of vehicle miles traveled (VMT), Massachusetts has seen total VMT rise. In 2021, the total VMT was 602.82 million, an increase of 11.7% from 539.79 million reported in 2020. While not finalized, it is expected the VMT for 2022 will be higher than in 2021 as more and more people took to the roads in the aftermath of COVID-19 restrictions. The current estimated VMT for 2022 is 636.2 million, which would be a 5.5% increase from 2021. Along with the increase in VMT since 2020, Massachusetts has unfortunately seen roadway fatalities rise during the same period. Preliminary fatality total for 2022 is 439. If this stands as the final tally, it would be 5.8% higher than in 2021 and 23.7% higher than in 2018.

	2018	2019	2020	2021	2022
Fatalities	355	336	343	415	439
Vehicle Miles Traveled (VMT) (in 100,000,000)	637.75	648.91	539.79	602.82	636.20
Fatality Rate	0.56	0.52	0.64	0.69	0.69

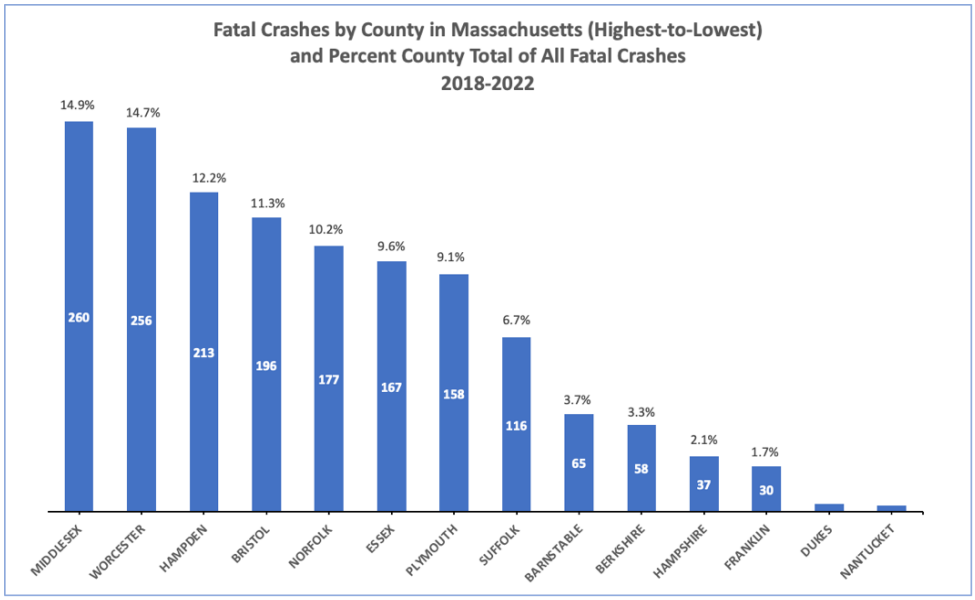
Source: FARS/MassDOT

Despite the rise in traffic deaths, it appears the increase in VMT has resulted in a lower fatality rate for 2022 compared to 2021. While the slight decline in fatality rate is positive news, the key to reducing the rate is to lower the number of fatalities on the roadways during FFY 2024 – 2026. To do so, a brief examination of where, when, and how traffic fatalities are occurring needs to be analyzed.
From 2018 to 2022, there were 1,794 fatal crashes resulting in 1,885 fatalities on the Massachusetts roadways. The map below shows the location of all 1,794 crashes and as well as the major roadways running through the state.

Fatal Crash Locations (2018 - 2022)



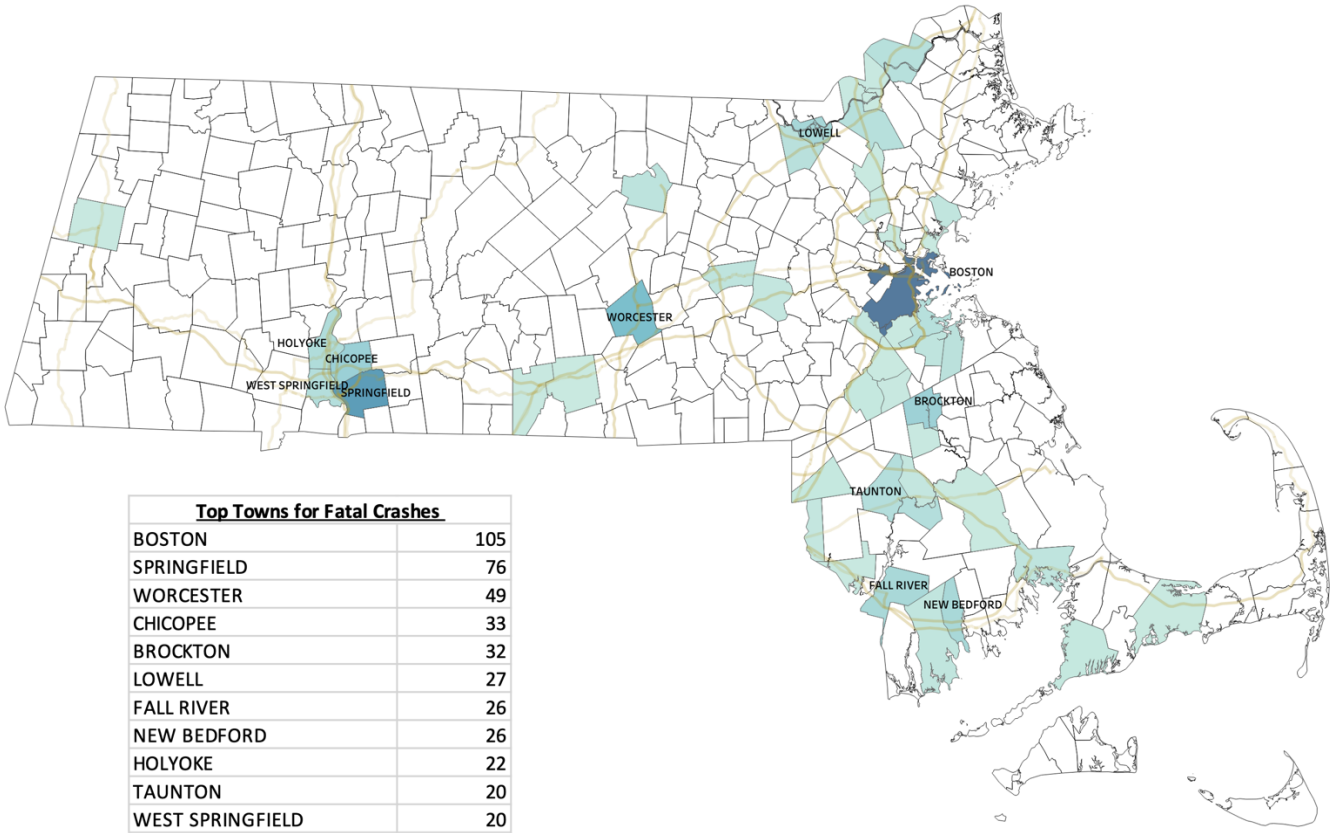
Many of the crashes are located along or near major routes, with clusters occurring in the Springfield, Boston, New Bedford, and Lowell area. With over 70% of the population living in the eastern part of Massachusetts, it not surprising to see a majority of crashes – outside of Springfield region – occurring east of Worcester.



Of the fourteen counties across Massachusetts, Middlesex and Worcester accounted for nearly 30% of all fatal crashes from 2018 to 2022. Counties with more rural areas and low or non-existent interstate road (Barnstable, Berkshire, Hampshire, Franklin, Dukes, Nantucket) reported only 11.4% of the state's fatal crashes in the past five years.

Source: MassDOT Crash Data Portal

To better show the concentration of crashes, only towns with double-digit fatal crashes from 2018-2022 are shown in the map below. The top ten towns for fatal crashes are labeled in the map.



Top Towns for Fatal Crashes	
BOSTON	105
SPRINGFIELD	76
WORCESTER	49
CHICOPEE	33
BROCKTON	32
LOWELL	27
FALL RIVER	26
NEW BEDFORD	26
HOLYOKE	22
TAUNTON	20
WEST SPRINGFIELD	20

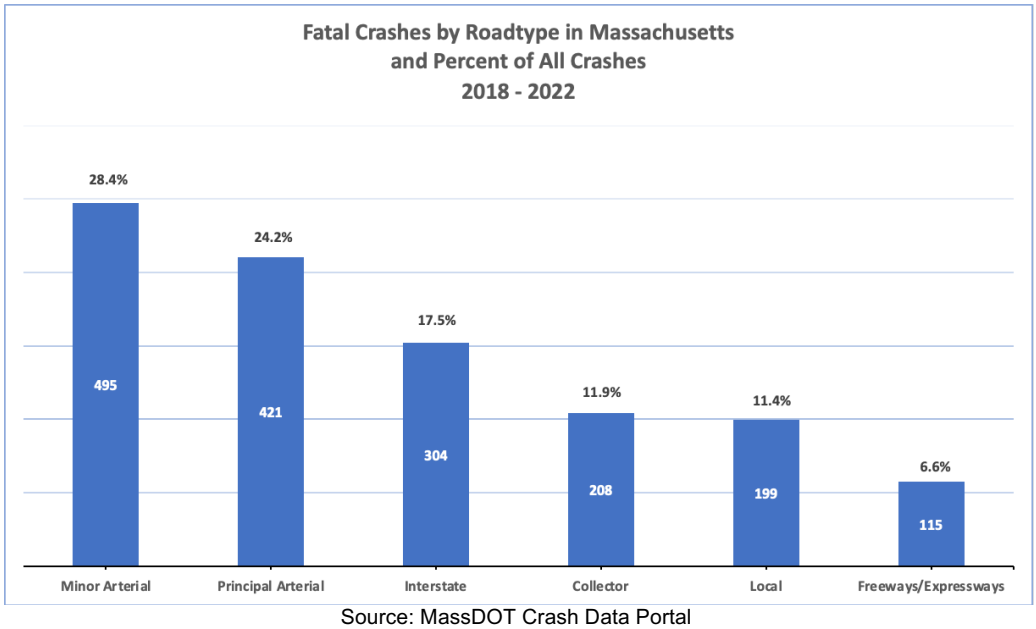
Outside of the Springfield cluster, most of the double-digit towns are east of Worcester. An area of concern is Bristol County in southern Massachusetts. Eight of the county's 20 municipalities (Attleboro, Dartmouth, Fall River, New Bedford, Raynham, Seekonk, Swansea, and Taunton) – a whopping 40% of Bristol County towns – experienced ten or more fatal crashes over the past five years. This will be examined as different fatal crash elements are discussed further on in this analysis.

When a crash occurs on the roadways of Massachusetts, the crash report provides six possible roadway classifications to categorize where the crash took place:

- **Interstate** – the highest level of mobility for drivers, the lowest level of access to land (i.e. requires exits to reach towns and city areas), and the highest posted speed limits (typically 55 to 75 mph). Roadway usually crosses multiple state lines. MassPike (I-90), I-91, and I-95 are examples of interstates.
- **Freeway/Highway** – typically state roads that operate similarly to interstates, with high posted speed limits and exits needed to access town and city centers. Route 24, which runs from Canton to Fall River, and Route 128 "inner beltway" running from Norwood to Gloucester are examples of freeways/highways.
- **Principal Arterial** – considered main roads that run through cities and towns with a speed limit ranging between 30 and 50 mph. Some roads may have a barrier separating traffic, allowing for better access to major commercial regions or thoroughfares. Route 60, running through Arlington, and Route 9, which goes from Boston to the Berkshire Region, are examples.

- **Minor Arterial** – speeds along these roads are slightly lower (25 – 45 mph range), connect high volume principal arterials and have higher access to towns and cities. Route 202 segment that connects Route 9 in Belchertown to downtown Holyoke is an example of a minor arterial.
- **Collector** – these roadways connect principal and minor arterials to local roads. Speed limit on these roads tend to be in the 20-40 mph range. Littleton Road in Harvard, which runs from the town center and intersects Route 2 (a principal arterial) is an example of a collector.
- **Local** – these roads have the lowest posted speed limits and mobility is restricted (no passing or two-lane roads in same direction). Primary function is to access residential areas, businesses, and farms.

From 2018 – 2022, over half of all fatal crashes took place on either minor arterial or principal arterial roadways in Massachusetts. With a majority of commercial activity situated along arterials as well as high level of distractions for drivers (pedestrians, bicyclists, stop lights/stop signs, drivers turning in/out of road), it is not surprising to see a majority of crashes happening on these roadways.



Source: MassDOT Crash Data Portal

The following chart details the top five locations for fatal crashes based on each road type. Boston is the only municipality that appears in all six categories. Worcester appears in five of the six.

Top 5 Fatal Crash Locations by Roadway Type (2018 - 2022)					
INTERSTATE	CRASHES	STATE HIGHWAYS	CRASHES	COLLECTORS	CRASHES
Boston	21	West Bridgewater	7	Boston	9
Andover	15	Fall River	7	Brockton	8
Chicopee	10	Boston	7	Springfield	6
Worcester	9	Freetown	6	Taunton	4
Chelmsford	8	Stoughton	5	Worcester	4
		New Bedford	5		
PRINCIPAL ARTERIALS	CRASHES	MINOR ARTERIALS	CRASHES	LOCAL	CRASHES
Springfield	27	Boston	30	Springfield	13
Boston	26	Springfield	23	Boston	11
Worcester	18	Chicopee	15	Worcester	6
Brockton	13	Lowell	14	Fall River	5
Quincy	9	New Bedford	12	New Bedford	5
		Worcester	12		

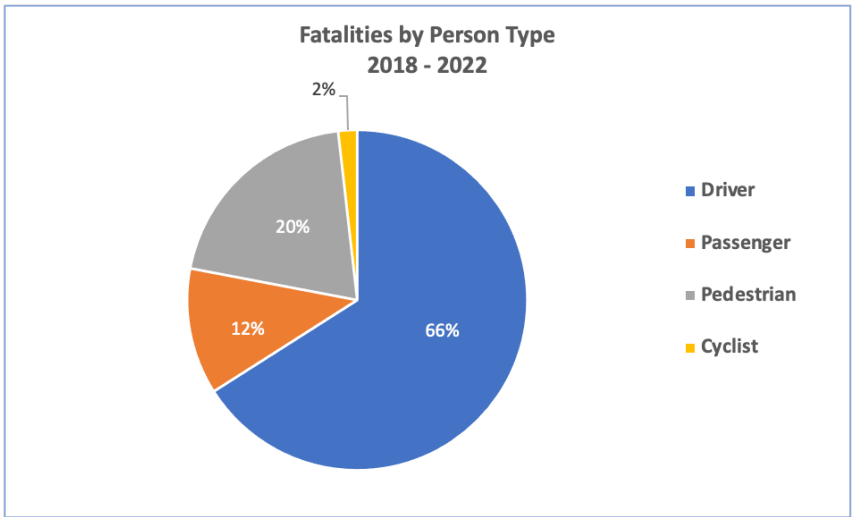
Source: MassDOT Crash Data Portal

There are a few noteworthy observations regarding the top five fatal crash locations:

- 48% of Boston's interstate crashes (10 of 21) took place along the Southeast Expressway (I-93 from Braintree to Mass Avenue Exit in Boston)
- There were 28 fatal crashes on Route 24 (aka AMVETS Memorial Highway), which runs from Randolph to Fall River. (Note: Route 24 also goes through West Bridgewater and Stoughton.)
- Also in the southern Massachusetts region, Pilgrim Highway (Route 3 from Braintree to Bourne) had 15 fatal crashes. Between Route 24 and Route 3, nearly 40% of all freeway/expressway fatal crashes took place along those routes from 2018 to 2022.
- In Springfield, 25% of fatal crashes within the community took place along four main roads: Berkshire Avenue, Boston Road, Page Boulevard, and Parker Street.

While fatal crashes take place along many different types of roads in Massachusetts, the data show how much more frequently crashes occur along principal arterial and minor arterial roads compared to collector and local roads. The data also show that a higher proportion of fatal crashes take place within urban areas.

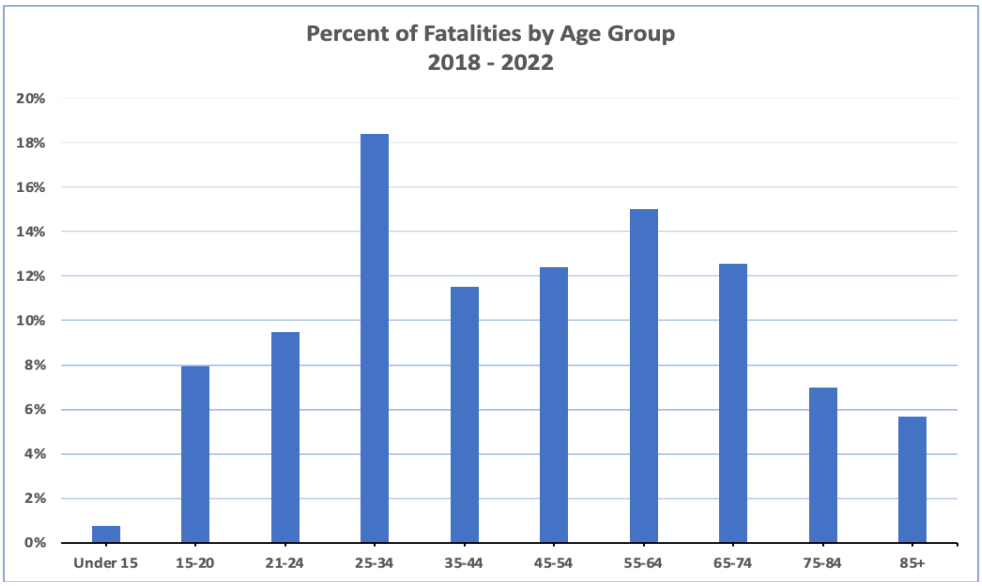
There are three main person types that can be involved in a fatal crash: driver, passenger, and non-motorists (pedestrians and cyclists). From 2018 to 2022, drivers accounted for two-thirds of all fatalities, of which nearly 80% were male. Non-motorists were the next largest group of fatalities, accounting for 22% of all fatalities. Passengers had the lowest fatality count, but more female passengers than male passengers died in crashes.

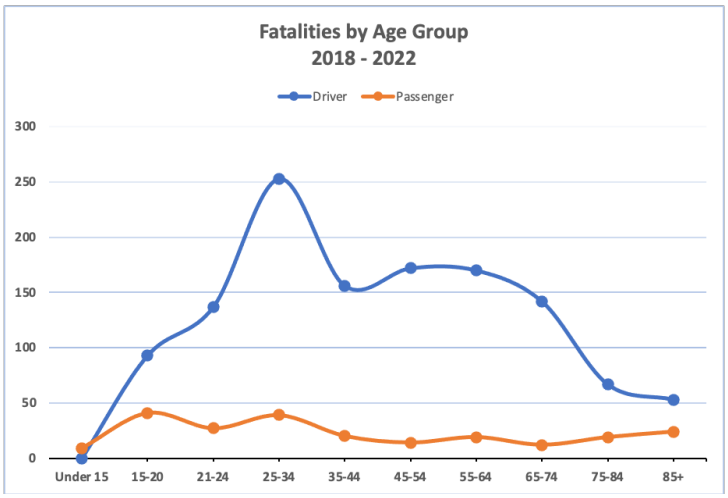


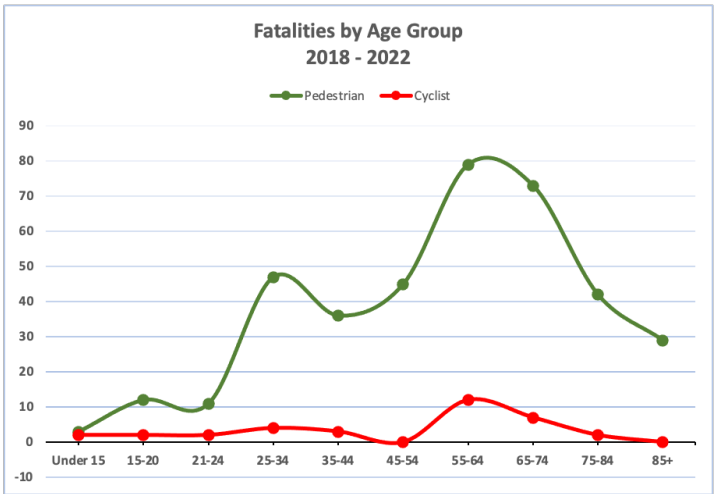
Person Type	Male	Female
Driver	79.1%	20.9%
Passenger	48.5%	51.5%
Pedestrian	61.3%	38.7%
Cyclist	88.2%	11.8%
Total	*72.0%*	*28.0%*

Age-wise, the 25-34 age group accounted for 18.4% of all fatalities from 2018 to 2022. Those age 20 or younger made up only 8.8% of fatalities, while 65+ fatalities accounted for 25.2% of deaths. The percentage of fatalities for persons between the age 55 – 74 was higher than the percentage for age 35 – 44 (27.6% vs 23.9%). This was due to a spike in pedestrian and cyclist fatalities among the 55-64 age group.

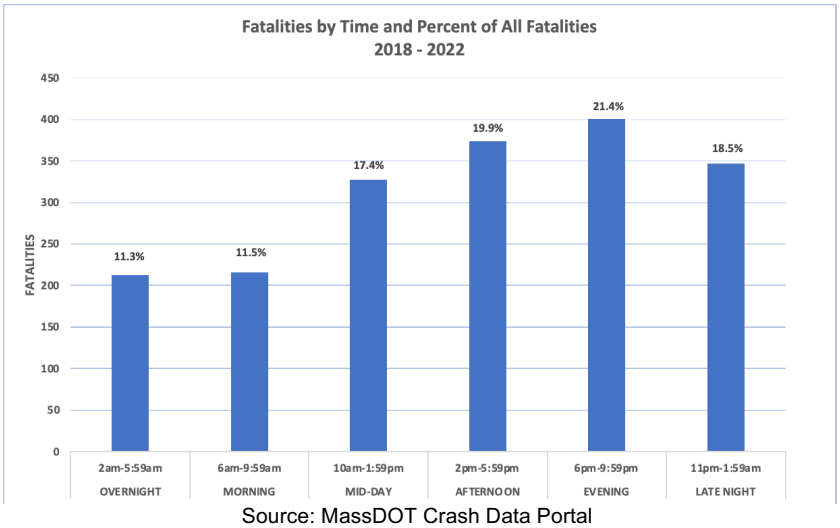
After spiking with the 25-34 age group, driver fatalities trended downward with each successive age group after 45-54. Passenger fatalities were more frequent for the under 35 age groups compared to age 35 or older. Overall, drivers and passengers under age 35 accounted for 32% of all traffic fatalities (1,885) and 41% of all driver and passenger fatalities (1,459) reported from 2018 to 2022.







Overall, driver fatalities are most frequent between age 25 and 64; while passenger deaths occur more often among those under age 35. For non-motorists, fatalities are far more prevalent for those age 55 to 74 compared to any other age group.



Source: MassDOT Crash Data Portal

Nearly 60% of fatalities from 2018 to 2022 occurred between the hours of 2pm and 2am. This twelve-hour period accounted for 1,122 deaths on Massachusetts roadways. When stratifying the fatalities by time and age group, the data show how fatalities shift in terms of time frame as individuals age.

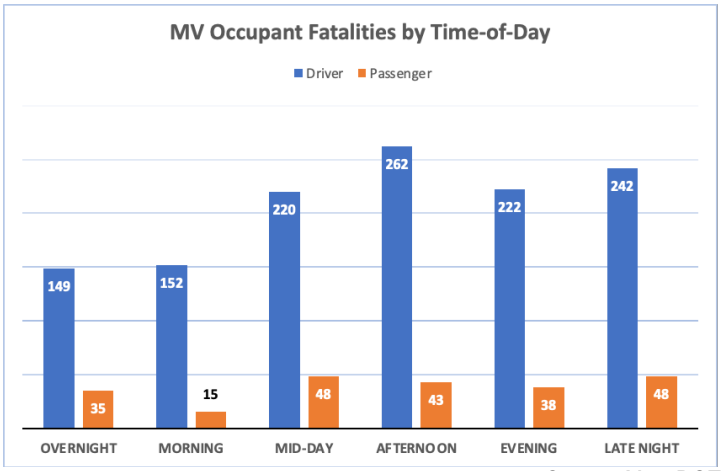
Fatality Count								
Lowest								Highest

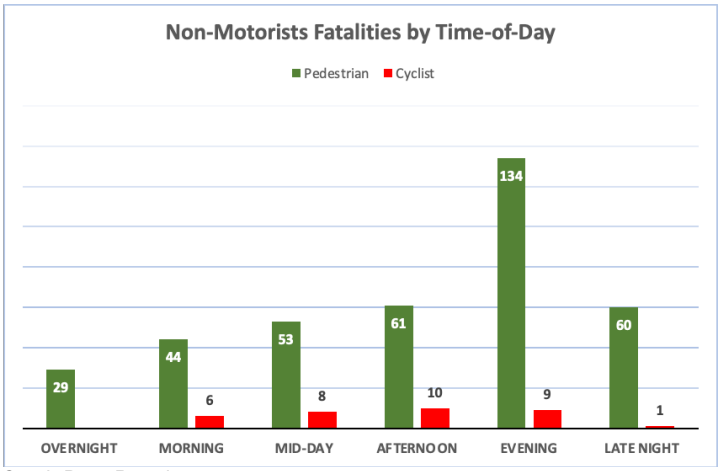
	OVERNIGHT 2am-5:59am	MORNING 6am-9:59am	MID-DAY 10am-1:59pm	AFTERNOON 2pm-5:59pm	EVENING 6pm-9:59pm	LATE NIGHT 11pm-1:59am
Under 15						
15-20						
21-24						
25-34						
35-44						
45-54						
55-64						
65-74						
75-84						
85+						

Source: MassDOT Crash Data Portal

The level of fatalities for age 34 and younger is more concentrated in the evening/late night period, while fatalities of those age 35 and older are more frequent between mid-day and evening hours. Understanding this shift in time range by age grouping will help OGR better inform local and State police when conducting traffic safety enforcement activities, as well as assist ABCC in better targeting younger drivers when conducting compliance checks.

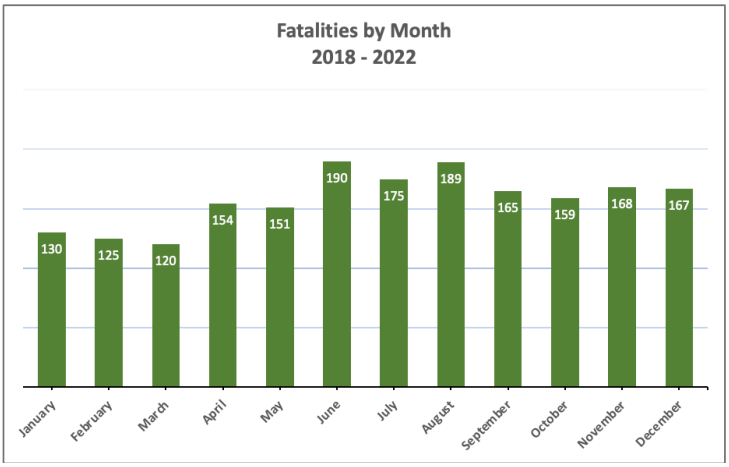
Time of day also comes into play when examining the distribution of fatalities by person type. Pedestrian deaths spike in the evening hours (6pm – 9:59pm) compared to any other time frame. In fact, more than a third of all pedestrian fatalities take place during the evening. Given the higher proportion of fatalities in the evening overall, it would seem logical that driver fatalities would also peak at this time. Surprisingly, the most driver fatalities (21% of all driver deaths) occurred during afternoon hours, not evening.

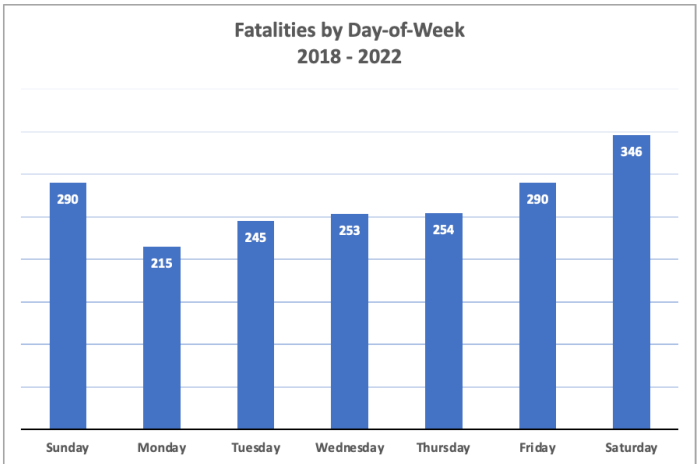




Source: MassDOT Crash Data Portal

The last data points to examine to get a "big picture" view of traffic safety across Massachusetts are fatalities by month and day-of-week. From 2018 to 2022, fatalities were highest across the three-month period of June, July, and August. The three months accounted for 28% of all fatalities. Deaths appear to occur with more frequency through the second half of the calendar year compared to the first half. January to June accounted for 46% of fatalities; July to December saw 54%.

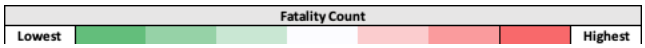




Source: MassDOT Crash Data Portal

For day-of-week, Saturday led all days with 18% of all fatalities. Nearly half of all fatalities took place over the three-day period of Friday-Saturday-Sunday. This is not surprising, as these days are commonly associated with weekend trips and social gatherings at restaurants/pubs, beaches, or houses that could lead to risky behaviors such as speeding and impaired driving.

Combining the two elements into a "heat" chart shows how many more traffic fatalities occur on Friday and Saturday, especially during warmer months (April – Sept). The higher fatality numbers during November and December as compared to other cold weather months like January and February is likely attributable to holidays that take place during those months (e.g., Thanksgiving, Christmas, New Year's Eve).



	January	February	March	April	May	June	July	August	September	October	November	December
Sunday												
Monday												
Tuesday												
Wednesday												
Thursday												
Friday												
Saturday												

Source: MassDOT Crash Data Portal

In this brief review of the overall traffic safety environment in Massachusetts, the data reveals several key points:

- Fatal crashes are far more prevalent on principal and minor arterial roadways throughout the state.
- Springfield region (Chicopee, Holyoke, Springfield, West Springfield), where Mass Pike and I-91 cross, is a top location for fatal crashes. Other areas of crash clustering include Boston metro, Lowell, and Fall River-to-New Bedford stretch along I-195.
- Drivers accounted for a majority of fatalities, followed by pedestrians, then passengers and cyclists. Driver and passenger deaths are more prevalent among those under age 35, while non-motorist fatalities occur with far more frequency among those age 45 or older.
- Evening hours (6pm-9:59pm) accounted for over 30% of all pedestrian fatalities, while those under 35 years of age make up the majority of late night (11pm-1:59am) deaths on the roadways.
- Fatalities and fatal crashes are more likely to happen during the three-day period of Friday-Saturday-Sunday and tend to be higher during warmer months than colder months.

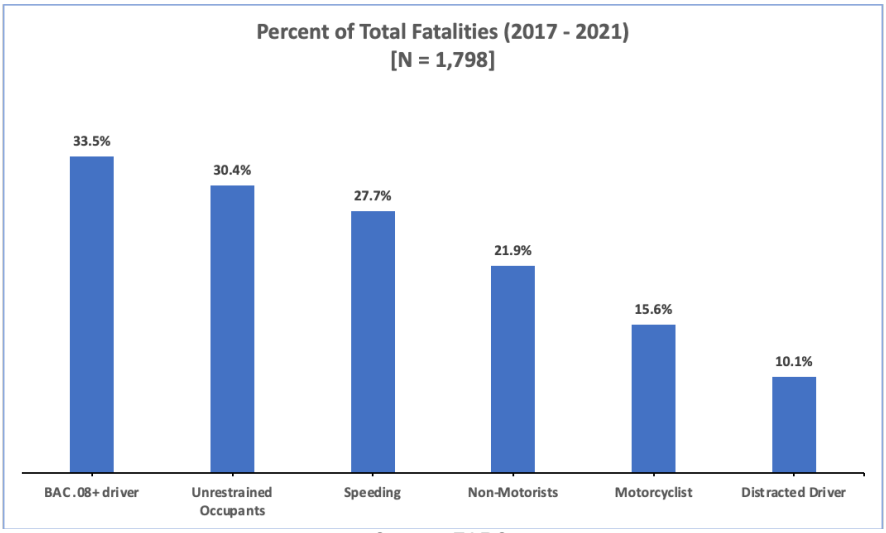
Program-level data analysis

The previous section provided an overview of the traffic safety trends across Massachusetts for the past five years (2018 to 2022) to help understand where and when fatal crashes occur and attributes of people who died in those crashes. In this section, an analysis of data related to six areas of traffic safety that Massachusetts plans to target utilizing FFY 2024 – 2026 funding. The six areas are:

1. Impaired Driving
2. Occupant Protection
3. Speeding and Aggressive Driving
4. Motorcyclist Safety
5. Pedestrian and Cyclist Safety (aka Non-Motorists)
6. Distracted Driving

Unlike the previous section, which relied on data taken from MassDOT Crash Data Portal, the data utilized in the following analysis will be based upon the Fatality Analysis Reporting System (FARS), a database overseen by the U.S. Department of Transportation and NHTSA. The years covered will be 2017 to 2021, which is the latest data available on FARS at this time. Data contained in FARS is used in this analysis because the information related to impaired driving, speeding, and distracted driving is more accurate and considered the "final" or "official" numbers. The 2022 data contained in MassDOT's portal is still considered preliminary.

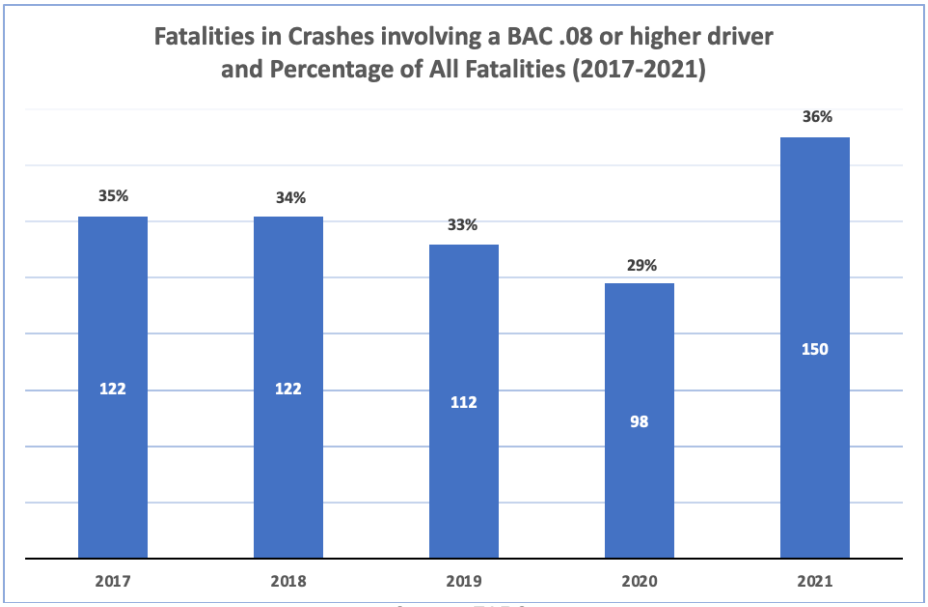
From 2017 to 2021, there were 1,718 fatal crashes resulting in 1,798 fatalities along Massachusetts roadways. The chart below shows the percentage of all fatalities represented in each traffic safety area targeted with program funding. It should be noted that there can be overlap in cause of fatality; a single fatality may be included in multiple categories within the chart. As will be shown further on in this section, there is a higher level of unrestrained motor vehicle occupants and speed-involvement in an alcohol-impaired driver crash fatalities than in non-alcohol impaired crashes.



Source: FARS

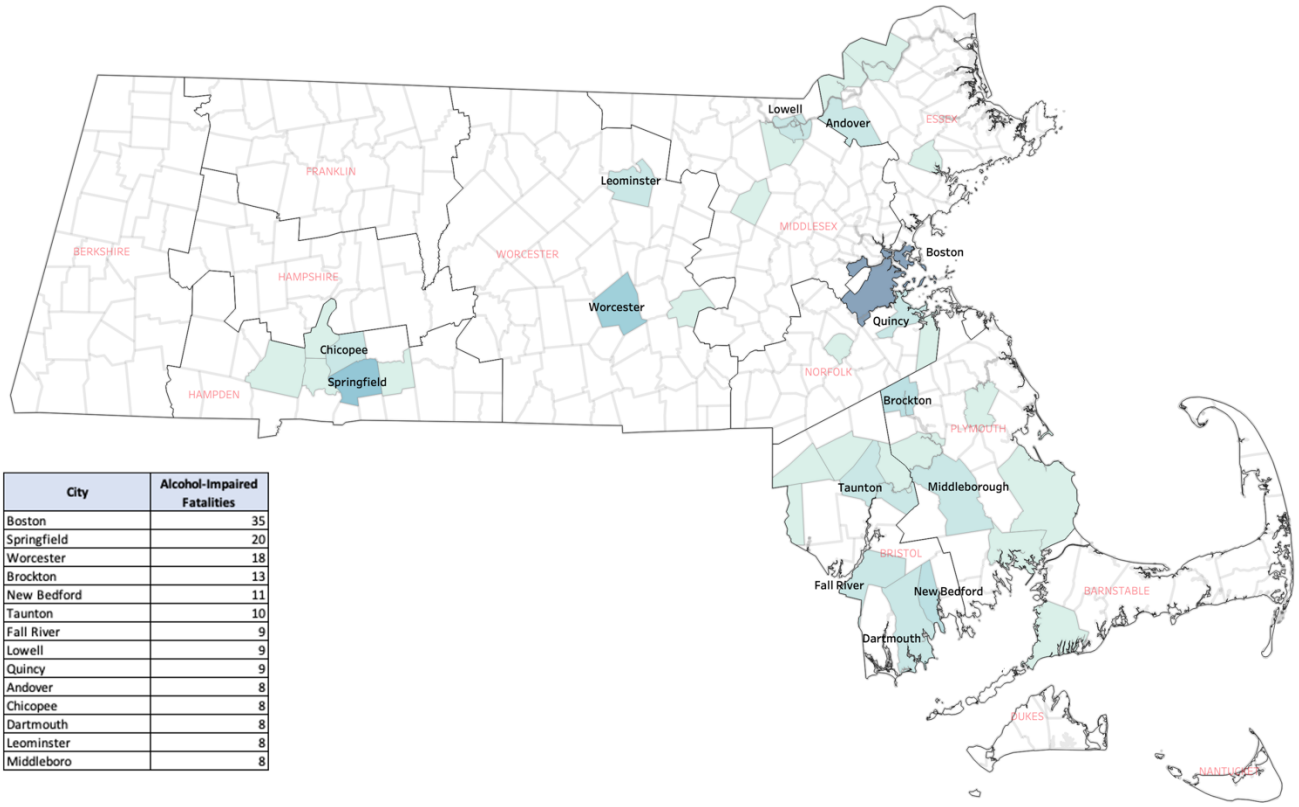
IMPAIRED DRIVING

Fatalities involving a driver with breath alcohol concentration (BAC) of .08 or higher accounted for a third of all fatalities reported during the five-year period of 2017 to 2021. During 2021, the number of fatalities involving alcohol-impaired operation was 53% higher than in 2020. As a percentage of all fatalities, 2021 alcohol-impaired fatalities jumped to 36% compared to 29% the previous year.



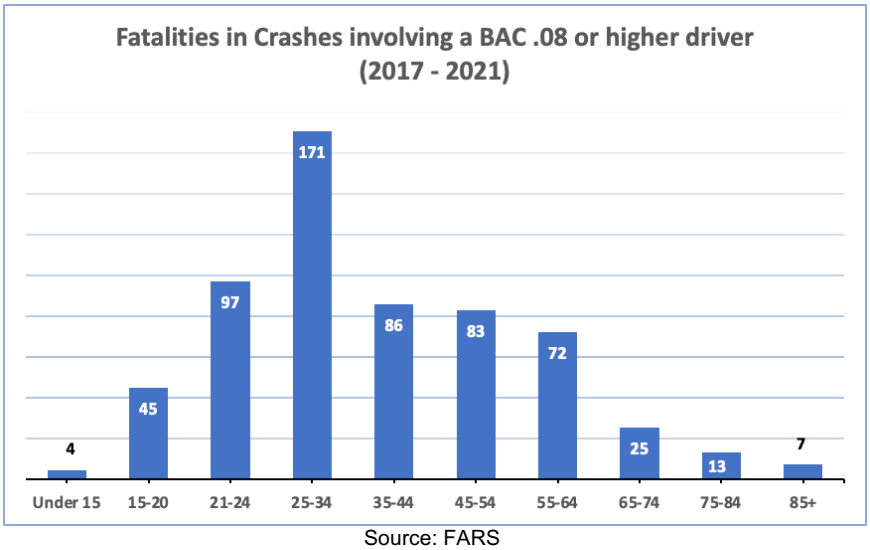
Source: FARS

In the map below, all towns with five or more alcohol-impaired fatalities are shown. These 35 towns accounted for 49% of all alcohol-impaired fatalities in Massachusetts from 2018 to 2021. Fatalities are more frequent in the southern Massachusetts region with six of the top 14 towns – each of which had eight or more alcohol-impaired fatalities – located in Bristol and Plymouth counties. The Springfield region and the Lowell-to-Haverhill region connected by Interstate 495 are also areas of alcohol-impaired fatality clustering. Boston reported the most fatalities with 35.



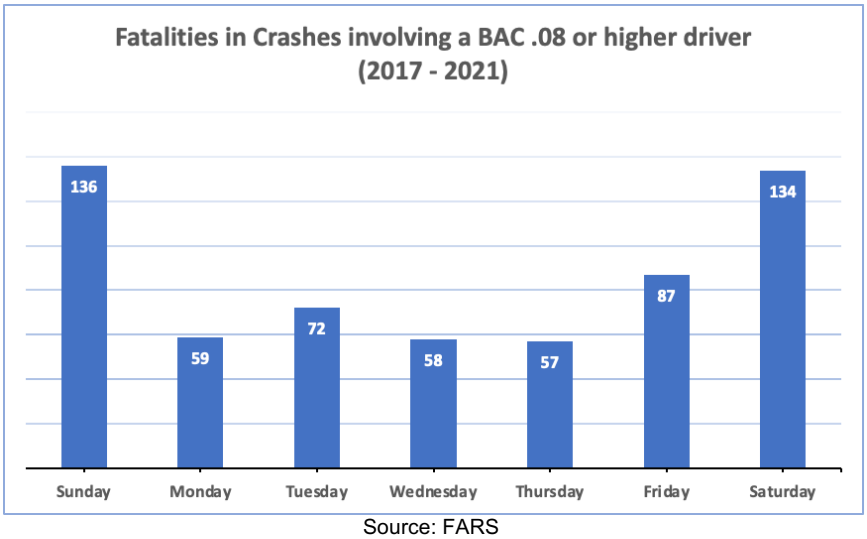
City	Alcohol-Impaired Fatalities
Boston	35
Springfield	20
Worcester	18
Brockton	13
New Bedford	11
Taunton	10
Fall River	9
Lowell	9
Quincy	9
Andover	8
Chicopee	8
Dartmouth	8
Leominster	8
Middleboro	8

By age group, alcohol-impaired fatalities peaked with the 25-34 age group, representing nearly 30% of all fatalities reported from 2017 to 2021. Each successive age group after 25-34 saw a decline in alcohol-impaired fatalities from the previous age group, with those 85 or older accounting for only 1.2% of deaths. The combined age grouping of 21-34 was responsible for 44% of the 603 alcohol-impaired driving fatalities reported. Males accounted for a 75% of fatalities.



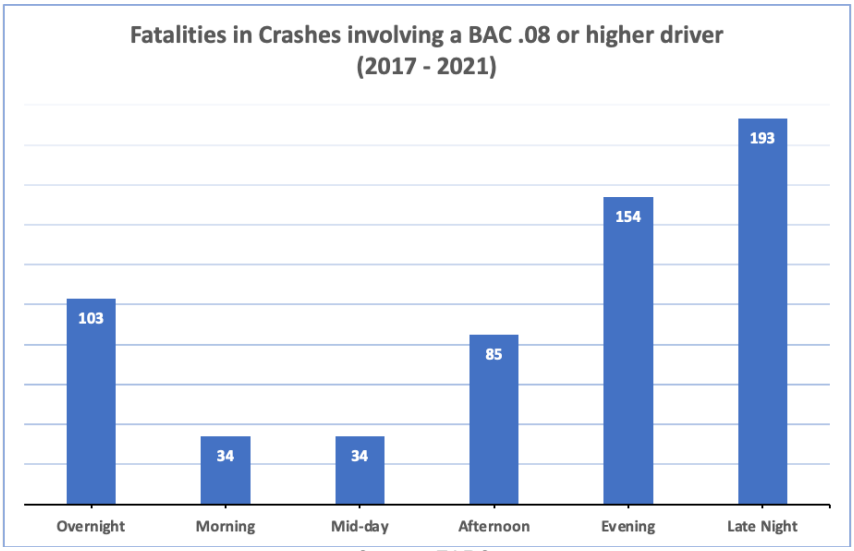
Source: FARS

By day-of-week, the weekend days had the most fatalities by far. Forty-five percent of alcohol-impaired fatalities took place over Saturday and Sunday. If Friday were to be included as part of the weekend period, the percentage of fatalities would rise to 59%. The data make clear that fatalities in crashes involving an impaired driver are much more likely during the weekend period (Friday-Sunday) than during the weekdays (Monday-Thursday).



Source: FARS

By time-of-day, the late-night period (10pm-1:59am) accounted for nearly a third of all alcohol-impaired fatalities from 2017 to 2021. Evening hours (6pm-9:59pm) came in a close second with 25% of all fatalities. The combined eight-hour time frame of evening and late-night accounted for 58% of fatalities involving a driver with BAC .08 or higher.



Source: FARS

The greatest number of alcohol-impaired fatalities occurred during this eight-hour evening and late-night period during the weekend period of Friday through Sunday, when 199 such deaths were reported. This is well over half of all fatalities during the three-day period. What this unfortunate concentration of deaths suggests is that any serious enforcement outreach or activity by State or local police departments should be focused on the 6pm to 2am hours over the days of Friday, Saturday, and Sunday.

When combining time-of-day with age grouping, it becomes clear those between 21 and 34 years of age account for the majority of alcohol-impaired fatalities, especially during the hours from 6pm to 5:59am. The high point for fatalities appears to be late night for age 25-34.

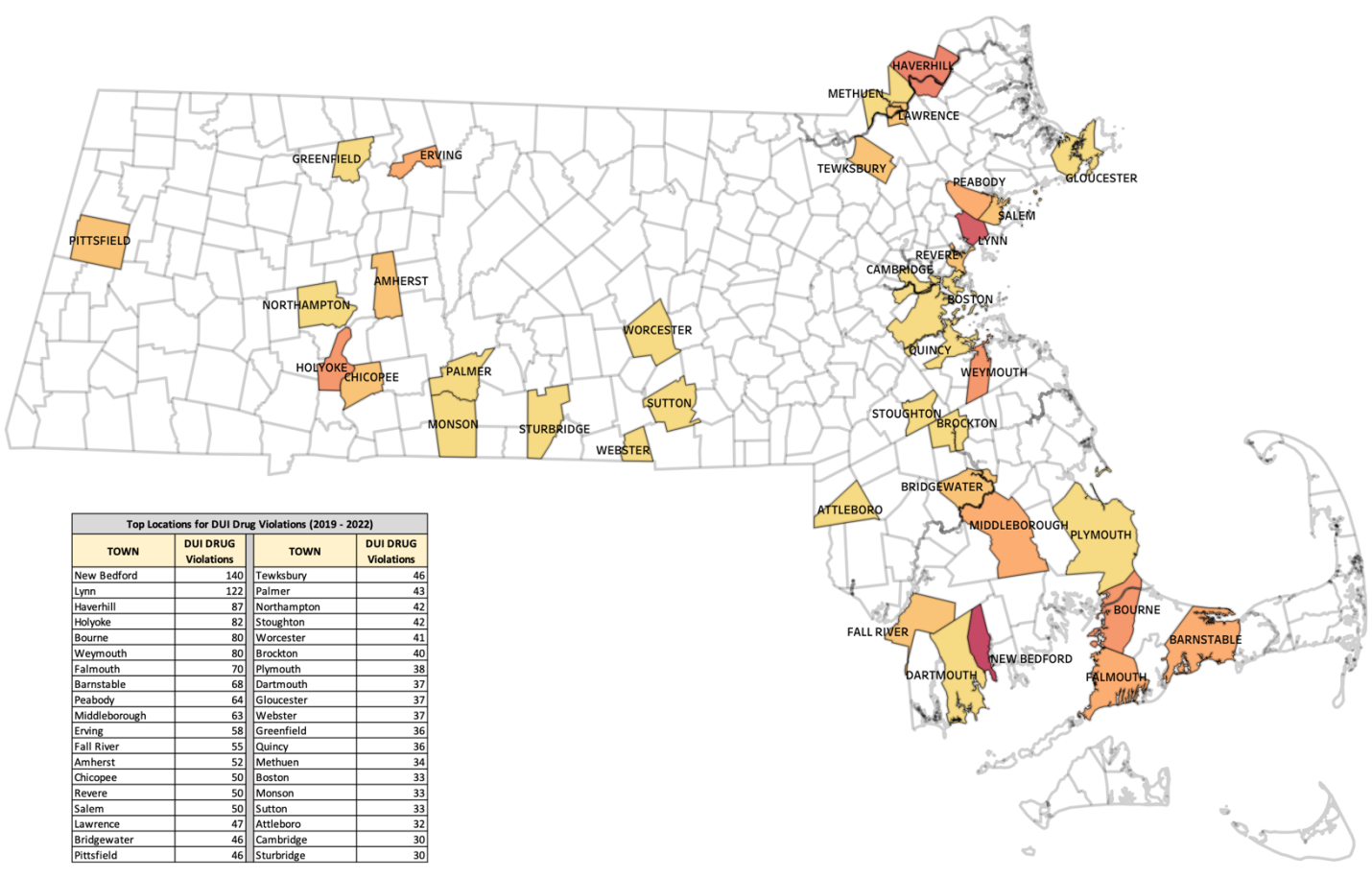
Fatality Count								
Lowest								Highest

Fatalities in Alcohol Impaired Driver (BAC .08+) Crashes by Age & Time from 2017-2021									
	<15	15-20	21-24	25-34	35-44	45-54	55-64	65-74	>74
Overnight (2am-5:59am)									
Morning (6am-9:59am)									
Mid-day (10am-1:59pm)									
Afternoon (2pm-5:59pm)									
Evening (6pm-9:59pm)									
Late Night (10pm-1:59am)									

While there is a large amount of data available related to alcohol-impaired fatalities, there is very little related to drug-impaired driving fatalities. This is largely due to the legal issues involved in determining if a person was impaired by a controlled substance at the time of a crash. Blood testing and use of a Drug Recognition Expert (DRE) at the crash site are the two most common means of determining drug usage by a person involved in a fatal crash. Both methods have been subjected to legal challenges

over the years. Legal concerns have been raised regarding consent to blood testing of an impaired person and regarding the accuracy of evaluations conducted by DREs.

Despite these challenges, law enforcement continues their diligent efforts to remove drivers under the influence of drugs off the roadways of Massachusetts. Below is a map showing where the top locations for the issuance of Operating Under the Influence (OUI) Drug charges issued from 2019 to 2022.



Top Locations for DUI Drug Violations (2019 - 2022)

TOWN	DUI DRUG Violations	TOWN	DUI DRUG Violations
New Bedford	140	Tewksbury	46
Lynn	122	Palmer	43
Haverhill	87	Northampton	42
Holyoke	82	Stoughton	42
Bourne	80	Worcester	41
Weymouth	80	Brockton	40
Falmouth	70	Plymouth	38
Barnstable	68	Dartmouth	37
Peabody	64	Gloucester	37
Middleborough	63	Webster	37
Erving	58	Greenfield	36
Fall River	55	Quincy	36
Amherst	52	Methuen	34
Chicopee	50	Boston	33
Revere	50	Monson	33
Salem	50	Sutton	33
Lawrence	47	Attleboro	32
Bridgewater	46	Cambridge	30
Pittsfield	46	Sturbridge	30

The top four locations – New Bedford, Lynn, Haverhill, and Holyoke – all have a poverty rate higher than the state average of 10.4% and a median income level below the state average of $89,000. While there are many factors that can lead a person to drive under the influence of drugs, research over the years has shown drug usage and abuse tends to occur more often in areas of higher poverty, lower income levels. (Cestone, L. (2019). *Does Poverty Cause Addiction? Comparing Experiences with Alcoholism and Substance Abuse by Social Class, Race and Ethnicity*. SUNY Oneonta Academic Research (SOAR): A Journal of Undergraduate Social Science; Pear, V. (2019), *Urban-rural variation in the socioeconomic determinants of opioid overdose*. Drug and Alcohol Dependence, Vol. 195, p. 66-73).

There also appears to be some overlap of alcohol-impaired fatalities and OUI-Drugs violations, with nine of the top communities for alcohol-impaired fatalities also having high OUI-Drugs violations. Those towns are Boston, Brockton, Chicopee, Dartmouth, Fall River, Middleborough, New Bedford, Quincy, and Worcester.

During FY 2022 (July 1, 2021 – June 30, 2022), there were 96,040 motor vehicle-related charges filed in the district and municipal courts across Massachusetts. Of these 96,040 charges, 11.7% were for Operating Under the Influence (OUI). This includes both alcohol and drug OUIs. Nearly 90% of the OUI charges filed were of three charges:

- OUI-LIQUOR, 1st Offense – accounted for 64% of MV OUI charges
- OUI-LIQUOR, 2nd Offense – accounted for 13% of MV OUI charges
- OUI-DRUGS, 1st Offense – accounted for 11% of MV OUI charges

A look at the motor vehicle OUI charges filed in Massachusetts district/municipal courts during FY 2022 shows the breakdown by county and the top three MV OUI charges:

COUNTY	MV OUI CHARGES FILED, FY22	Top Three Charges Filed in FY22		
		OUI-LIQUOR, 1st Offense	OUI-LIQUOR, 2nd Offense	OUI-DRUGS, 1st Offense
Middlesex	1,722	1122	275	144
Worcester	1,591	1032	204	139
Essex	1,506	960	211	166
Bristol	1,158	697	131	155
Plymouth	1,103	677	171	114
Hampden	898	582	96	121
Norfolk	860	558	93	104
Barnstable	754	465	95	101
Suffolk	612	405	52	66
Hampshire	430	291	53	49
Berkshire	261	166	38	28
Franklin	218	112	34	30
Dukes	86	62	13	3
Nantucket	64	55	5	2
Totals	**11,263**	**7,184**	**1,471**	**1,222**

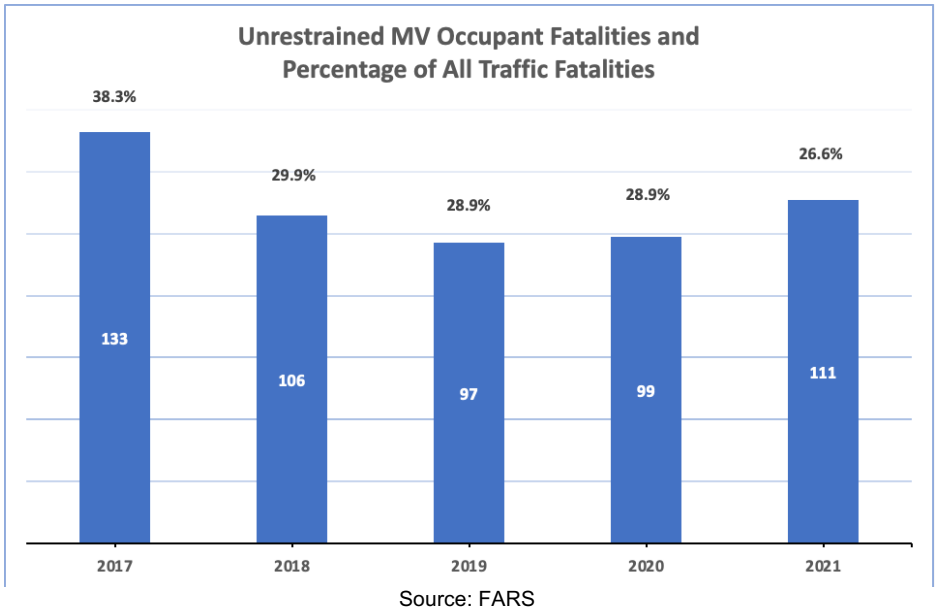
Source: Massachusetts Trial Court

One thing that stands out in the data is that Essex and Bristol counties led all counties with OUI-DRUGS, 1st Offense charges in FY 2022, which correlates to the high number of OUI-Drugs violations issued in specific communities in those counties as shown in the map on the previous page.

Any planned enforcement or educational outreach during FFY 2024 – 2026 related to impaired driving involving drugs should be focused on the communities within Essex and Bristol County.

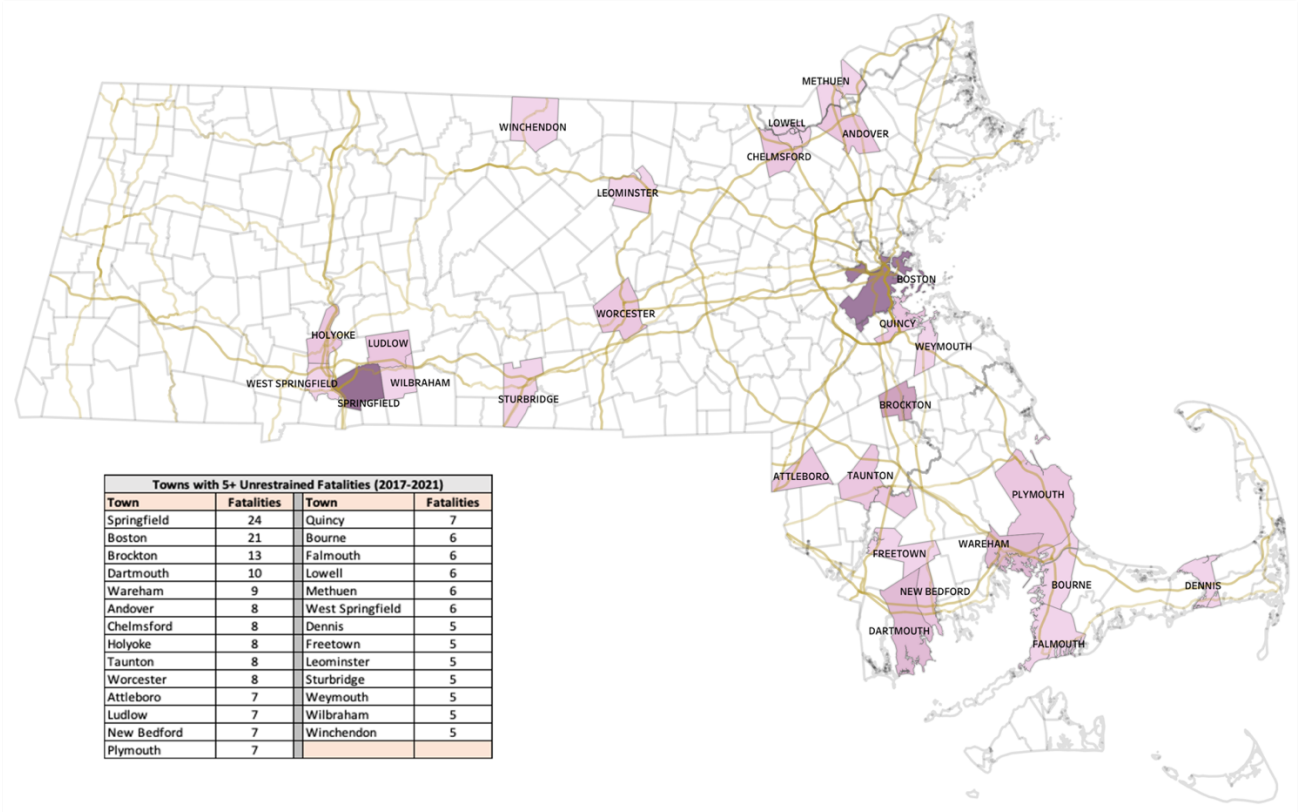
UNRESTRAINED OCCUPANTS

From 2017 to 2021, unrestrained motor vehicle occupant fatalities accounted for 30.4% of the 1,798 deaths on Massachusetts roadways. NHTSA considers a “motor vehicle occupant” to be either a driver or passenger in a passenger vehicle or light truck (pickup, utility, SUV, van). In Massachusetts, 84% of unrestrained fatalities were drivers. After declining from a high point of 133 in 2017, unrestrained fatalities have increased in recent years. With 111 deaths in 2021, this marks a 12% rise from 2020. Despite the unfortunate increase in deaths, unrestrained fatalities as a percentage of all traffic fatalities was lower in 2021 than each of the previous four years.



Source: FARS

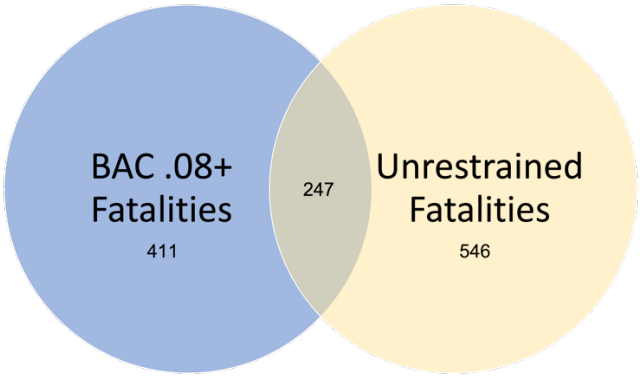
In the map below, all towns with five or more unrestrained fatalities from 2017 to 2021 are shown and labelled.



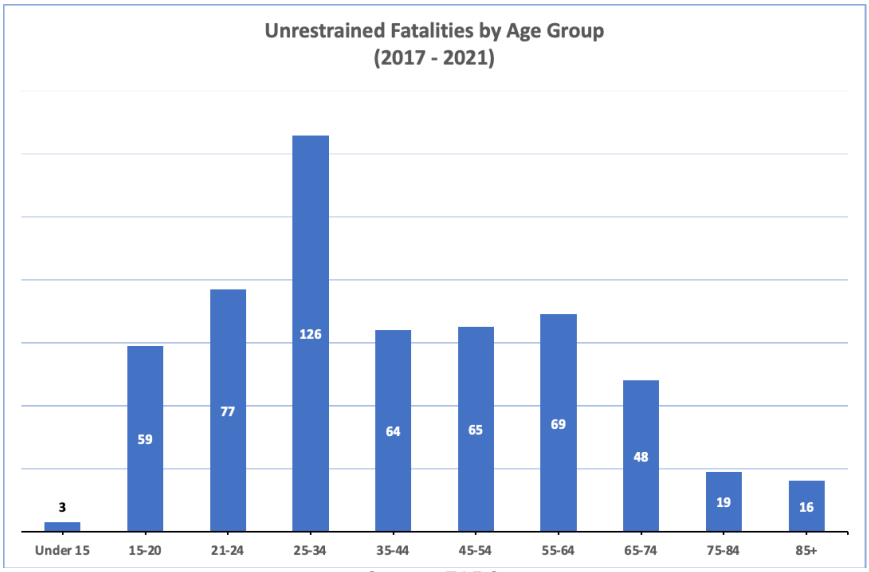
Towns with 5+ Unrestrained Fatalities (2017-2021)			
Town	Fatalities	Town	Fatalities
Springfield	24	Quincy	7
Boston	21	Bourne	6
Brockton	13	Falmouth	6
Dartmouth	10	Lowell	6
Wareham	9	Methuen	6
Andover	8	West Springfield	6
Chelmsford	8	Dennis	5
Holyoke	8	Freetown	5
Taunton	8	Leominster	5
Worcester	8	Sturbridge	5
Attleboro	7	Weymouth	5
Ludlow	7	Wilbraham	5
New Bedford	7	Winchendon	5
Plymouth	7		

With the exception of a few towns, most of the towns with five or more unrestrained fatalities were the same municipalities that experienced the highest number of fatalities in crashes involving a driver with BAC .08 or higher: Springfield area, Lowell-Andover Interstate 495 stretch, Brockton, Worcester, Boston and southern Massachusetts region. The data suggest an unfortunate connection between alcohol-impaired fatalities and lack of seat belt usage. During the same five-year period, there were

411 fatalities in passenger cars and light trucks that involved a driver with BAC .08 or higher. Of these deaths, 247 – or 60% – were unrestrained.

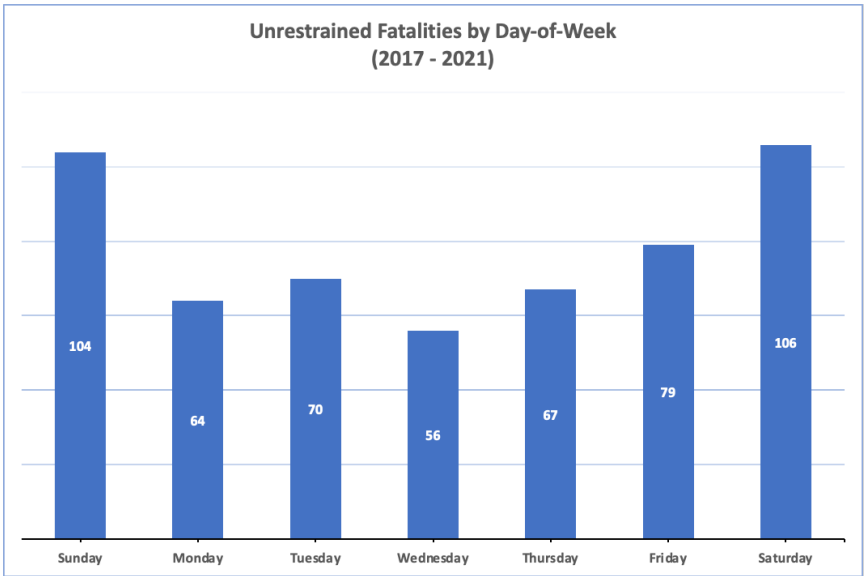


By age, the 25-34 age group led all groups with 23.1% of all unrestrained fatalities. Nearly half of all unrestrained fatalities were of motor vehicle occupants under 35 years of age. Males accounted for 73% of fatalities; females represented 27%.



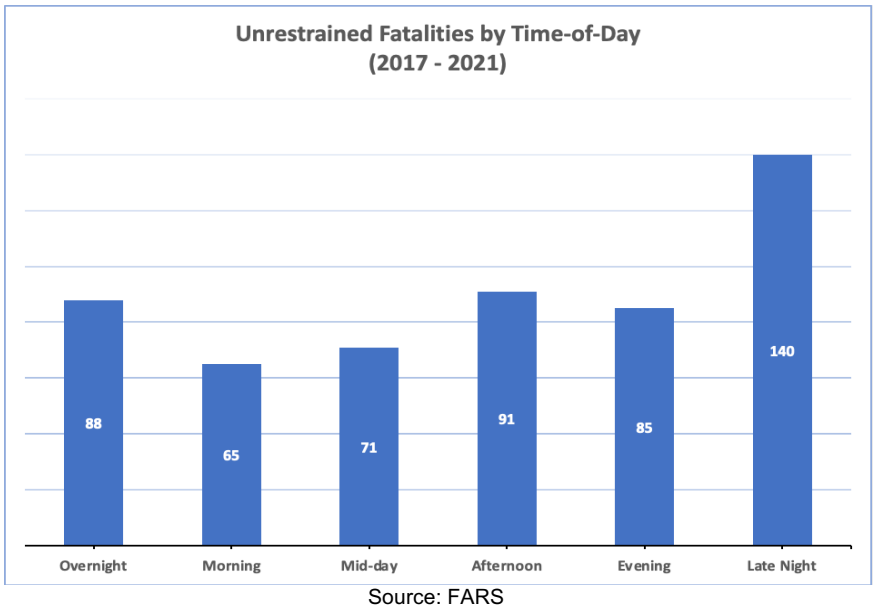
Source: FARS

By day-of-week, like alcohol-impaired fatalities, the weekend was when the most unrestrained fatalities took place from 2017 to 2021. Nearly 40% of deaths took place over either Saturday or Sunday. If Friday were to be included as part of the “weekend,” then the three-day period would account for over half of all unrestrained motor vehicle occupant fatalities.



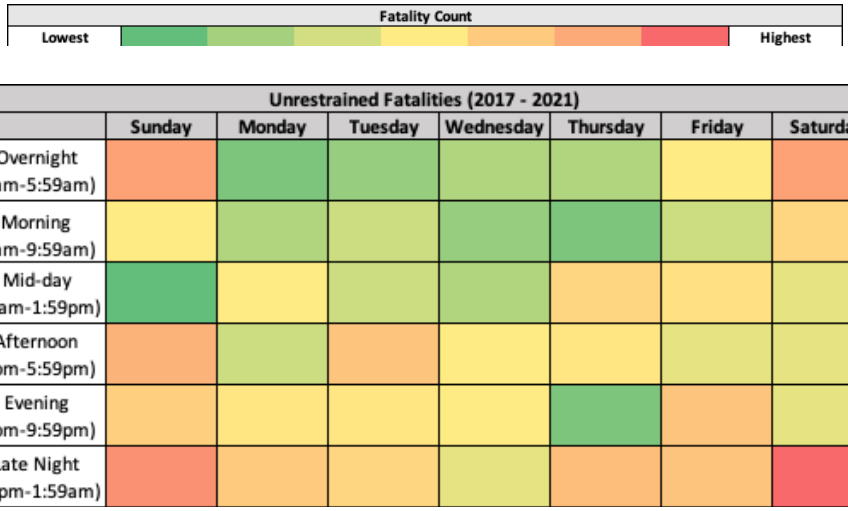
Source: FARS

By time-of-day, late night led all time frames with 25.6% of unrestrained fatalities. Afternoon (2pm – 5:59pm) was the second highest time period for deaths with 17%. Over 40% of unrestrained fatalities took place between evening (6pm-9:59pm) and late night (10pm-1:59am) hours.



Source: FARS

For a clearer picture of when unrestrained fatalities most often occur, the heat chart below brings both time-of-day and day-of-week together. Green shading represents low fatality counts, while red shading indicates high fatality counts. The most dangerous time and day for unrestrained fatalities appears to be from 10pm-1:59pm on Saturdays.



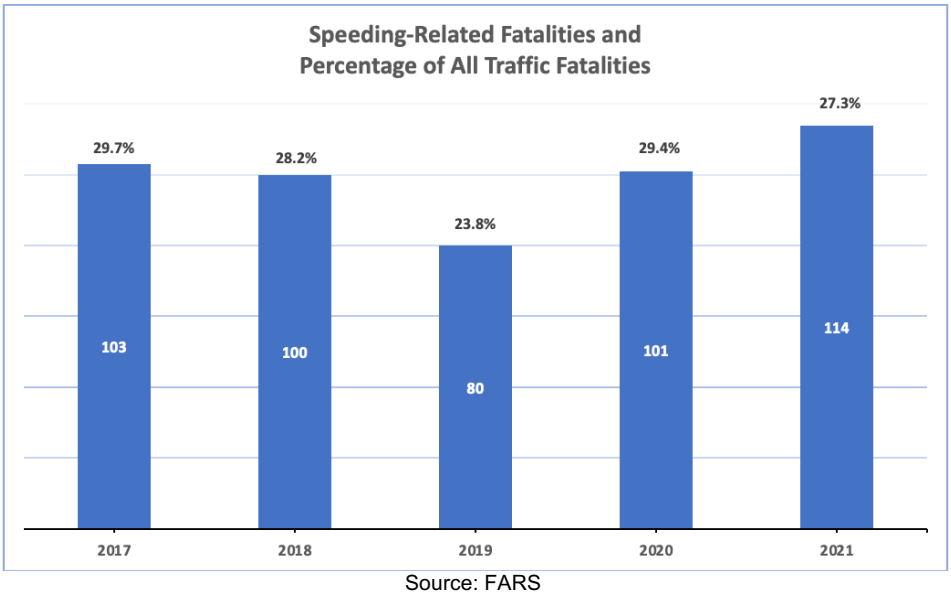
Each year Massachusetts conducts a statewide observational seat belt survey that gauges the level of seat belt usage across the state. With observations taken at 148 sites, the 2022 revealed a few interesting results:

- Female occupants continue to have a higher belt usage rate than males (81.6% vs 71.5%).
- Children and teens have higher belt usage than adults (89.2% among children and 81.2% among teens vs 76% for adults).
- Passenger presence was a significant factor in belt usage for drivers. Drivers with a passenger had a much higher usage rate compared to drivers alone (80.9% vs 75.7%).
- By apparent race, Hispanic and Black occupants had the most significant increase in belt usage, up 7.5 and 3.0 percentage points compared to 2021 results. Despite of this increase, Hispanic occupants continue to have the lowest belt usage rate compared to other apparent races. The usage rate among apparent Hispanic occupants in 2022 was 65.1%. This is notable given Springfield, which has one of the highest Hispanic populations in the state (47.5% of 154,000 residents), had the most unrestrained fatalities from 2017 to 2021 in Massachusetts.

SPEEDING AND AGGRESSIVE DRIVING

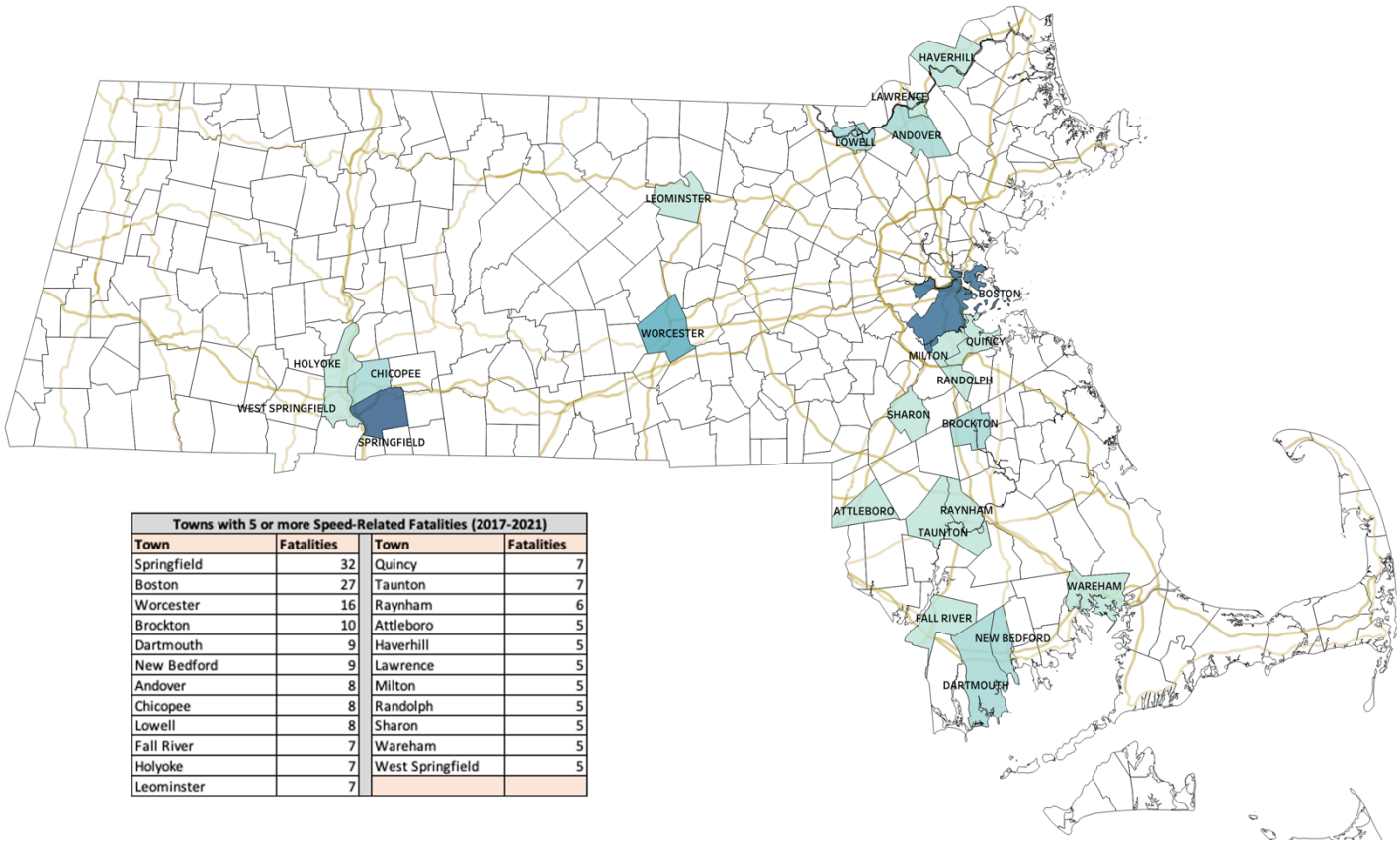
Speeding, as defined by NHTSA, involves driving too fast for conditions, exceeding the posted speed limit, or racing. From 2017 to 2021, there were 397 speeding-related fatal crashes resulting in 498 deaths. During this five-year period, speeding-related fatalities accounted for 27.7% of traffic fatalities in Massachusetts.

Fatalities in which speeding was involved jumped 12.9% from 2020 to 2021 and, unfortunately, have risen 42% since 2019. Despite the increase in deaths in 2021, the percentage of speeding-related fatalities of all traffic fatalities declined from 29.4% to 27.3%.



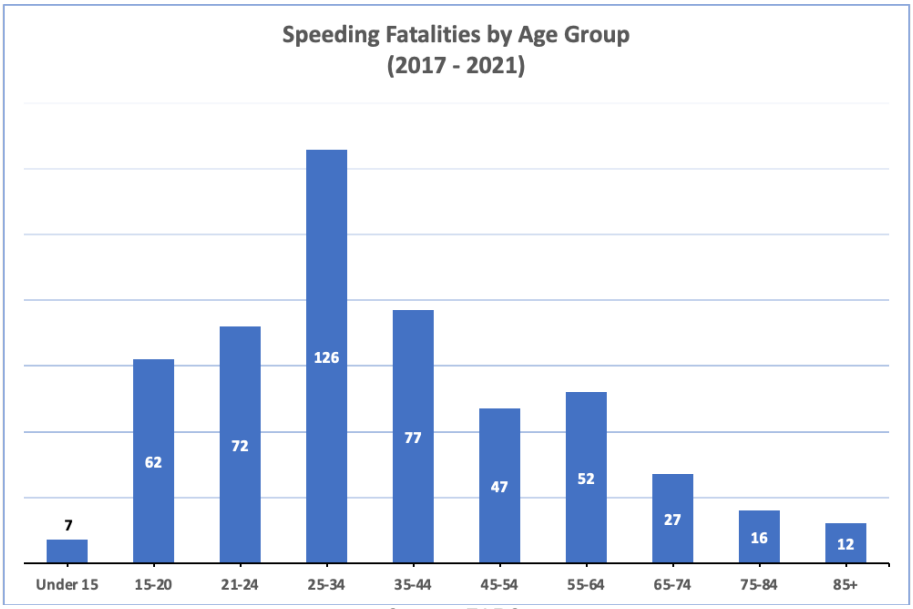
Source: FARS

The map below shows all towns with five or more speeding-related fatalities reported from 2017 to 2021. Boston, Springfield, and Worcester accounted for 15% of all speed-related fatalities. This is likely due to the fact that each city is an epicenter for traffic to converge and flow through. Springfield has the Mass Pike and Interstate 91 crossing through; Boston has Mass Pike, Route 3, Route 1, and Interstate 93; and Worcester has the Mass Pike, Interstate 290, and Interstate 195. Collectively, the 23 towns on this map represent 42% of speed-related fatalities in Massachusetts from 2017 to 2021.



Towns with 5 or more Speed-Related Fatalities (2017-2021)			
Town	Fatalities	Town	Fatalities
Springfield	32	Quincy	7
Boston	27	Taunton	7
Worcester	16	Raynham	6
Brockton	10	Attleboro	5
Dartmouth	9	Haverhill	5
New Bedford	9	Lawrence	5
Andover	8	Milton	5
Chicopee	8	Randolph	5
Lowell	8	Sharon	5
Fall River	7	Wareham	5
Holyoke	7	West Springfield	5
Leominster	7		

By age group, speeding fatalities were highest among those age 25 to 34. This group accounted for a quarter of all speeding-related fatalities from 2017 to 2021. Overall, more than half of all speeding-related fatalities were under 35 years old. Fatalities declined substantially as age group increased.



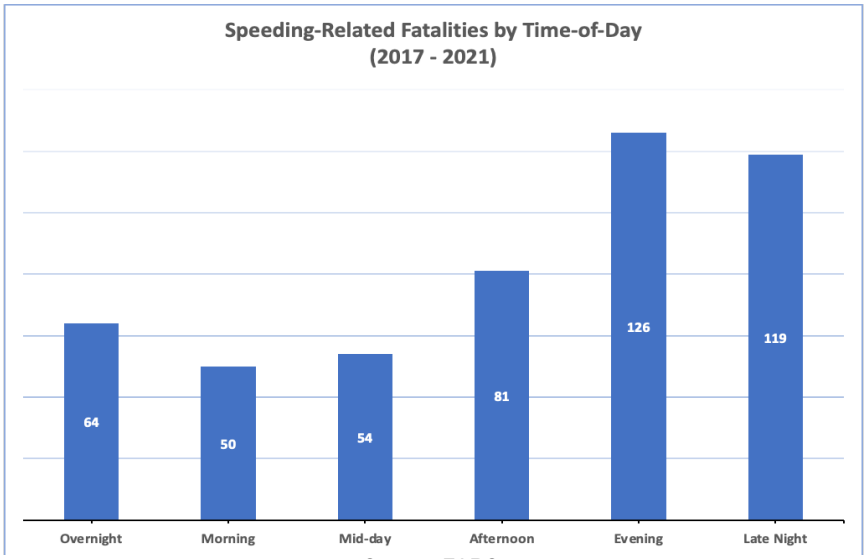
Source: FARS

Drivers accounted for 76% of all speeding-related fatalities with the highest fatality count among the 25-34 age group. In fact, those age 34 or younger represented well over half of all driver and passenger fatalities reported. Interestingly, nearly 60% of all pedestrian deaths in a speeding-related crash were age 55 or older. Males accounted for nearly 80% of all fatalities.

Speeding-Related Fatalities (2017 - 2021)			
Age Group	**Driver**	**Passenger**	**Pedestrian**
Under 15	1	4	2
15-20	38	24	0
21-24	61	11	0
25-34	109	15	2
35-44	55	16	6
45-54	42	2	3
55-64	36	6	10
65-74	22	2	3
75-84	10	2	4
85+	6	4	2
Total	**380**	**86**	**32**

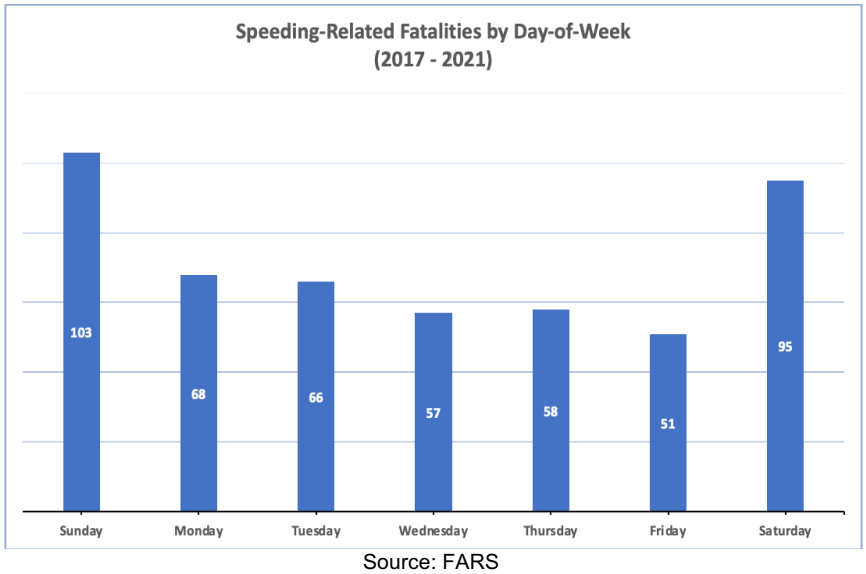
Source: FARS

By time-of-day, half of the 498 speeding-related fatalities reported from 2017 to 2021 took place between 6pm and 1:59am. During this eight-hour span, 245 fatalities were reported. Morning (6am-9:59am) and Mid-day (10am-1:59pm) had the lowest fatalities, with a combined total (104) that represented 21% of all speeding-related fatalities.



Source: FARS

By day-of-week, as with impaired driving and unrestrained fatalities, the weekend had the highest number of fatalities with 40% of speeding-related fatalities from 2017 to 2021. Surprisingly, it was Monday – not Friday – that had the next highest total after Sunday and Saturday. Friday had the lowest total, accounting for only 10% of fatalities.



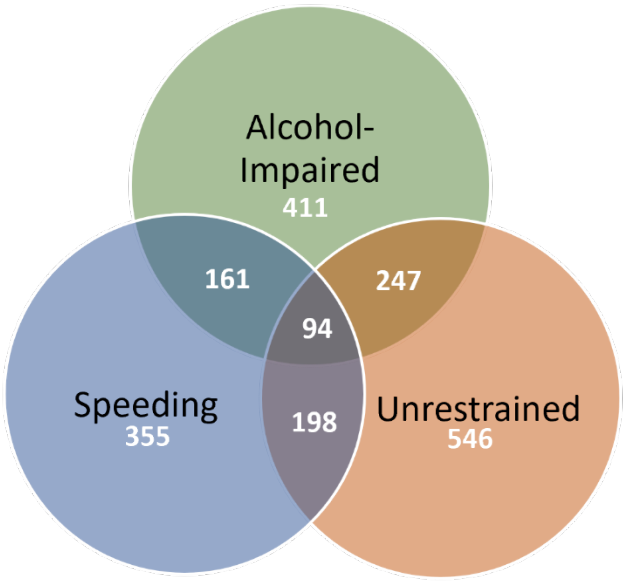
Source: FARS

Combining day-of-week and time-of-day into a heat chart shows how much more often speeding-related fatalities occur from 6pm to 1:59am, especially over the weekend, compared to any other time period or day.

Fatality Count								
Lowest								Highest

Speeding-Related Fatalities (2017 - 2021)							
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Overnight (2am-5:59am)							
Morning (6am-9:59am)							
Mid-day (10am-1:59pm)							
Afternoon (2pm-5:59pm)							
Evening (6pm-9:59pm)							
Late Night (10pm-1:59am)							

Since a majority of speeding-related fatalities occur over the weekend and during evening/late night hours, as do a majority of impaired driving and unrestrained fatalities, the Ven diagram below shows the interconnectedness of the three types of traffic fatalities. There were 355 speeding-related fatalities involving motor vehicle occupants in a passenger car or light truck (SUV, van, pickup, utility) from 2017 to 2021. Of the 355 deaths, 45% involved an alcohol-impaired driver and 36% were unrestrained at the time of impact. Overall, 5% of motor vehicle occupant fatalities involved all three: alcohol impairment, speeding, and lack of sea belt usage.

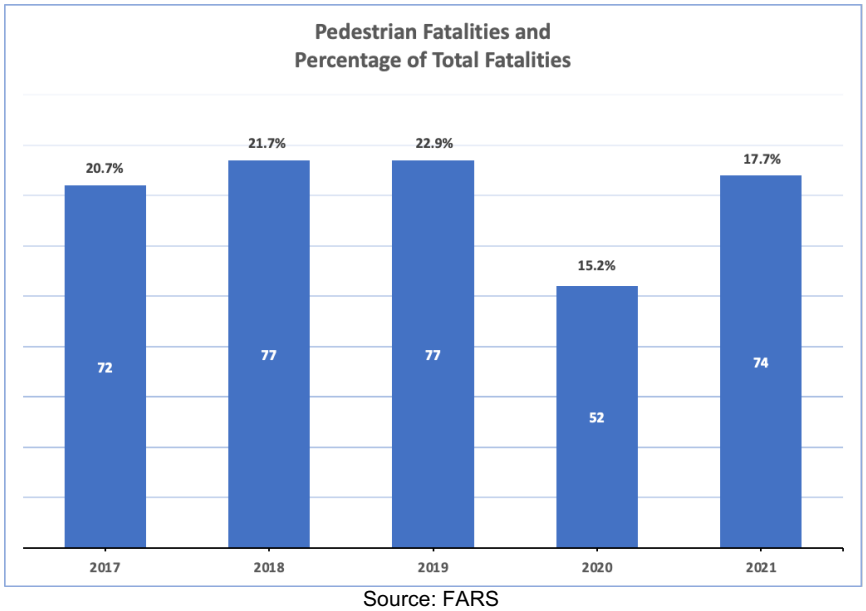


NON-MOTORISTS (Pedestrians & Cyclists)

Pedestrians

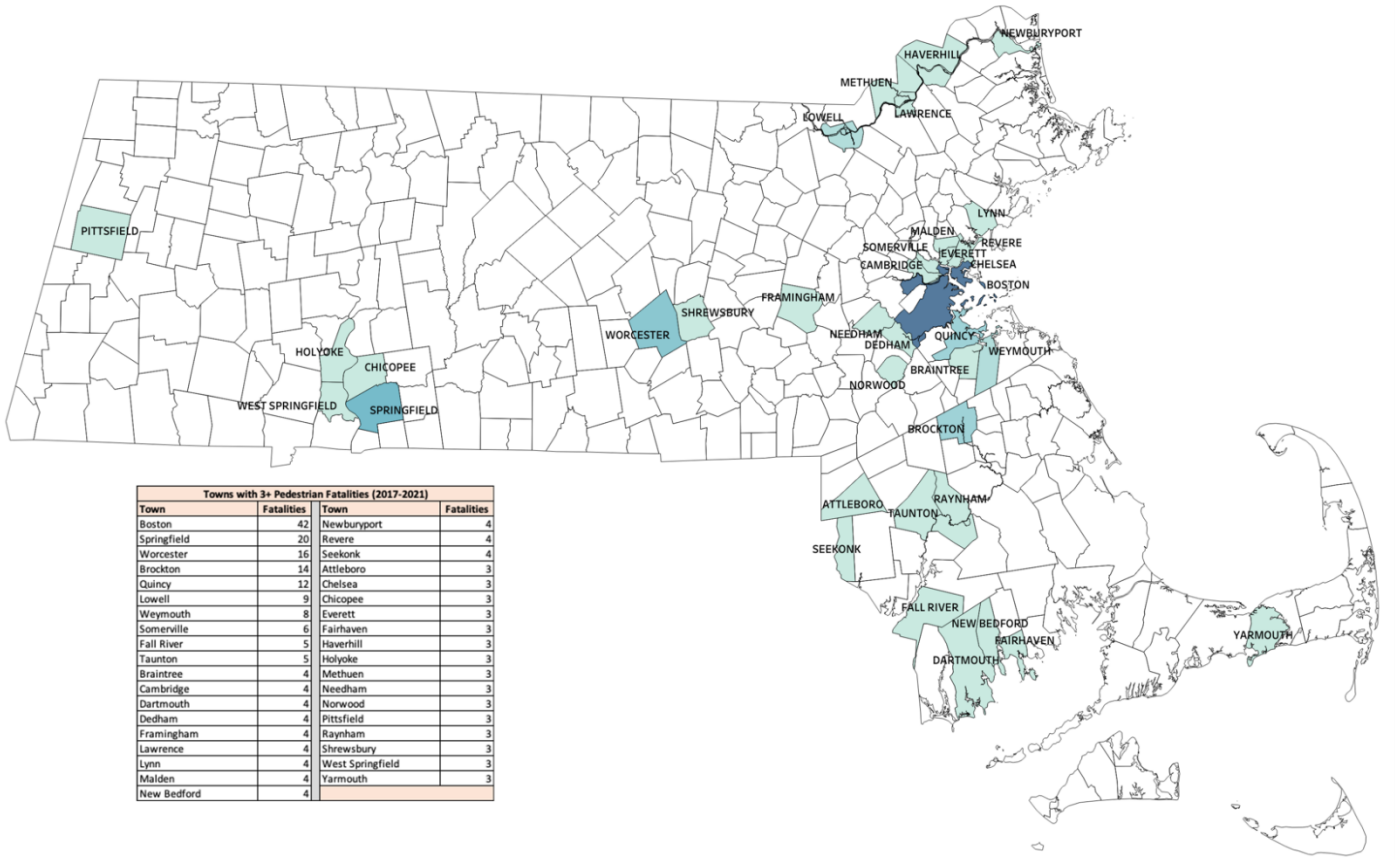
From 2017 to 2021, there were 352 pedestrian fatalities along Massachusetts roadways. After dipping to 52 in 2020 (the COVID-19 lockdown year), pedestrian fatalities rose 42% in 2021. While this may sound dramatic, it is actually in line with the average pedestrian fatalities in recent years. During the five-year period prior to the pandemic (2015-2019), the average number of pedestrian deaths per year

was 77. Furthermore, as a percentage of all fatalities, 2021 was the second lowest (17.7%) in the past five year.



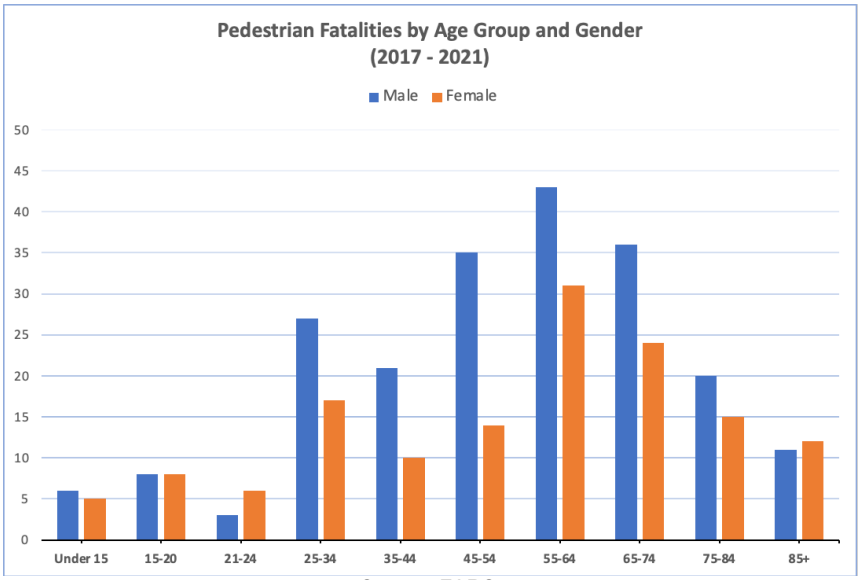
Source: FARS

This map below shows all towns with three or more pedestrian fatalities reported from 2017 to 2021. These 37 towns represented 65% of all pedestrian fatalities. Many of the communities are in the metro Boston area where public transportation is used frequently to travel in and out of Boston proper, which requires walking to/from subway/train/bus stops.



Towns with 3+ Pedestrian Fatalities (2017-2021)			
Town	Fatalities	Town	Fatalities
Boston	42	Newburyport	4
Springfield	20	Revere	4
Worcester	16	Seekonk	4
Brockton	14	Attleboro	3
Quincy	12	Chelsea	3
Lowell	9	Chicopee	3
Weymouth	8	Everett	3
Somerville	6	Fairhaven	3
Fall River	5	Haverhill	3
Taunton	5	Holyoke	3
Braintree	4	Methuen	3
Cambridge	4	Needham	3
Dartmouth	4	Norwood	3
Dedham	4	Pittsfield	3
Framingham	4	Raynham	3
Lawrence	4	Shrewsbury	3
Lynn	4	West Springfield	3
Malden	4	Yarmouth	3
New Bedford	4		

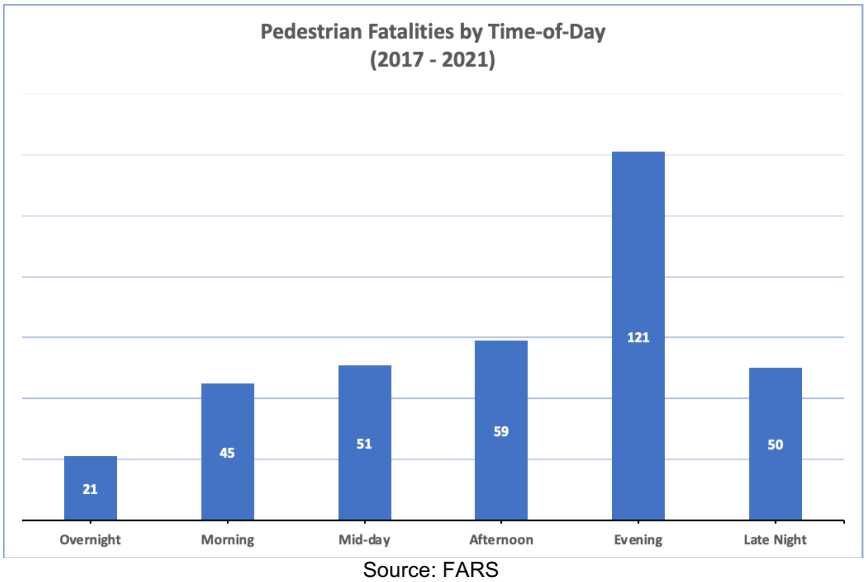
Unlike the fatalities discussed earlier (impaired driving, unrestrained, and speeding), pedestrian deaths are not heavily skewed to males. From 2017 to 2021, males accounted for 60% of pedestrian fatalities and females represented 40%. Age-wise, the average age for pedestrian fatalities was 46. Both males and females had the same average age of 46.



Source: FARS

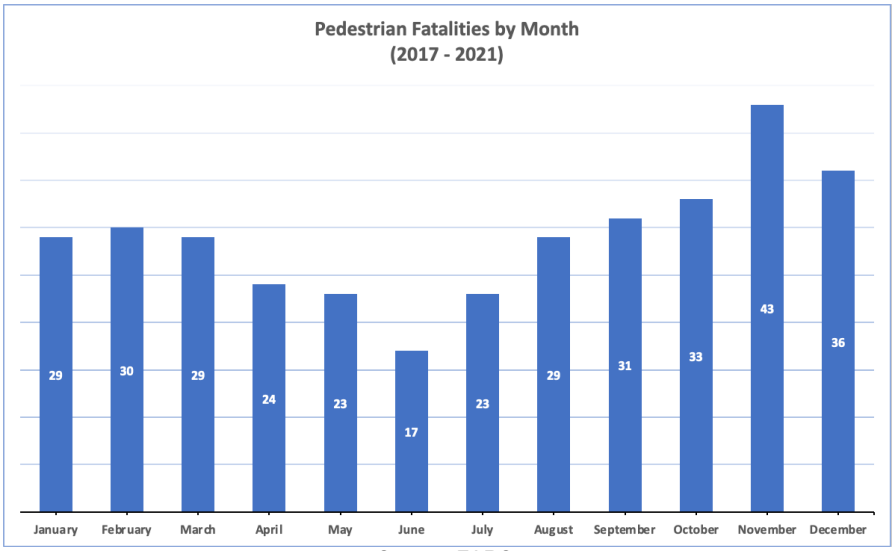
Fatalities for those age 55 or older accounted for nearly 60% of all pedestrian deaths, while the younger age groups (34 and under) represented 23% of pedestrian fatalities. This is a change from alcohol-impaired, unrestrained, and speeding fatalities, where those under 35 made up the majority of deaths.

By time-of-day, over a third of pedestrian fatalities occurred during evening hours (6pm-9:59pm). With inclusion of afternoon hours (2pm-5:59pm), this eight-hour stretch accounted for 52% of all fatalities.



Source: FARS

By month, pedestrian fatalities tended to occur with more frequency during colder months than warmer ones. From October to March, 58% of fatalities took place, while 42% happened from April to September.



Source: FARS

When combining month and time-of-day into a heat chart, the evening hours are the "hottest," especially during the September to December months. The colder months have less daylight, which may be a contributing factor in the higher number of deaths compared to warmer months.

Fatality Count		
Lowest		Highest

Pedestrian Fatalities (2017 - 2021)												
	January	February	March	April	May	June	July	August	September	October	November	December
Overnight (2am-5:59am)												
Morning (6am-9:59am)												
Mid-day (10am-1:59pm)												
Afternoon (2pm-5:59pm)												
Evening (6pm-9:59pm)												
Late Night (10pm-1:59am)												

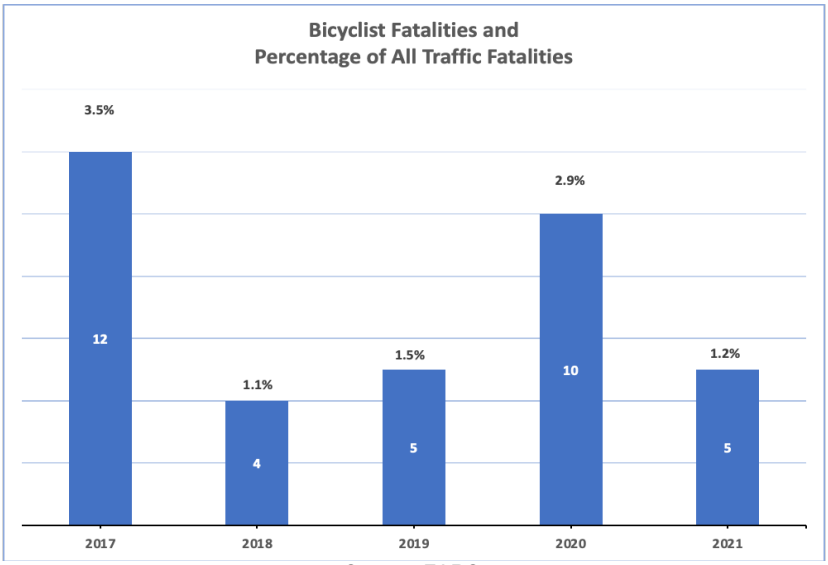
One last element to consider regarding pedestrians is where the pedestrian was located at the time of crash impact. In 60% of the fatalities, the pedestrian was in the "travel lane" – or on a roadway and not in the intersection or crosswalk areas. The recent introduction of Massachusetts' "Vulnerable User" law will hopefully raise more awareness to drivers to give adequate berth when passing along the roadways.

Pedestrian Position	Fatalities
Intersection Area	17
Crosswalk Area	73
Travel Lane	211
Paved Shoulder/Bicycle Lane	17
Sidewalk	18
Driveway	2
Other/Unknown	14

Source: FARS

Bicyclists

From 2017 to 2021, there were 36 bicyclist fatalities across Massachusetts. As a percentage of all traffic fatalities, bicyclist fatalities accounted for less than five percent each year. Nearly 90% of bicyclist fatalities were male (31 of 36).



Source: FARS

Over the last five years, bicyclist fatalities have occurred all over Massachusetts. Boston had the highest total of the 26 towns that reported a fatality, with five deaths.

Bicyclist Fatalities by Location (2017 - 2021)			
Town	Fatalities	Town	Fatalities
Boston	5	Fitchburg	1
Ipswich	3	Gill	1
Cambridge	2	Lenox	1
Haverhill	2	Milton	1
Northampton	2	Nantucket	1
Springfield	2	Peabody	1
Arlington	1	Pittsfield	1
Barnstable	1	Raynham	1
Beverly	1	Salisbury	1
Brockton	1	Scituate	1
Charlton	1	Swansea	1
Chicopee	1	Westford	1
Dartmouth	1	Westwood	1

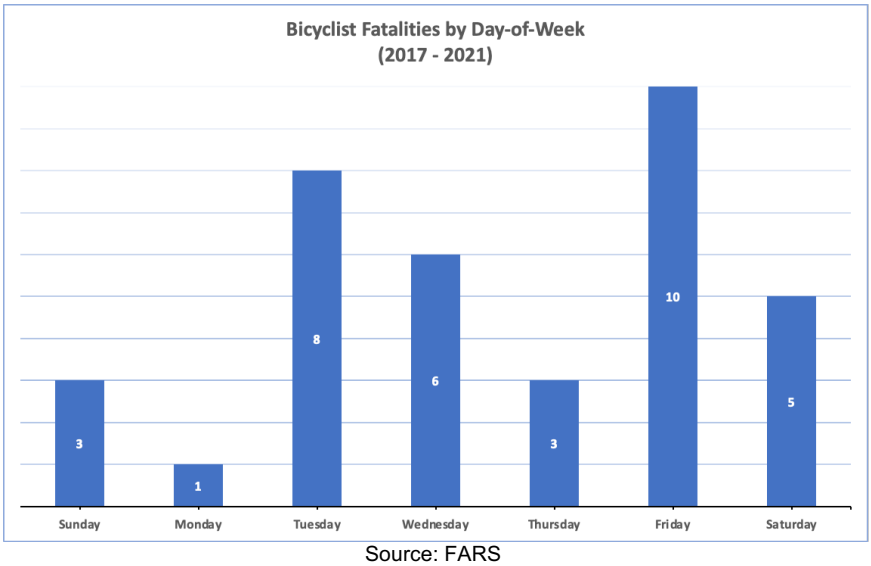
Source: FARS

Similar to pedestrian fatalities, bicyclist fatalities trended towards older riders. The average age of the 36 bicyclist fatalities was 35 years of age. In fact, more than two-thirds of fatalities were 35 years or older. Only four of the fatalities were reportedly not wearing a helmet at the time of crash and eight had helmets on. Unfortunately, reports were inconclusive for the remaining 24 deaths on helmet usage.

Age Group	Fatalities
Under 15	3
15-20	3
21-24	3
25-34	3
35-44	3
45-54	4
55-64	9
65-74	5
75-84	3
85+	0

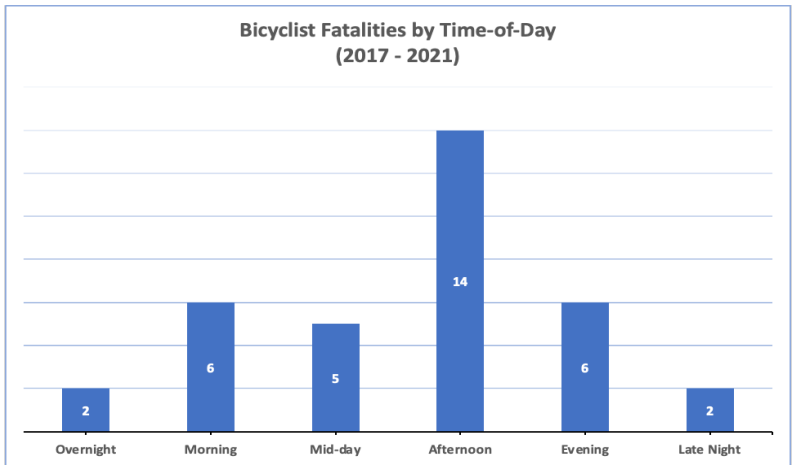
Source: FARS

By day-of-week, bicyclist fatalities were more frequent during weekdays compared to the weekend. Unlike alcohol-impaired, unrestrained, and speeding fatalities, the weekend only accounted for 22% of fatalities. Fridays had nearly 30% of fatalities from 2017 to 2021.



Source: FARS

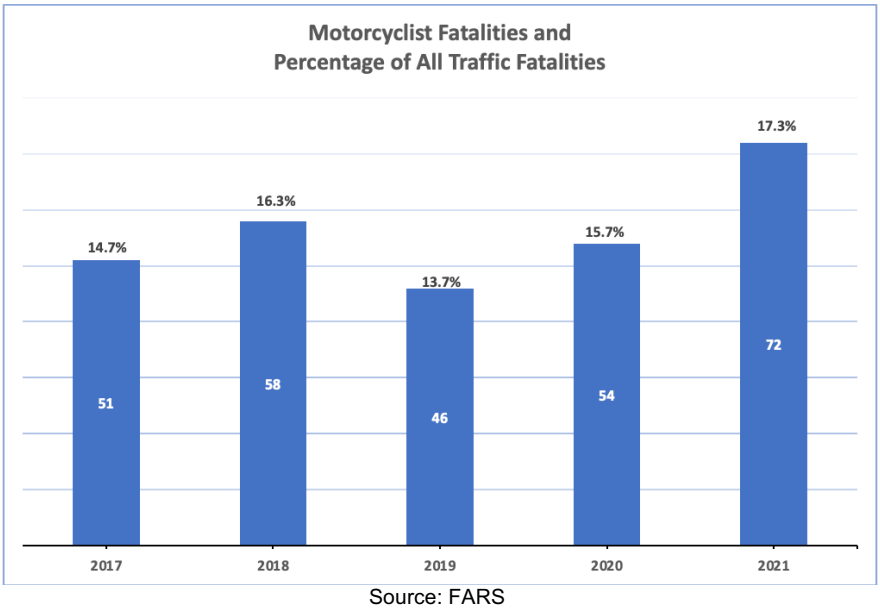
By time-of-day, the afternoon period (2pm – 5:59pm) accounted for 39% of bicyclist fatalities from 2017 to 2021. Overall, daylight hours (6am to 6pm, as defined by NHTSA) represented nearly three-fourths of all fatalities.



Source: FARS

MOTORCYCLISTS SAFETY

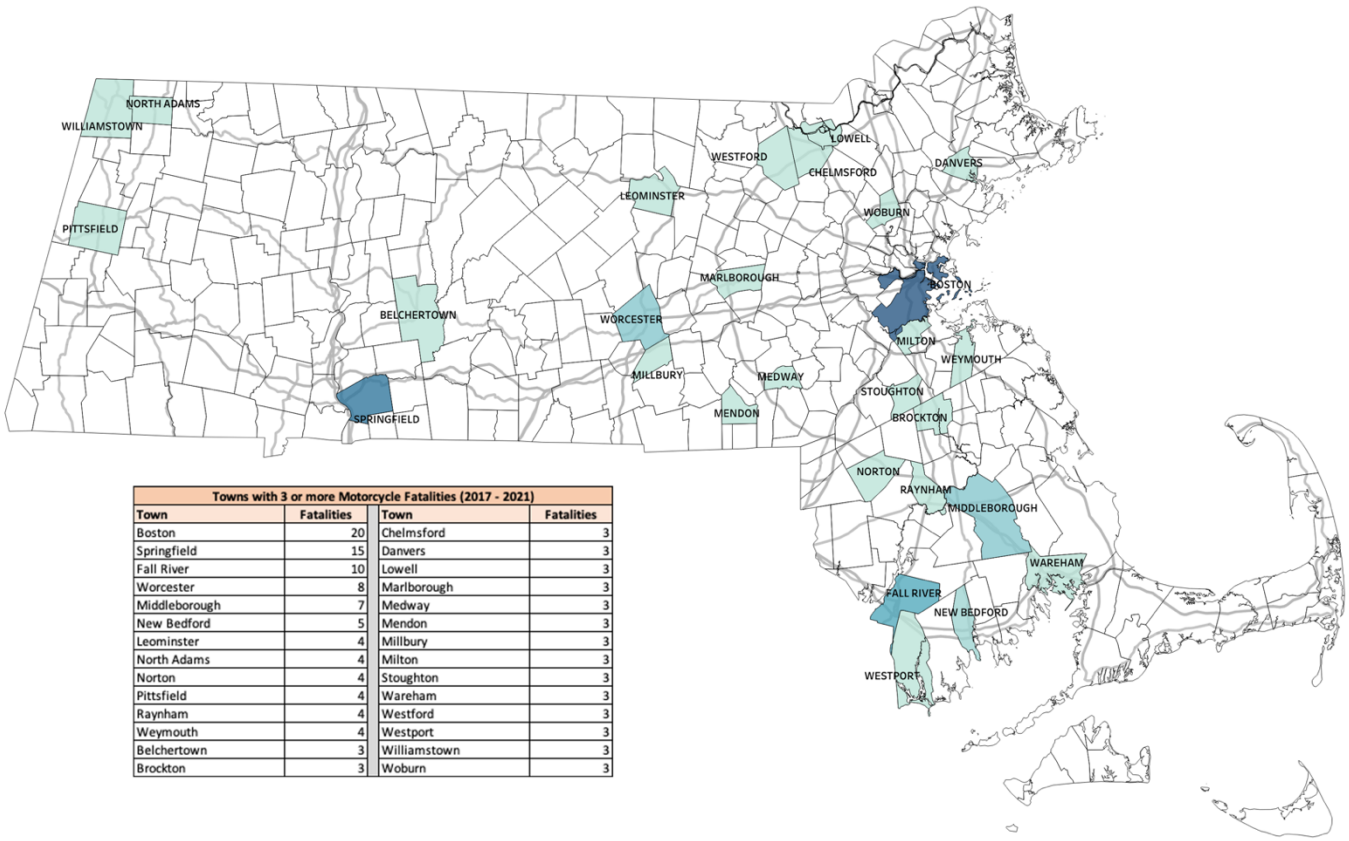
From 2017 to 2021, there were 281 motorcyclist fatalities (269 drivers, 12 passengers) reported in Massachusetts. As a percentage of all traffic fatalities, the most recent year – 2021 – has the highest proportion of motorcyclist deaths over the last five years. Since 2019, motorcyclist fatalities have jumped nearly 60%. The 72 fatalities reported in 2021 is the highest total in the last ten years.



Source: FARS

Drivers accounted for 96% of fatalities and passengers represented 4%. Males represented 92% of deaths – all were drivers of a motorcycle. Females accounted for 8% of fatalities – 10 drivers, 12 passengers.

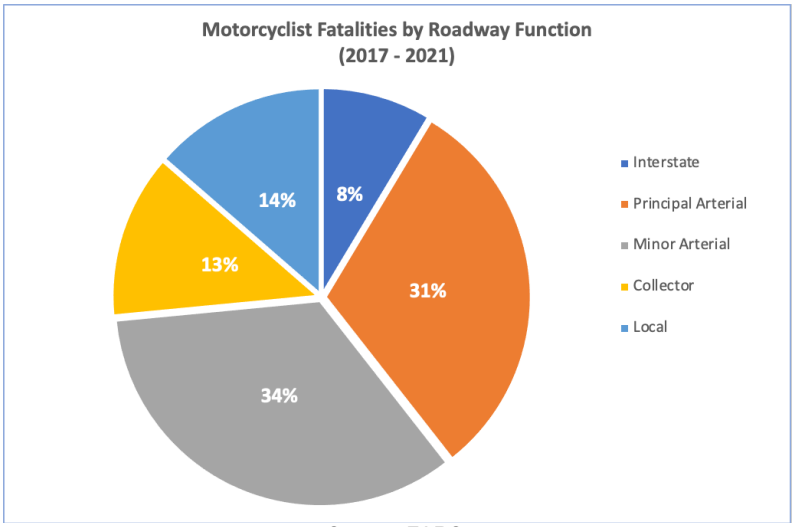
In the map below, towns with three or more motorcyclist fatalities are shown. These 28 towns accounted for 49% (137 deaths) of all motorcyclist fatalities reported from 2017 to 2021.



Towns with 3 or more Motorcycle Fatalities (2017 - 2021)			
Town	Fatalities	Town	Fatalities
Boston	20	Chelmsford	3
Springfield	15	Danvers	3
Fall River	10	Lowell	3
Worcester	8	Marlborough	3
Middleborough	7	Medway	3
New Bedford	5	Mendon	3
Leominster	4	Millbury	3
North Adams	4	Milton	3
Norton	4	Stoughton	3
Pittsfield	4	Wareham	3
Raynham	4	Westford	3
Weymouth	4	Westport	3
Belchertown	3	Williamstown	3
Brockton	3	Woburn	3

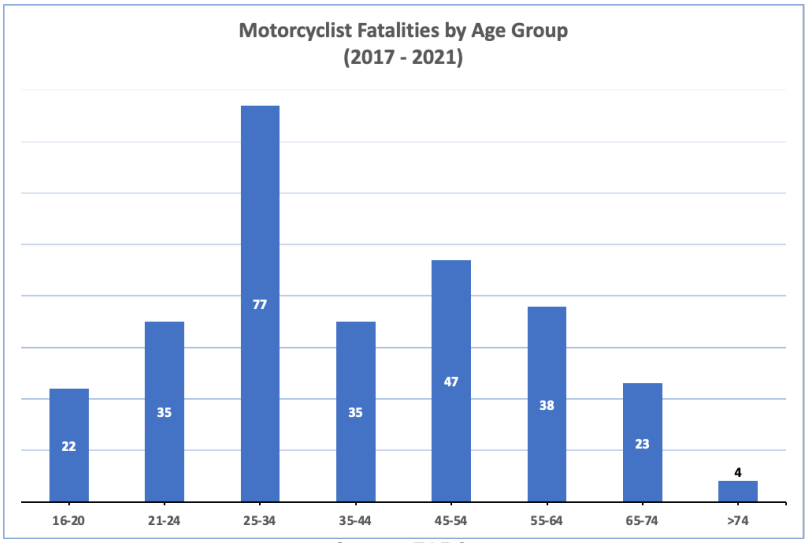
The southern Massachusetts region had eight towns with three or more motorcyclist fatalities, the most of any region in the state. There were 42 fatalities reported in this area, which is 30% of the 137 motorcyclist deaths highlighted on the map. Many of the towns have two or three major and minor routes running through the community. For example, Williamstown, a college town set in rural northwestern Massachusetts, has Route 7 and Route 2 converging. Both routes are two lane roads that wind through the hills and valleys of the Berkshire region – a popular route for motorcycle enthusiasts to take.

A look at motorcyclist fatalities by roadway function shows how much more often motorcyclist die along principal and minor arterials – which are typically the main two-lane roads running through each community. Nearly two-thirds of the 281 motorcyclist fatalities from 2017 to 2021 occurred on these two roadway types.



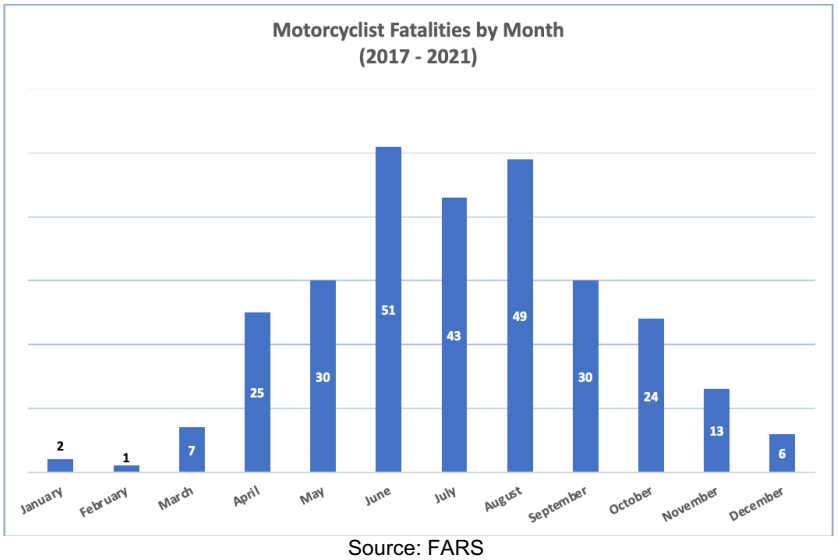
Source: FARS

By age group, motorcyclist fatalities were highest among the 25-34 age group, accounting for 27% of all fatalities. Nearly half of motorcyclist deaths were under 35 years of age.



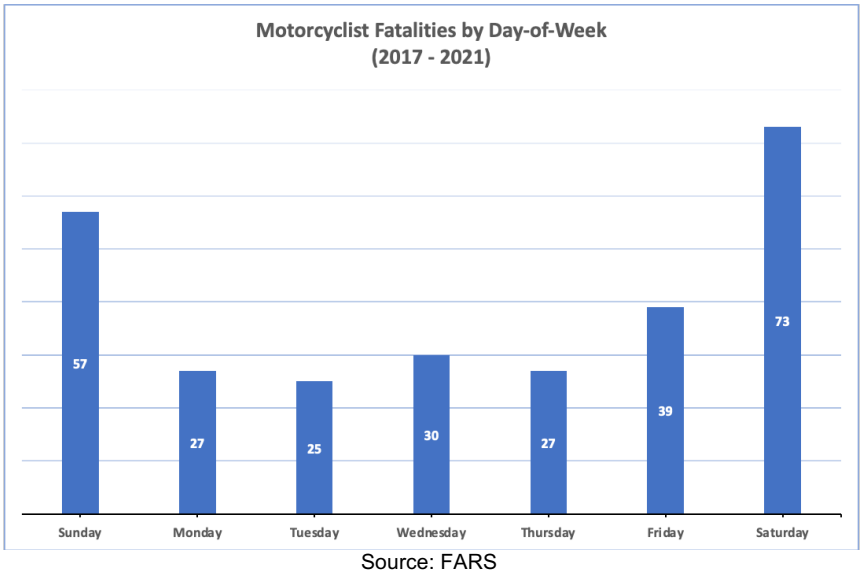
Source: FARS

By month of the year, it is not surprising to have over 70% of fatalities take place between May and September. Motorcyclist are exposed to the elements while riding – rain, snow, wind, and cold – so warmer months are far more enjoyable for motorcyclists to ride in than colder months. With only nine fatalities reported during December, January, and February – typically the coldest time in Massachusetts – it is clear riders prefer warmer weather for riding.



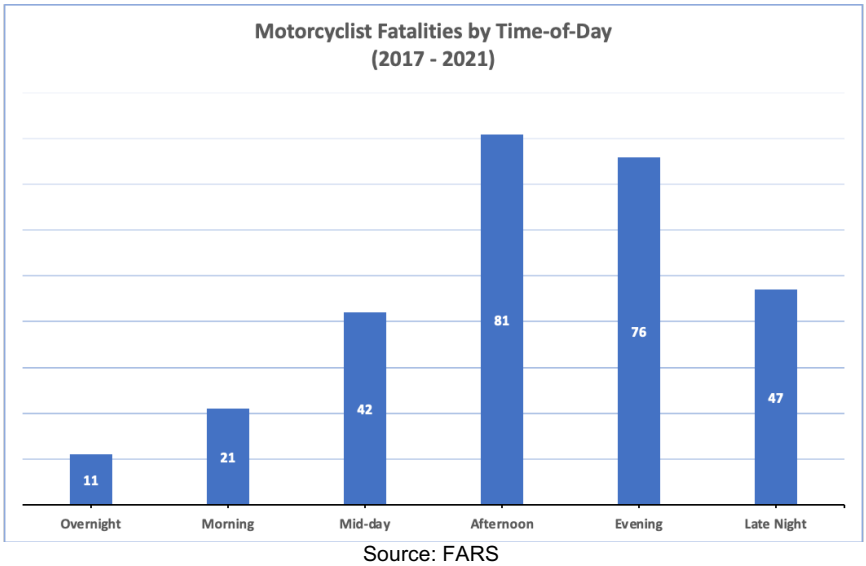
Source: FARS

By day-of-week, the weekend had the highest totals for motorcyclist fatalities. The combined deaths over Saturday and Sunday accounted for 47% of all fatalities from 2017 to 2021. Monday and Tuesday had the lowest counts with under 20% of deaths.



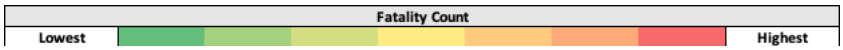
Source: FARS

By time-of-day, well over half of all motorcyclist fatalities took place during afternoon (2pm to 5:59pm) and evening (6pm to 9:59pm) hours. The overnight/morning hours (2am to 9:59am) were the least likely time frame for fatalities with under 15% of motorcyclist deaths happening during that period.



Source: FARS

Combining day-of-week and time-of-day into a heat chart, the high fatality counts for afternoon and evening – especially over the weekend – become clear. Saturday afternoon appears to be the most important day and time for any motorcycle safety and/or enforcement activities.

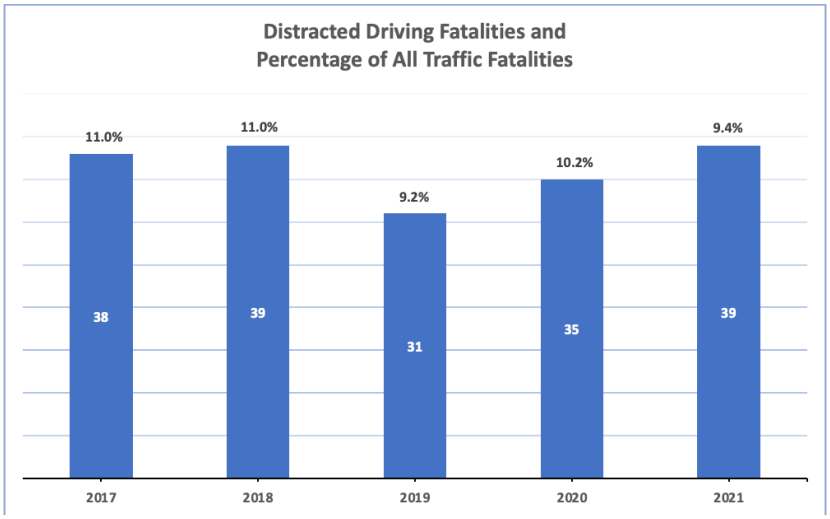


Motorcyclist Fatalities (2017 - 2021)							
	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Overnight (2am-5:59am)							
Morning (6am-9:59am)							
Mid-day (10am-1:59pm)							
Afternoon (2pm-5:59pm)							
Evening (6pm-9:59pm)							
Late Night (10pm-1:59am)							

DISTRACTED DRIVING

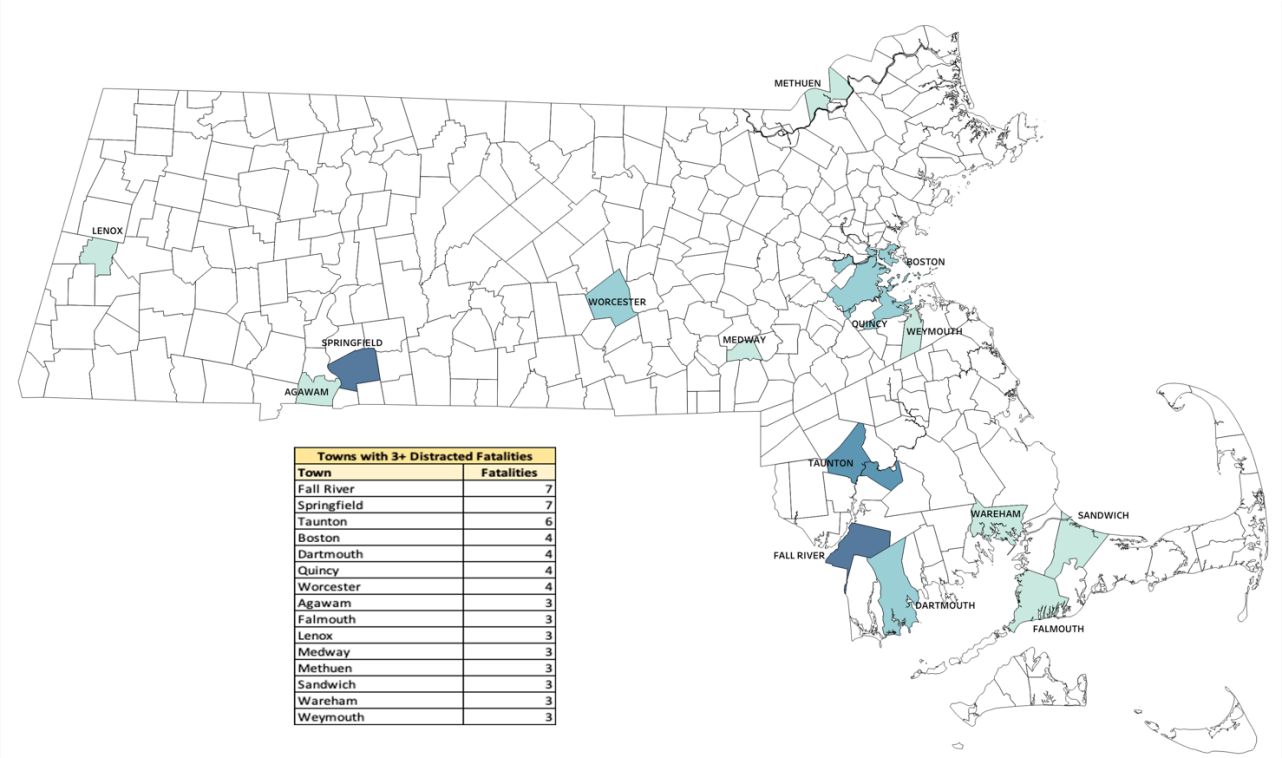
Distracted driving is a risky behavior that poses a danger, not only to motor vehicle occupants, but also non-motorists. Driver distraction occurs when drivers divert their attention from the task at hand (driving, eyes on the roadway ahead) to focus on some extraneous activity. While the term “distracted” immediately invokes images of drivers looking at or texting on their cell phone behind the wheel, it can include other behaviors such as eating, talking to passengers, or adjusting the radio or climate controls.

From 2017 to 2021, there were 176 crashes involving a distracted driver resulting in 182 fatalities along Massachusetts roadways. In 2021, fatalities were 11.4% higher than in 2020. Despite the rise in deaths, as a percentage of total traffic fatalities, distracted-related deaths fell to 9.4% from 10.2%.



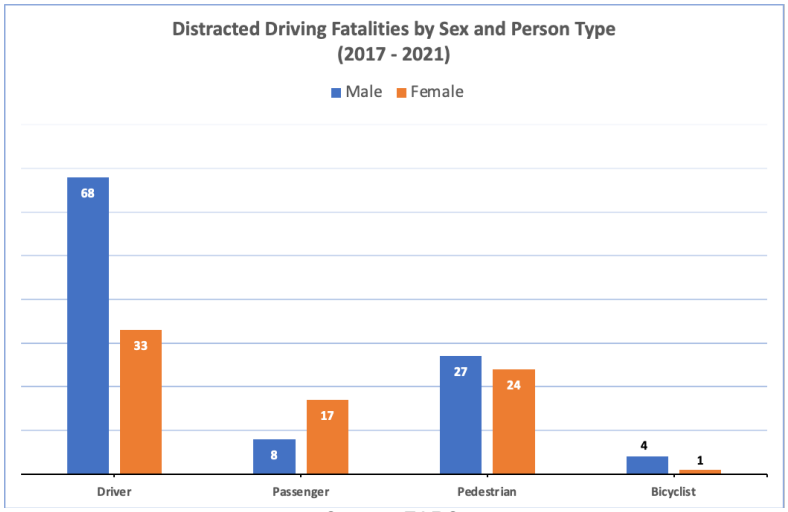
Source: FARS

There were 107 different communities across Massachusetts that reported at least one distracted driving fatality between 2017 and 2021. A third of these fatalities took place within one of the 15 towns shown in the map below.



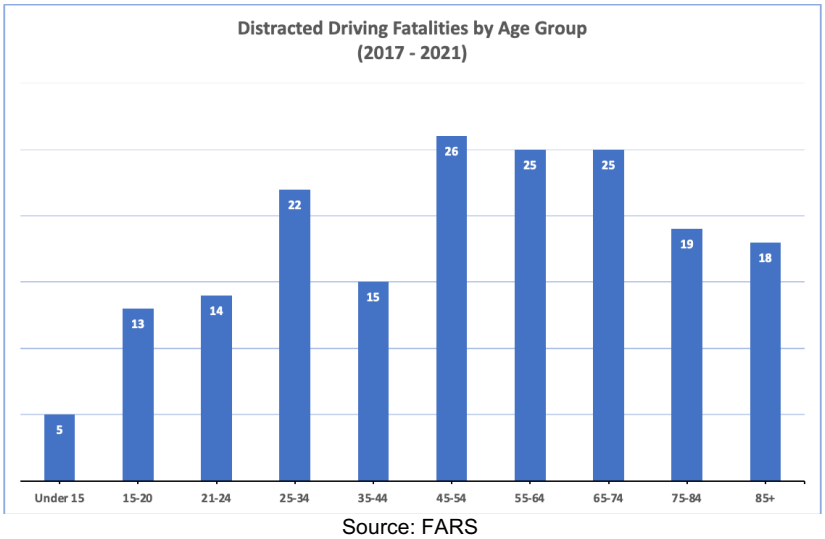
Towns with 3+ Distracted Fatalities	
Town	Fatalities
Fall River	7
Springfield	7
Taunton	6
Boston	4
Dartmouth	4
Quincy	4
Worcester	4
Agawam	3
Falmouth	3
Lenox	3
Medway	3
Methuen	3
Sandwich	3
Wareham	3
Weymouth	3

Males accounted for 58.8% of all fatalities; females represented 41.2%. Males were more prevalent among drivers compared to females (67% vs 33%). The proportion flipped with passengers as females accounted for 68% of distracted driving fatalities. Pedestrian deaths were nearly split between males and females. More than half of fatalities were drivers, followed by pedestrians (28%), passengers (13%), and bicyclists (3%).



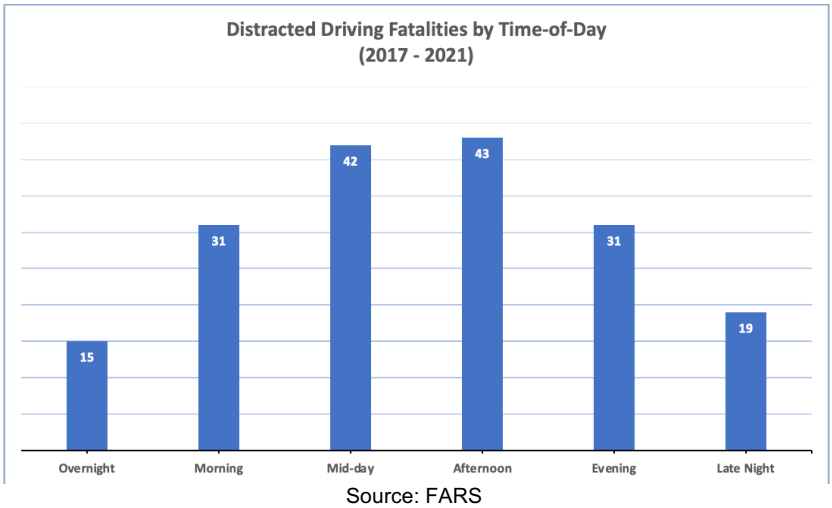
Source: FARS

By age group, the majority of distracted driving fatalities (62%) were age 45 or older. Deaths among those under 35 years of age accounted for 30%.



Source: FARS

By time-of-day, distracted driving fatalities were most likely to occur during mid-day (10am – 1:59pm) and afternoon (2:00pm – 5:59pm). This eight-hour time frame accounted for 47% of fatalities from 2017 to 2021.



Source: FARS

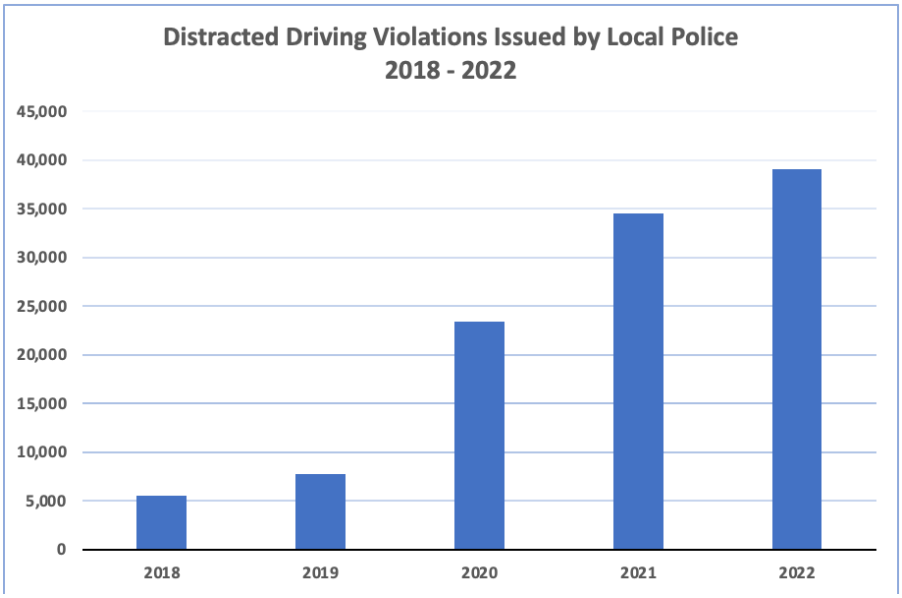
Combining age group and time-of-day into a heat chart, it is clear distracted driving fatalities lean more towards older persons between hours of 6am and 6pm.

Fatality Count

Lowest — Highest

Distracted Driving Fatal Crashes									
	Under 15	15-20	21-24	25-34	35-44	45-54	55-64	65-74	75+
Overnight (2am-5:59am)									
Morning (6am-9:59am)									
Mid-day (10am-1:59pm)									
Afternoon (2pm-5:59pm)									
Evening (6pm-9:59pm)									
Late Night (10pm-1:59am)									

Despite the slight uptick in distracted driving fatalities in recent years, law enforcement has been very proactive at issuing violations to drivers not keeping their eyes on the road. With the introduction of the "Hands-Free Law" in February 2020, police had a stronger law in the books to allow for pulling over distracted drivers. Since the law took effect, distracted driving violations issued have jumped 67%.



Source: Merit Rating Board

These efforts by local police to issue violations for distracted driving has helped keep fatalities related to distracted driving under 10% of all traffic fatalities in 2021 and in the coming years.

Conclusion

Fatality data from 2017 to 2021 revealed six area of traffic safety issues Massachusetts plans to focus on for FFY 2024 – 2026: impaired driving fatalities, unrestrained fatalities, speeding-related fatalities, pedestrian and bicyclist (non-motorist) fatalities, motorcyclist fatalities, and distracted driving fatalities. Reducing deaths across these areas is critical to lowering the five-year average for fatalities to the desired goal of 362 by December 31, 2026.

To lower fatalities across Massachusetts, education, enforcement, and communications outreach must target the age groups and time frames in which the most traffic deaths have occurred over the last five years of finalized data. In the two charts below, the color ranges from dark green (lowest) to dark red (highest) to indicate the level of fatalities reported from 2017 to 2021.

Fatalities by Program Area and Age Group (2017 - 2021)						
	Unrestrained	Alcohol Impaired	Speeding	Non-Motorist	Motorcyclist	Distracted
Under 15						
15-20						
21-24						
25-34						
35-44						
45-54						
55-64						
65-74						
75-84						
85+						

When examining age group across program areas, the 25-34 group stands out as a leading source of fatalities in crashes involving unrestrained occupants, alcohol-impaired drivers, speeding, and motorcyclists. For non-motorists, fatalities are more frequent among the 55+ group and very infrequent among those under 25. For deaths in distracted driving crashes, older persons (45+) seem to bear the brunt of fatalities.

Fatalities by Program Area and Time-of-Day (2017 - 2021)						
	Unrestrained	Alcohol Impaired	Speeding	Non-Motorist	Motorcyclist	Distracted
Overnight (2am-5:59am)						
Morning (6am-9:59am)						
Mid-day (10am-1:59pm)						
Afternoon (2pm-5:59pm)						
Evening (6pm-9:59pm)						
Late Night (10pm-1:59am)						

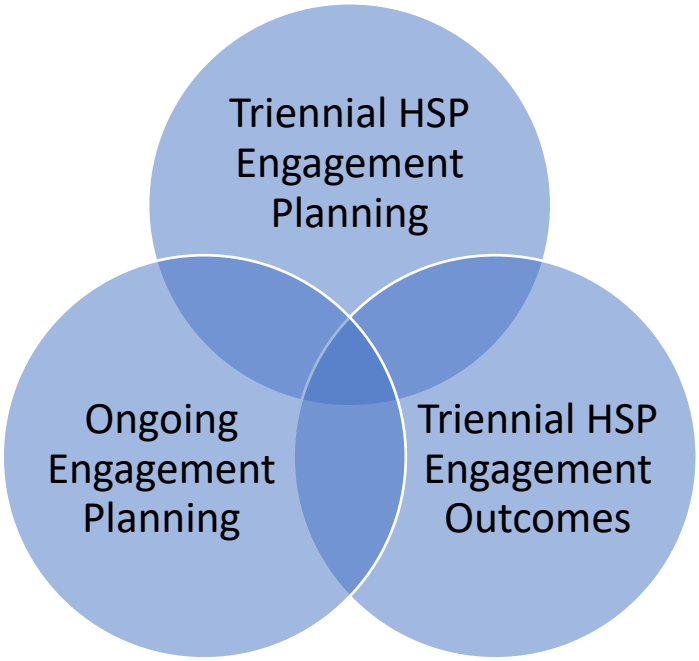
By time-of-day, late night is the worst time for fatalities involving unrestrained occupants, alcohol-impaired drivers, and speeding. Non-motorist deaths are most likely to occur during evening hours (6pm – 9:59pm). Motorcyclist fatalities are most frequent over the afternoon and evening hours (2pm to 9:59pm). Distracted driving deaths happen more often over the mid-day and afternoon hours (10am to 5:59pm).

Massachusetts will implement programming based on countermeasures such as high-visibility saturation patrols, alcohol vendor compliance checks, short-term high-visibility seat belt law enforcement, youth programs, and communication and outreach that will take into consideration the “hot” points for fatalities by age group, time-of-day, and program areas as shown above. The combination of effective countermeasures and meaningful data analysis will help Massachusetts turn the tide on its recent rise in traffic fatalities, leading to safer roadways for all users.

SECTION II: PUBLIC PARTICIPATION AND ENGAGEMENT

In the recently implemented Bipartisan Infrastructure Law, a new element was added to the HSP process: public participation and engagement (PP&E). This element requires States to describe their public engagement activities in relation to planning the programming for the HSP.

The public participation and engagement element is part of a cyclical process to ensure States continue to refine and adjust highway safety planning efforts to meet the needs of affected and potentially affected communities. The cyclical process is shown in the Venn diagram below:



After submitting the HSP, each State is to use the Annual Grant Application and Annual Report to report outcomes, adjustment, and refinements made to their public participation and engagement outreach efforts. States are expected to put an emphasis in engagement and outreach with underserved communities and communities overrepresented in the data described in the section on Highway Safety Planning. This is to ensure no community is left behind or overlooked during the planning process as well as during the subsequent programming period.

The first step in the PP&E process is to state the starting goals for the public engagement efforts including how the efforts will contribute to the development of the HSP and countermeasure strategies for programming funds. For its preliminary public participation, Massachusetts will focus its engagement outreach on the county-level, rather than single out specific communities. There is such a high pass-through rate - meaning a majority of towns have high volumes of vehicles passing through each that are not from the town – that it would be most beneficial to attempt to engage all towns from a county rather than singular focus on a select few.

For example, Hampden County had 310 fatal crashes reported from 2017 to 2021. Of the 310 crashes, 116 took place in Springfield (37%) – yet only 55 of these crashes (17%) involved a driver from Springfield. Overall, 217 of the 310 fatal crashes involved a driver from Hampden County. As another

example, Bristol County reported 327 fatal crashes during same period, the largest number of which (49) took place in Fall River. Of the 49 fatal crashes, only 23 involved a driver from Fall River – accounting for only 7% of Bristol County crashes. Yet nearly 60% of the 327 crashes in Bristol involved a driver living in Bristol County. Given these examples, involving the entire county in the public participation and engagement process makes sense and ensures all interested parties can participate.

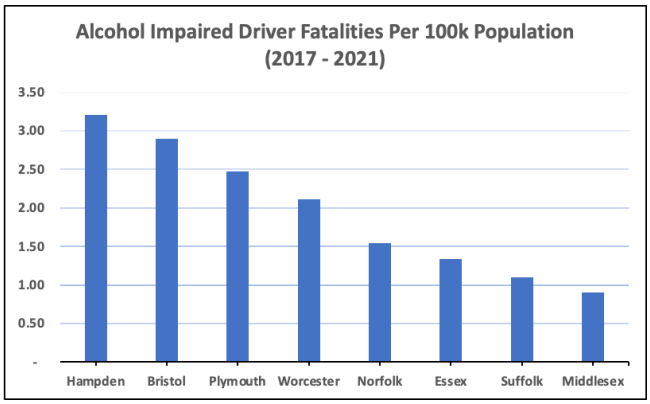
Using this approach, Massachusetts foresees far more public interaction and input than if focusing on a handful of particular towns or cities. Since the objective of the PP&E is to engage affected and potentially affected communities, county-level focus will hopefully uncover traffic safety issues or concerns that may have been overlooked in recent years.

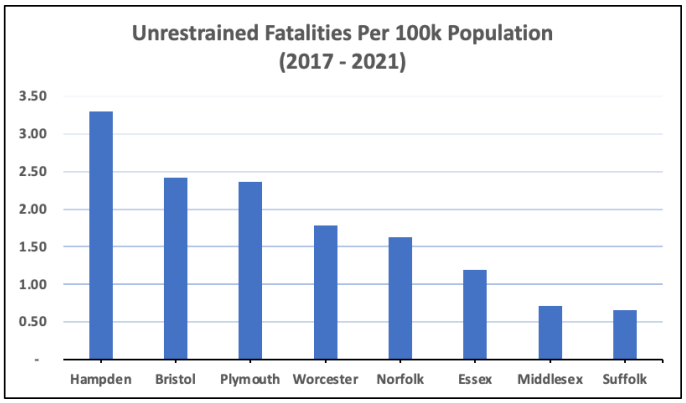
To determine which counties to target for the inaugural public participation and engagement outreach efforts, the first measure used will be fatalities per 100,000 population based on five-year average for fatalities reported from 2017-2021. The higher the fatalities per 100k, the more dangerous it is for drivers, passengers, motorcyclists, and non-motorists using the roadways within the county. For the purpose of casting a wide net, only counties with population of 400,000 or higher were considered. Using this measure, eight counties were considered – Bristol, Essex, Hampden, Middlesex, Norfolk, Plymouth, Suffolk, and Worcester. These eight counties represent 90% of the 7,029,949 residents in Massachusetts.

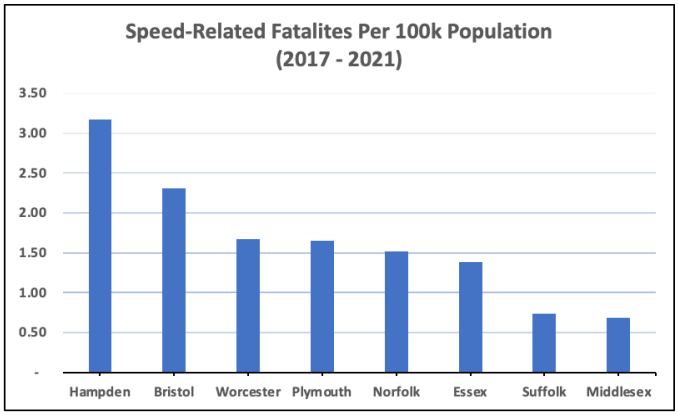
For fatalities per 100k population, Hampden and Bristol counties were the top two with 9.24 and 7.65 fatalities per 100k, respectively. Despite having the highest population, Middlesex had the lowest fatalities per 100k at 2.83.

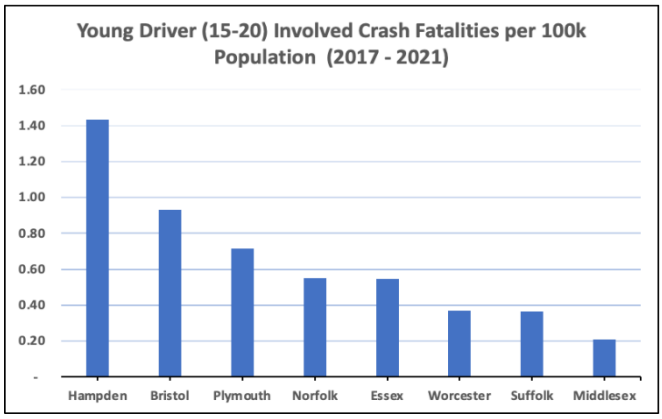
County	Population (Census 2020)	Traffic Fatalities (2017-2021)	Five-Year Avg Fatalities	Fatalities Per 100k Population
Hampden	461,041	213	42.6	9.24
Bristol	580,068	222	44.4	7.65
Plymouth	533,069	176	35.2	6.60
Worcester	862,927	258	51.6	5.98
Norfolk	725,531	182	36.4	5.02
Essex	806,765	179	35.8	4.44
Suffolk	766,381	124	24.8	3.24
Middlesex	1,617,105	229	45.8	2.83

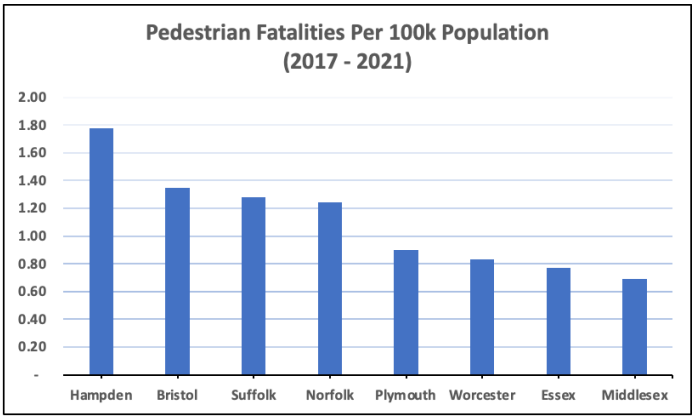
Next, a look at fatalities per 100k population by areas of concern for Massachusetts – alcohol-impaired driving fatalities, unrestrained fatalities, speeding-related fatalities, pedestrian fatalities, and young drivers involved in fatal crashes.











Source: FARS

What stands out across all five of the graphs is how Hampden and Bristol County have the two highest fatality rates per 100k in each measure. Clearly, Hampden and Bristol County will need to be targeted for planned participation outreach efforts.

While the focus of four of the five measures primarily involved driver and passenger behavior – drinking and driving, not wearing a seat belt when riding in a motor vehicle, driving too fast and aggressively for conditions, and poor decision-making among young drivers – the fifth measure involves pedestrian behavior as well as driver's. With the third highest pedestrian fatality rate per 100k behind Hampden and Bristol, Suffolk County will be targeted for engagement outreach, too. To further support the need

to engage with Suffolk, the chart below shows the percentage of fatalities accounted for by pedestrian deaths for the eight counties considered:

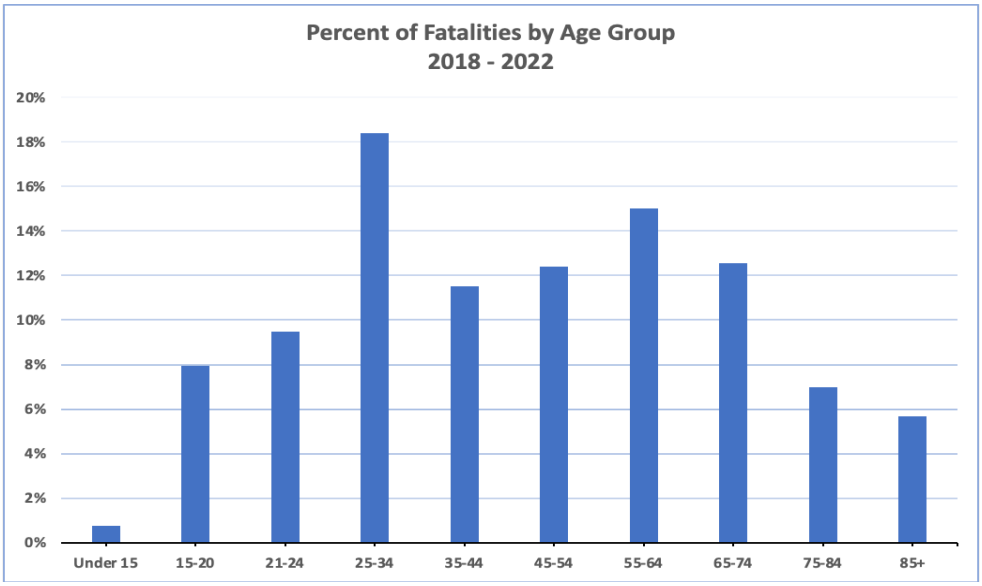
County	Pedestrian Fatalities (2017-2021)	Total Fatalities (2017-2021)	Percent Pedestrian Fatalities
Suffolk	**49**	**124**	**39.5%**
Norfolk	45	182	24.7%
Middlesex	56	229	24.5%
Hampden	41	213	19.2%
Bristol	39	222	17.6%
Essex	31	179	17.3%
Worcester	36	258	14.0%
Plymouth	24	176	13.6%

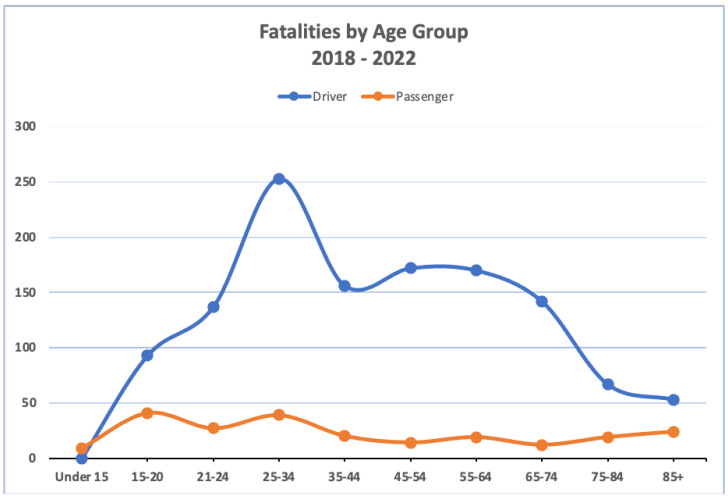
Source: FARS

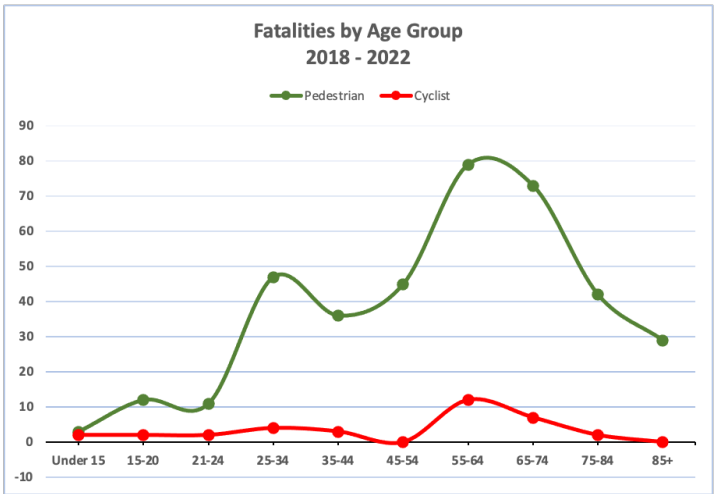
Of the eight counties, Suffolk has the highest percentage of fatalities represented by pedestrians – nearly 15 percentage points higher than the next county (Norfolk).

With the counties selected – Hampden, Bristol, and Suffolk – the question now is what will be the goals of the public participation outreach or rather, what will be the primary issue within those counties to focus on?

Looking back in Section I, pages 14-15, the charts below were provided in the data analysis overview of Massachusetts traffic safety. The two age groups with the most fatalities were 25-34 and 55-64. Breaking the age groups down by person type, drivers and passenger fatalities were more frequent among those age 34 or younger accounting for 42% of all occupant fatalities. Pedestrian and bicyclist deaths were much higher among those age 55 or older, accounting for 54% of all non-motorist deaths.





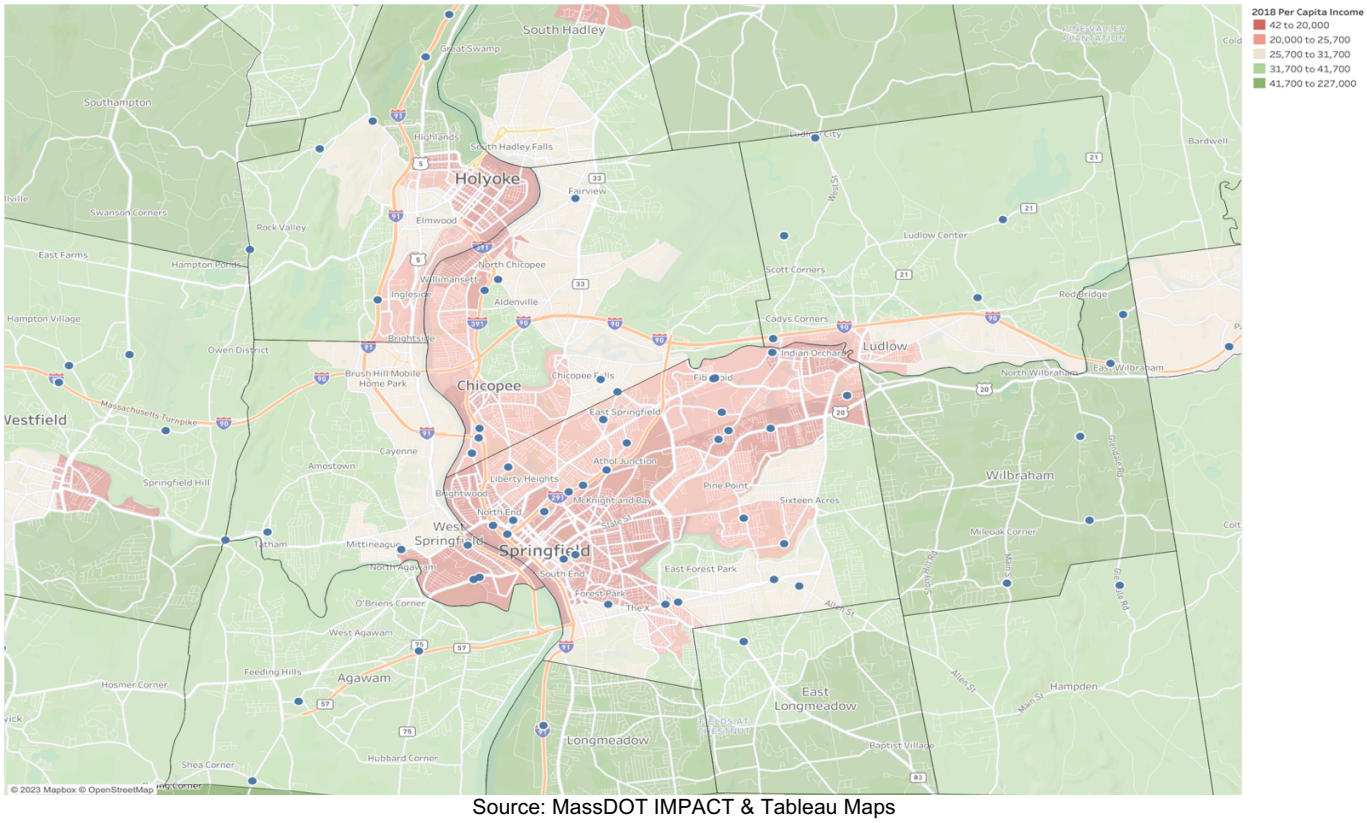


Regarding the first trend – the high number of fatalities among drivers and passengers aged 35 or younger – data for 2017 to 2021 reveals that of the four counties with the highest total fatalities from 2017 to 2021, Bristol and Hampden had the largest percentage of 15-34 motor vehicle occupant fatalities out of all traffic fatalities reported.

County	Fatalities	15-34 MV Occupant Fatalities	Pct 15-34 MV Occupant Fatalities
Hampden	213	65	30.5%
Bristol	222	53	23.9%
Worcester	258	57	22.1%
Middlesex	229	45	19.7%

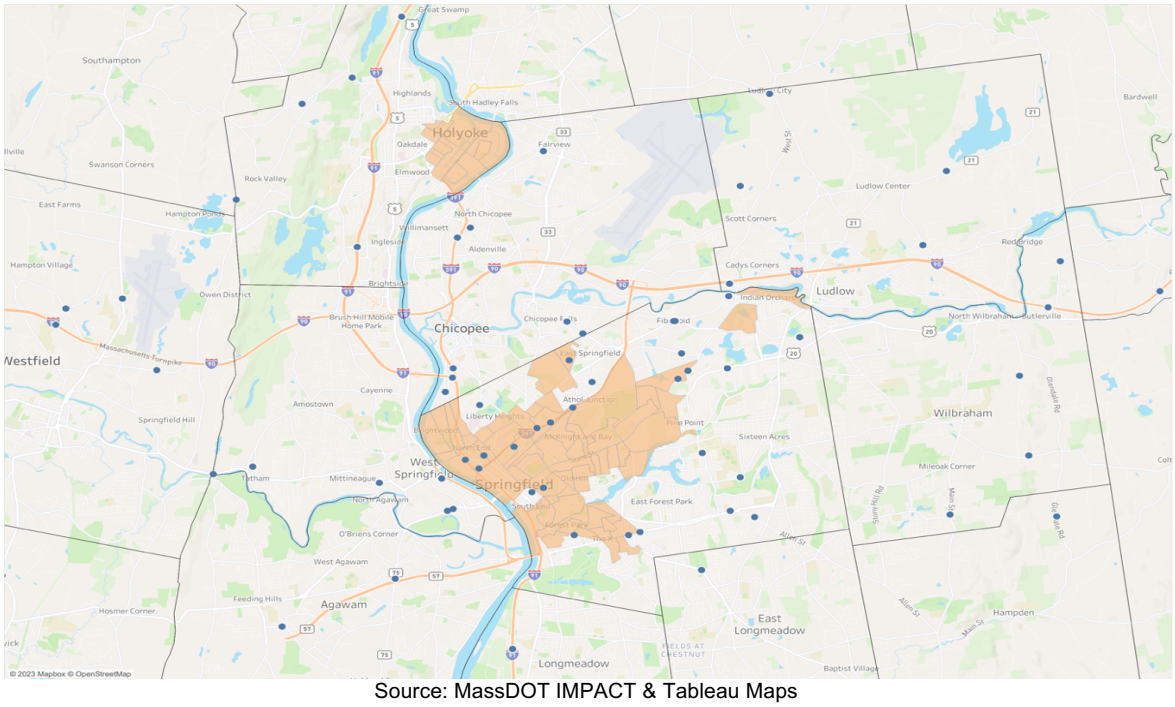
Source: FARS

Data indicate that a majority of under 35 fatalities in Hampden County occur in low-income and minority communities, disproportionately impacting these historically underserved communities. By mapping out the occupant fatalities from 2017-2021 in Hampden County with per capita income overlayed, it appears a majority of under 35 fatalities took place within areas of the county where per capita income is equal to or less than $25,700 (red shading).



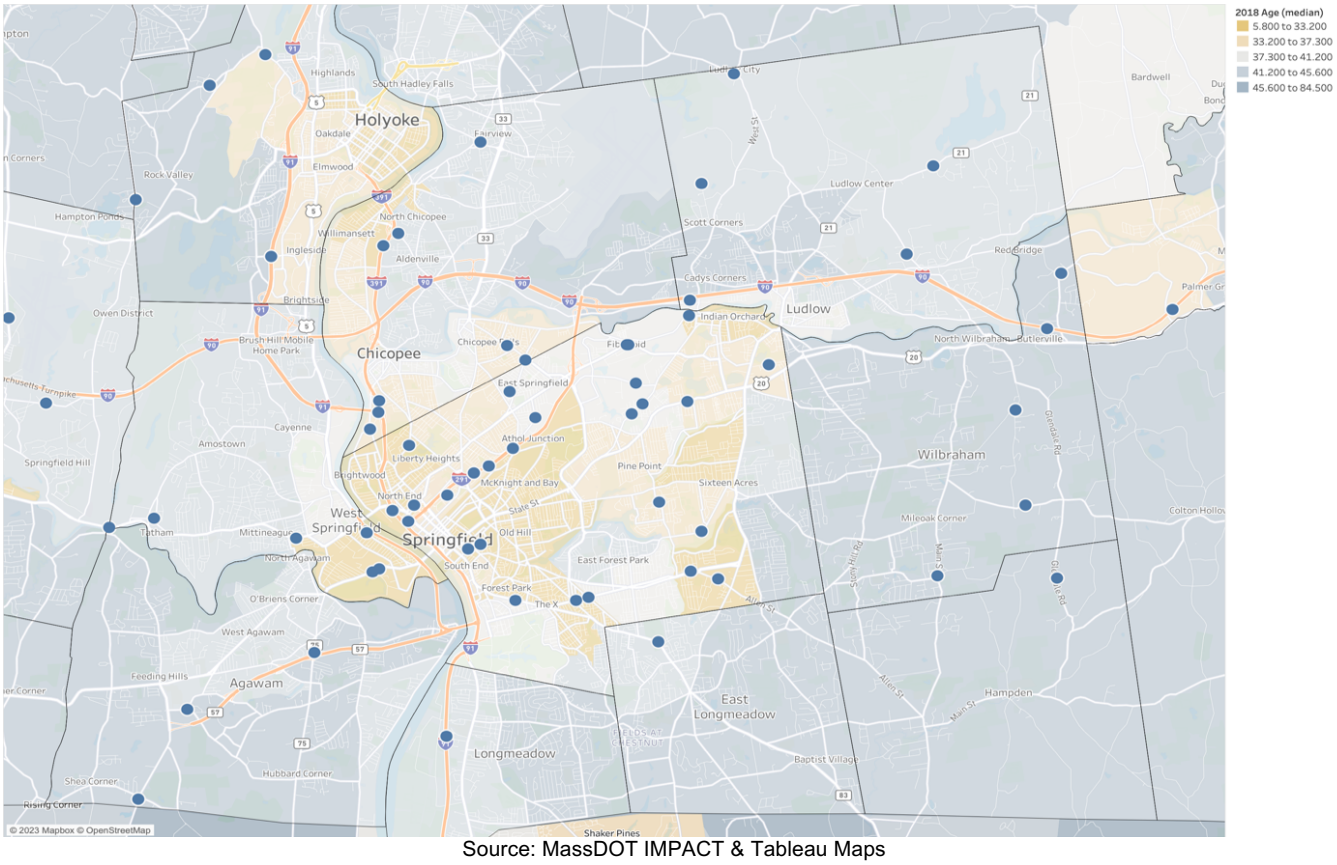
Source: MassDOT IMPACT & Tableau Maps

A large portion of lower income residents in Hampden County reside in Springfield, which also has two major interstates running through it (I-291, I-91). By adding a map layer showing areas in Hampden County with 75% or higher minority population, it covers much of the same area that lower income residents are located and where the majority of under 35 occupant fatalities occurred.



Source: MassDOT IMPACT & Tableau Maps

In Hampden County, Springfield has the lion's share of under 35 motor vehicle occupant fatalities compared to all other towns in the county. The median age is much lower within this city compared to the rest of Hampden County, with the exception of parts of Holyoke and Palmer.

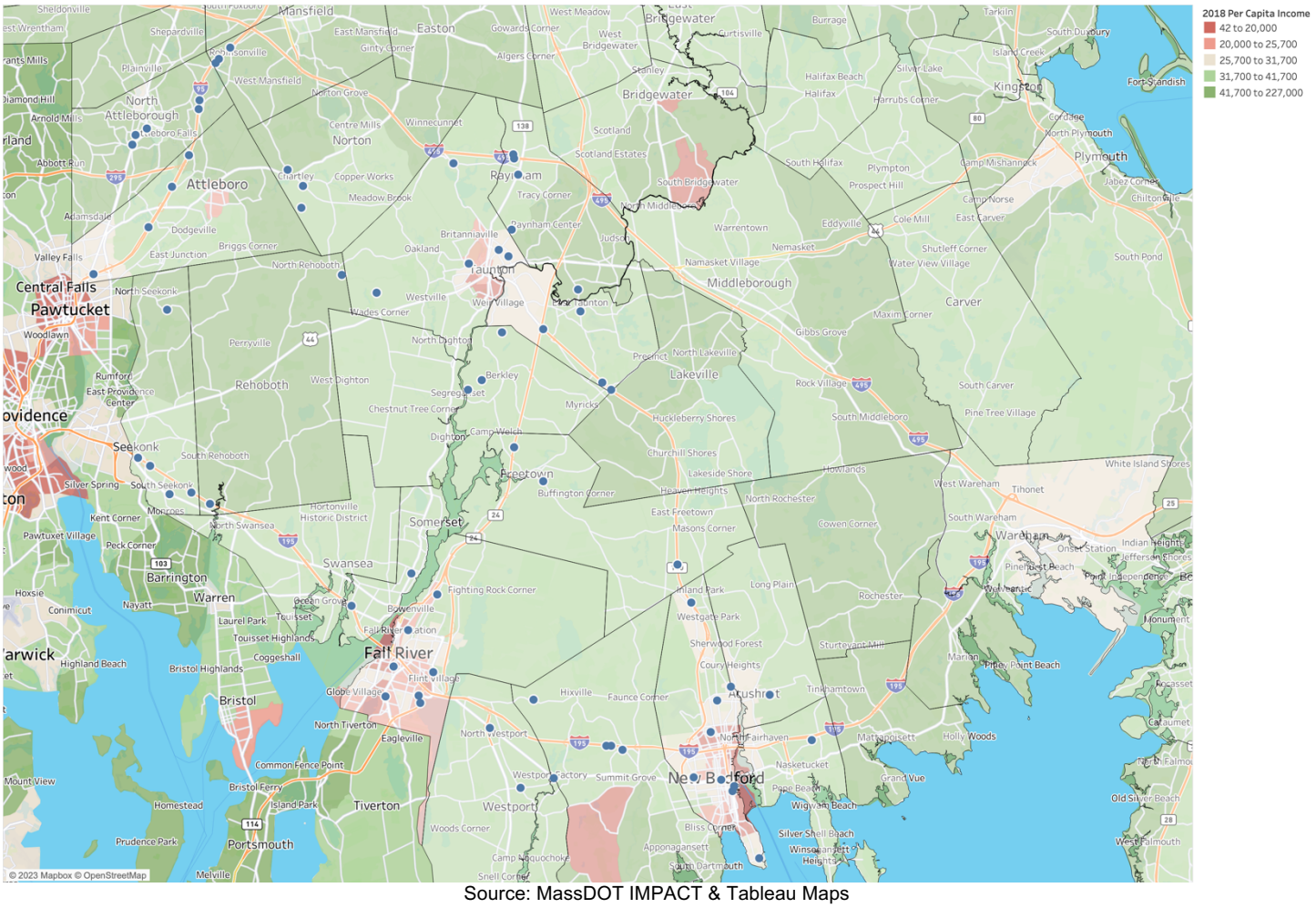


Source: MassDOT IMPACT & Tableau Maps

Taken all together, the primary target of outreach to Hampden County should focus on Springfield with particular focus on young drivers (under 20) and young adults (under 35) in the area within a 5–7-mile radius of where I-91 and I-295 converge. This area is home to a large population of low-income, young adult minority residents.

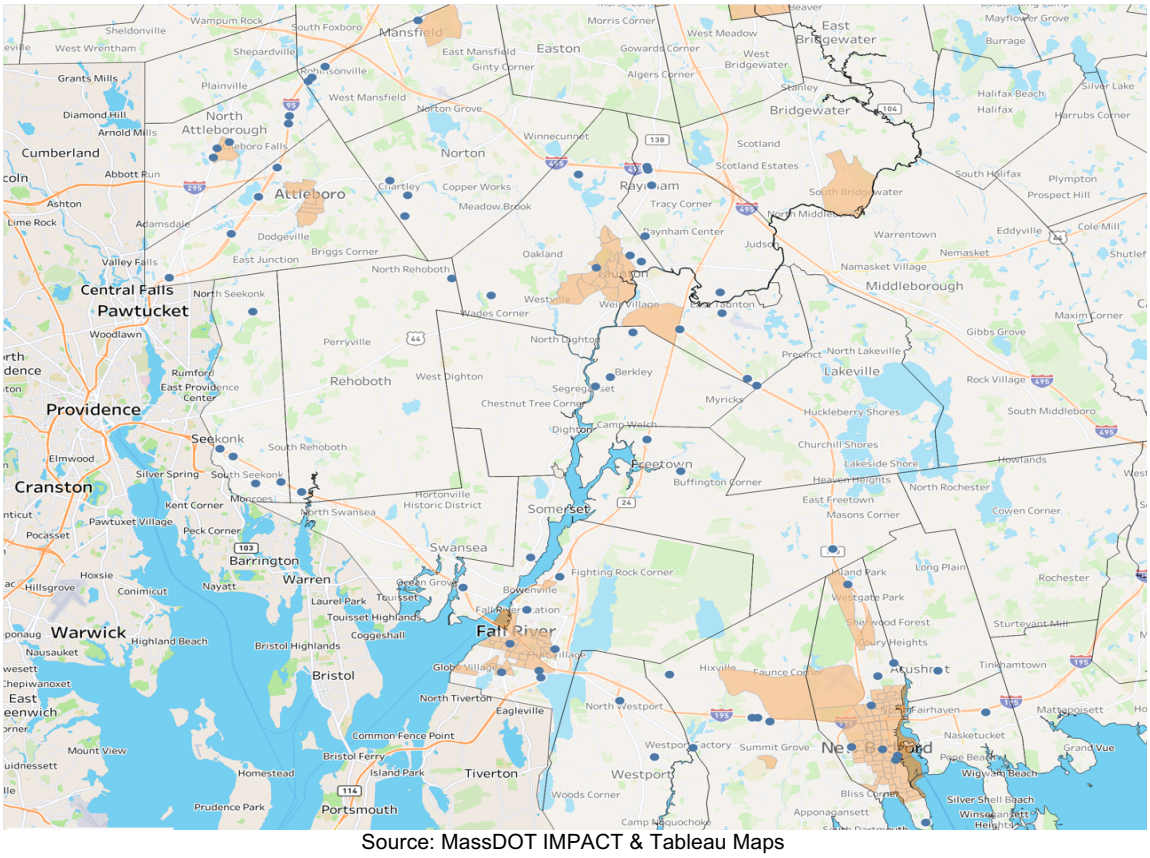
In Bristol County, under 35 motor vehicle occupant fatalities are more spread across the county but are mostly within proximity or along major roadways. In terms of per capita income, there is clustering of fatalities in low-income areas of Fall River, Taunton, and New Bedford.

BRISTOL COUNTY



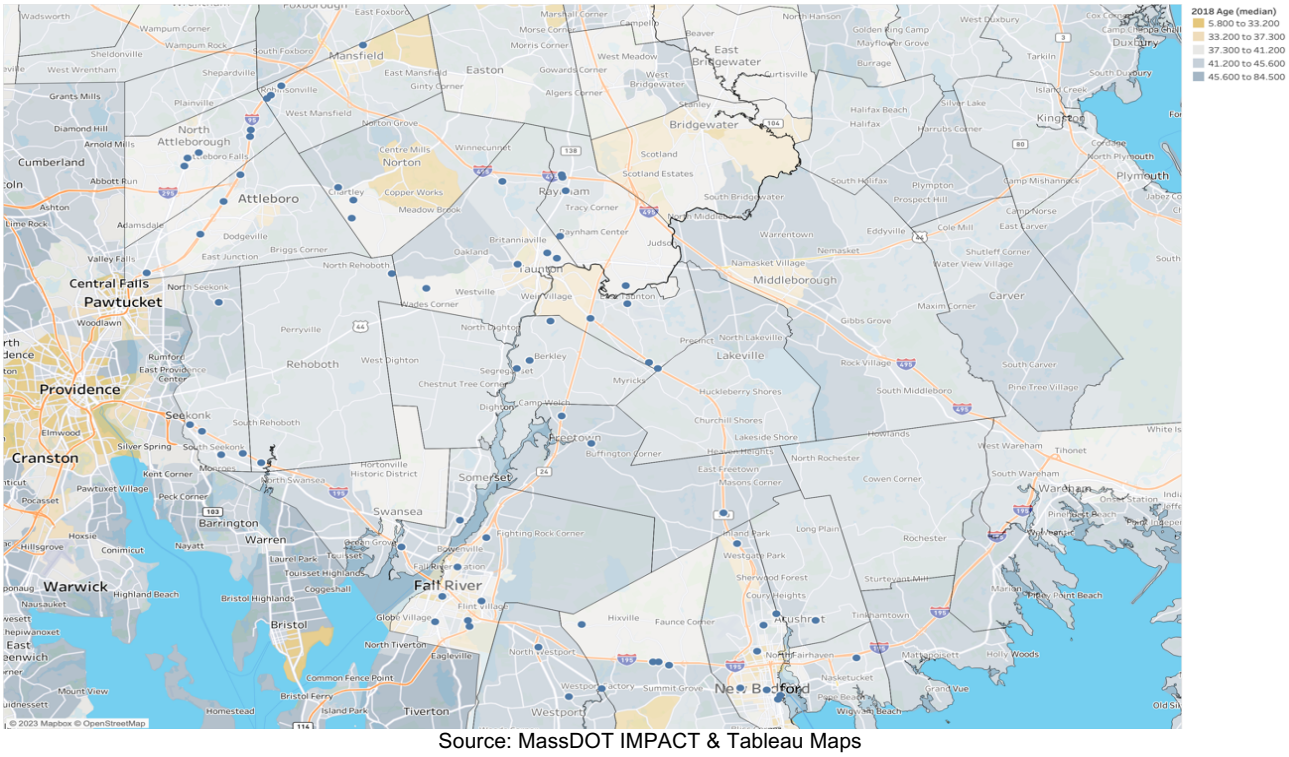
Source: MassDOT IMPACT & Tableau Maps

In the map on the next page, the areas of Bristol County with minority populations accounting for 30% or more is overlaid on the fatality locations. Compared to Hampden County, the under 35 fatalities occurred more often outside the high minority populations than within.



Source: MassDOT IMPACT & Tableau Maps

Like Hampden County, the lower median age range (under 40) is more concentrated in low-income areas with high minority populations such as Fall River and New Bedford.



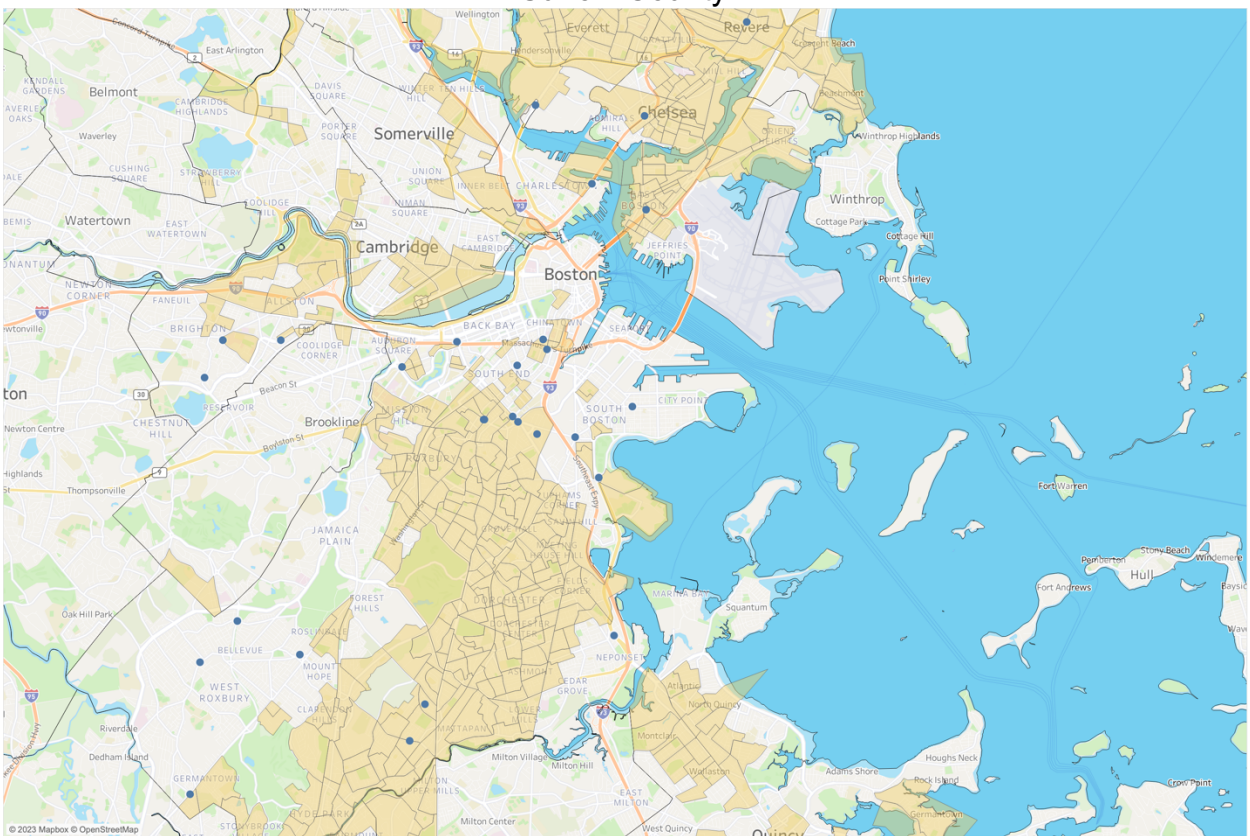
Source: MassDOT IMPACT & Tableau Maps

Any outreach in Bristol County should be focused on Fall River and New Bedford to reach the young drivers and passengers residing within those communities. Also, State police and local police should continue collaborating and sharing key traffic information related to patrolling the major highways (I-95, I-195, and Route 24) more often as many fatalities took place along those roadways.

In Suffolk County, pedestrians made up nearly 40% of all fatalities. The overarching goals for outreach with Suffolk is to target the reduction of pedestrian fatalities, especially among those age 55 or older. This age demographic made up over 60% of all pedestrian fatalities in Suffolk from 2017 to 2021.

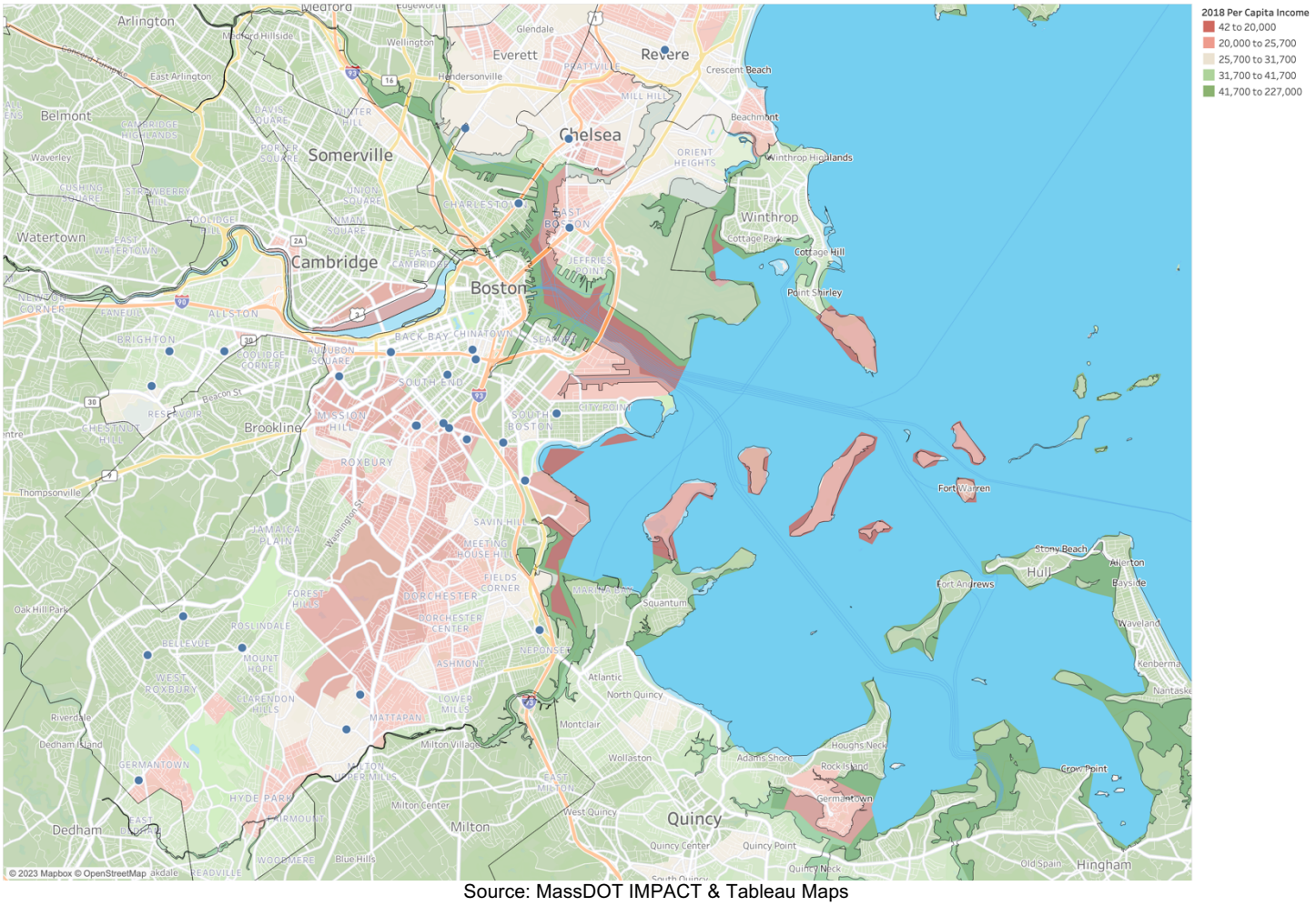
In the map below, areas of Suffolk County with 50% or higher minority population is shaded in beige with all pedestrian fatalities age 55 or older (2017 – 2021) plotted out in blue circles. There appears to be a small cluster along Melnea Cass Boulevard in Roxbury.

Suffolk County



Source: MassDOT IMPACT & Tableau Maps

In terms of income levels, it appears pedestrian fatalities are split between lower- and higher-income areas of Suffolk County. A majority of the fatalities took place within Boston, the capital city, with a small number in Chelsea and Revere. As mentioned previously, there is a small cluster along Melnea Cass Boulevard in Roxbury, which is near several housing developments. Northeastern University's main campus abuts the western end of the boulevard. The area surrounding Melnea Cass Boulevard and Massachusetts Avenue has also experienced wider public health and safety concerns.



Source: MassDOT IMPACT & Tableau Maps

For outreach and engagement, the primary focus will be Boston, which has the majority of pedestrian fatalities age 55 or older. Efforts will be made to have local police as well as community organizations like Council on Aging involved in the upcoming webinars. There will be contact with MassDOT on possible engineering improvements being pursued in the near future within Suffolk County or Boston (i.e. new sidewalks, new lights, etc.).

In conclusion, the first outreach efforts for the required Public Participation and Engagement portion of the Triennial HSP will be to three counties: Hampden, Bristol and Suffolk. For Hampden and Bristol, the main goal will be to lower fatalities among drivers and passengers under 35 years of age with focus on lower income, high percentage minority sections of Springfield, Fall River and New Bedford. For Suffolk County, Boston will be the primary focus with emphasis on low income, high percentage minority areas, especially in the Mission Hill and Roxbury neighborhoods.

ENGAGEMENT STEPS

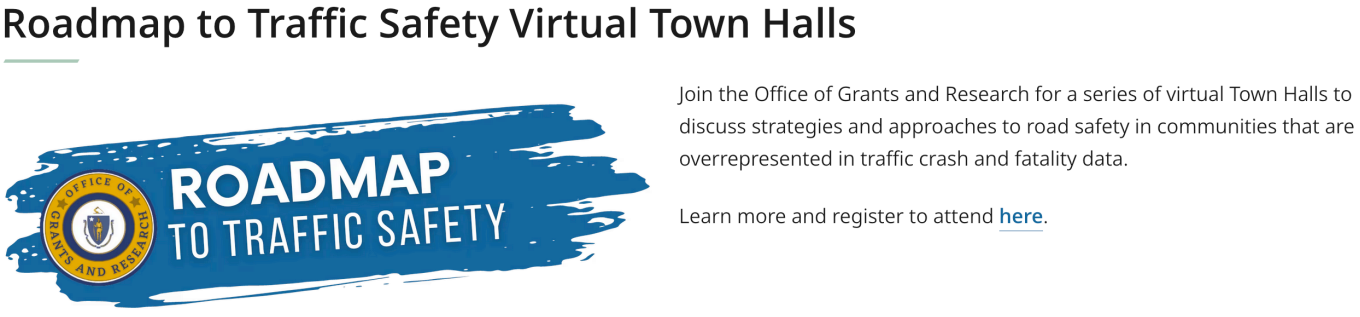
Webinars were determined to be the best method of outreach due to the short period of time available before the HSP is to be submitted to NHTSA. Planning an in-person sessions was deemed too time-consuming to put together and doing a webinar would make it easier to cast a wide net across each selected county to attract potential attendees. Furthermore, a webinar removed any issues regarding commuting that could prevent or delay a person from attending the information session.

The planned virtual town halls/webinars were slated to take place on the following dates:

- Wednesday, June 7th from 1:00pm – 2:30pm for Bristol County
- Friday, June 9th from 10:00am – 11 11:30am for Suffolk County
- Thursday, June 13th from 6:00pm – 7:30pm for Hampden County

On May 26th, a flier and fact sheet were created and posted the Office of Grants and Research (OGR) website: https://www.mass.gov/info-details/roadmap-to-traffic-safety to publicly promote the three virtual town halls. Both EOPSS and OGR undertook social media campaigns on Facebook, Twitter, and LinkedIn, and OGR undertook additional outreach on Instagram. These posts were shared by the Massachusetts Municipal Police Training Committee, Suffolk County DA's Office and Mass.gov to increase awareness. State Sen. Jacob Oliveira, who represents Hampden, Hampshire and Worcester counties, posted original content on his social media accounts encouraging constituents to attend the meetings.

A screenshot of webinar notification on EOPSS' Twitter account



This is the header to the webpage about the webinars

Emails were sent out to the 1,419 members of the OGR email list, including representatives from law enforcement, municipal, faith-based, education, traffic safety advocacy organizations and other

nonprofit entities across Massachusetts. A more targeted email campaign was conducted to ensure underserved populations in the three counties were reached, with email invites sent to social service agencies, councils on aging, YMCAs, Boys and Girls Clubs, the NAACP, ethnic-based nonprofits, neighborhood health centers, and neighborhood associations. Email invitations were also sent by OGR staff to current highway safety subrecipients.

When an interested party clicked on the link for the Roadmap to Traffic Safety, it took them to a webpage that provided details on the webinar and a link to register for the event of their choice. Once registration was completed and submitted, an email was sent to the registrant about the upcoming event. A reminder email about the event was then sent in the evening on the day prior to the event. The webinars were conducted through the GoToMeeting platform.

The counties include the following municipalities:

Bristol	Hampden	Suffolk
Acushnet	Agawam	Boston
Attleboro	Blandford	Chelsea
Berkley	Chester	Revere
Dartmouth	Chicopee	Winthrop
Dighton	East Longmeadow	
Easton	Granville	
Fairhaven	Hampden	
Fall River	Holland	
Freetown	Holyoke	
Mansfield	Longmeadow	
New Bedford	Ludlow	
North Attleborough	Monson	
Norton	Montgomery	
Raynham	Palmer	
Rehoboth	Russell	
Seekonk	Southwick	
Somerset	Springfield	
Swansea	Tolland	
Taunton	Wales	
Westport	West Springfield	
	Westfield	
	Wilbraham	

ENGAGEMENT RESULTS

Thirty-eight people attended the Bristol County webinar; 33 attended the Suffolk County webinar; and 27 attended the Hampden County webinar. Attendees included representatives from municipal law enforcement and transportation departments, district attorney's offices, traffic safety nonprofits, the state legislature, councils on aging, regional planning agencies, and state agencies as well as interested citizens.

Each webinar included presentations from speakers representing the OGR, Massachusetts State Police (MSP), and MassDOT. OGR presented on county data, current highway safety programming, and upcoming grant opportunities. MSP discussed ongoing and future enforcement initiatives, both statewide and within the respective counties. MassDOT presented on the SHSP process and provided a walk-through of the Impact Crash Data Portal, including instructions on where attendees can pull community data and information for specific grant opportunities.

Following the presentations, OGR opened the conversation up to the audience, utilizing pre-planned questions as a means of generating public input. Aside from questions regarding our existing and upcoming grant opportunities, much of the feedback generated by our webinars focused on vulnerable road users. Below are questions/comments received and how we plan to address these over the next three years:

How is the new 4' passing law being included in media and other HVE initiatives? I have not seen much information regarding the law since it went into effect in April.

- OGR will be funding a statewide enforcement program by the MSP which will solely focus on enforcing laws that protect pedestrian and bicyclists; this is MSP's first enforcement initiative aimed at protecting these vulnerable road users. MSP has committed to using this program to enforce and inform motorists about a new law which requires drivers provide a safe passing distance of at least 4 feet when passing vulnerable road users.
- OGR will work with MassDOT to create social media friendly infographics regarding the new safe passing distance law which we will share with our local law enforcement partners and other traffic safety stakeholders.

State data shows that within the MBTA's catchment area (Greater Boston), 50% of pedestrians seriously injured or killed are within 300 ft of MBTA bus stops.

- OGR is planning a media campaign for January-March 2024 and will procure ad space at MBTA bus stops and/or on MBTA busses. OGR will also work with MassDOT to improve pedestrian safety near MBTA bus stops.

ENGAGEMENT EFFORTS GOING FORWARD

With the first outreach efforts for public engagement completed, OGR plans to include at least one in-person session over the next year with a focus on lowering the number of older (55+) pedestrian deaths by working with local councils on aging, senior citizen halls, and retirement communities. Our intent is to utilize online forums and in-person meetings to find out what can be done to improve pedestrian safety among those age 55 or older. Recently, John Fabiano, acting director of Highway Safety for OGR, contacted the City of Boston's Age Strong Commission about speaking at an upcoming Senior Council meeting. He was invited to present at the very next meeting, which takes place in September 2023. This is one example of outreach to better understand the needs and concerns of roadway users in Massachusetts.

In addition, OGR plans to conduct online or in-person sessions for counties that were not targeted in the first three webinars. Middlesex, Worcester, and Essex will likely be the top three choices for outreach during FFY 2024 as these three counties have high fatality counts as well as high fatalities related to impaired driving, speeding, and unrestrained occupants. To ensure more key stakeholders are in attendance, OGR will make a concerted effort – through emails, phone calls, and follow-up contacts. The more people in attendance, the better the chance of learning about traffic safety issues that don't easily reveal themselves through data analysis.

Another possible avenue for future engagement is an online survey that can be completed by key stakeholders such as local law enforcement, hospitals, schools, and nonprofit agencies focused on public health and safety to gauge the level of concern for a multitude of traffic safety issues. Using Formstack, an online form application, answers can be compiled and the results easily examined. This option would possibly be used prior to any online webinars or in-person sessions to better understand what attendees are truly concerned about and to ensure the engagement activity covers areas of interest, which can help spur conversation and dialogue.

SECTION III: PERFORMANCE PLAN

For the FFY 2024-2026 HSP, the planned target values to achieve by December 31, 2026 are provided below. The first three performance measures and targets listed – Traffic Fatalities, Serious Injuries, and Fatality Rate – are required to be identical to what MassDOT has projected for the five-year average ending December 31, 2026. For the remaining performance measures, a projected three-year average ending December 31, 2026 is required.

Overview of the performance measure targets for FFY 2024-2026:

Performance Measure		Value Used	Starting Value (2022)	Target Value (2026)	Percent Change
C-1	Traffic Fatalities	5-yr average	378	362	4%
C-2	Serious Injuries	5-yr average	2708	2603	4%
C-3	Fatality Rate	5-yr average	0.62	0.54	12%
C-4	Unrestrained Motor Vehicle Fatalities	3-yr average	104	99	5.7%
C-5	Alcohol-Impaired Driving (BAC .08+) Fatalities	3-yr average	121	110	9.1%
C-6	Speeding-Related Fatalities	3-yr average	107	98	8.4%
C-7	Motorcycle Fatalities	3-yr average	61	50	18.5%
C-8	Unhelmeted Motorcycle Fatalities	3-yr average	2	1	50%
C-9	Drivers Under 21 Involved in Fatal Crashes	3-yr average	43	39	10.8%
C-10	Pedestrian Fatalities	3-yr average	75	73	3.1%
C-11	Bicyclist Fatalities	3-yr average	8	4	50%
B-1	Statewide Seat Belt Usage Rate	3-yr average	79	80	2.1%
NC-1	Distraction-Affected Fatal Crashes	3-yr average	33	28	16%

Data presented in this section is sourced from FARS (https://cdan.dot.gov/query) and MassDOT's IMPACT database (https://apps.impact.dot.state.ma.us/cdp/home). FARS data covers the years up to 2021; IMPACT for 2022 and 2023. It must be noted all data through 2021 is considered "final," while the values for 2022 and 2023 are "preliminary," meaning the numbers are not finalized and could change over time. [*Note: C = "Core", B = "Belt", NC = "Non-Core"*]

C-1 Traffic Fatalities

Performance Target for 2026:
Reduce the five-year average for traffic fatalities by 4% from 378 in 2022 to 362 by December 31, 2026

Justification:

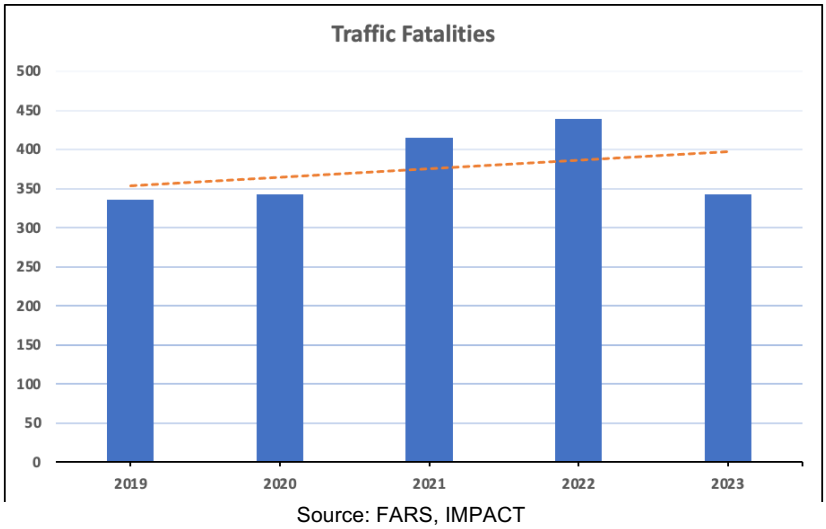
- While the trendline is moving upwards, projected fatalities for 2023 shows otherwise. As of April 30, 2023, there have been 8% fewer fatalities reported compared to the same time in 2022.

- From 2012 to 2020, the average number of fatalities reported was 354. With the expected decline in fatalities in 2023, it is projected the number of fatalities will continue moving towards the mean prior to the two years of high fatality counts (2021, 2022). These two years are likely outliers as the last time Massachusetts had over 400 fatalities was in 2007.

- Continued expansion of towns involved in the Municipal Road Safety grant program will increase the number of overtime enforcement patrols occurring, leading to safer roadways and higher awareness about impaired driving, occupant protection, speeding, motorcycle safety, and non-motorist (pedestrian/bicyclist) safety.

- Increased funding for Massachusetts State Police will allow for more saturation patrols across the state as well as better coordination with local law enforcement to enforce safe driving behavior not only during mobilizations (Distracted Driving, Click It Or Ticket, Drive Sober Or Get Pulled Over), but also during their sustained enforcement efforts throughout the year.

- Funding will be utilized through FFY 2024 – 2026 for communication outreach via social media and traditional mediums on traffic safety issues including impaired driving, occupant protection, speeding, distracted driving, motorcycle safety, and non-motorist (pedestrian/bicyclist) awareness.



Source: FARS, IMPACT

Actual				Preliminary	Five-Year Average	Future Estimates				Projected Five-Year Average	Pct. Change from 2022 to 2026
2018	2019	2020	2021	2022	2018-2022	2023	2024	2025	2026	2022-2026	
355	336	343	415	439	378	343	343	343	343	362	-4.0%

C-2 Serious Injuries

Performance Target for 2026:
Reduce the five-year average for serious injuries by 4% from 2,708 in 2022 to 2,603 by December 31, 2026

Justification:

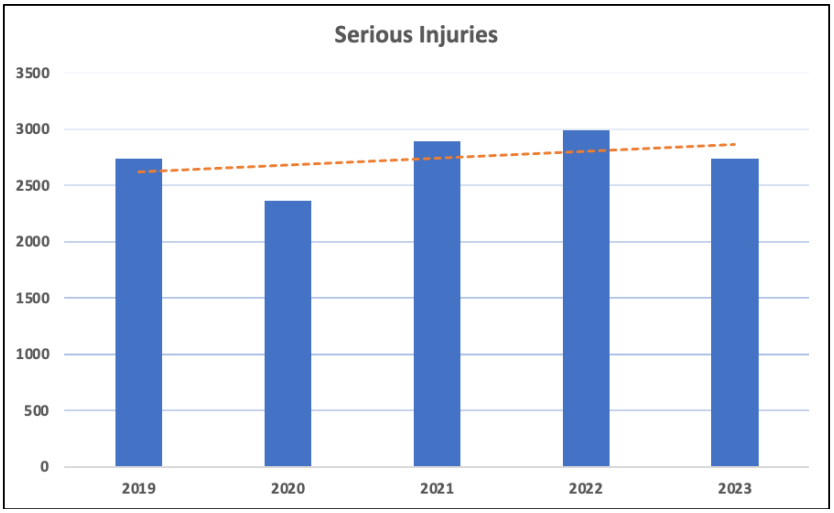
- While the trendline is moving upwards, projected serious injuries for 2023 shows otherwise. As of April 30, 2023, there have been 6% fewer serious injuries reported compared to the same time in 2022.

- With the projected decline in traffic fatalities, it is expected that serious injuries will follow suit. If the number of deadly crashes declines, there are fewer opportunities for serious injuries to occur to motor vehicle occupants and non-motorists.

- Continued advances in motor vehicle safety features such as collision alerts and automatic braking will further decrease serious injuries in a crash.

- Continued expansion of towns involved in the Municipal Road Safety grant program will increase the number of overtime enforcement patrols, leading to safer roadways and higher awareness about impaired driving, occupant protection, speeding, motorcycle safety, and non-motorist (pedestrian/bicyclist) safety. This will result in fewer crashes and lower levels of serious injuries.

- Funding will be utilized through FFY 2024 – 2026 for communication outreach via social media and traditional mediums on traffic safety issues including impaired driving, occupant protection, speeding, distracted driving, motorcycle safety, and non-motorist (pedestrian/bicyclist) awareness.



Source: FARS, IMPACT

Actual				Preliminary	Five-Year Average	Future Estimates				Projected Five-Year Average	Pct. Change from 2022 to 2026
2018	2019	2020	2021	2022	2018-2022	2023	2024	2025	2026	2022-2026	
2560	2736	2365	2890	2987	2708	2736	2560	2365	2365	2603	-4.0%

C-3 Fatality Rate

Performance Target for 2026:
Reduce the five-year average for fatality rate per 100M vehicle miles traveled by 12% from 0.62 in 2022 to 0.54 by December 31, 2026

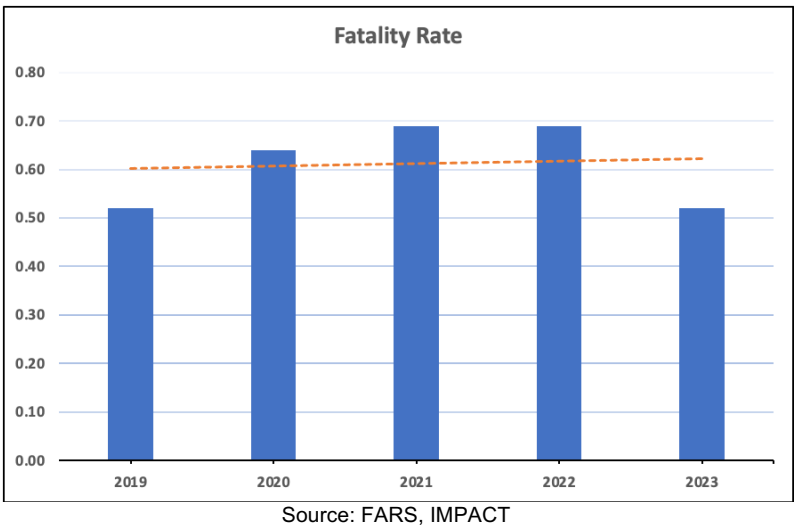
Justification:

- According to MassDOT, the level of vehicle miles traveled (VMT) reported in Massachusetts is expected to rise approximately 8% by 2026 from 63,620,000,000 in 2022 to 68,415,000,000.

- Traffic fatalities are projected to decline in 2023 and future years. Combined with the rise in VMT, the fatality rate – which is the number of fatalities divided by VMT – will drop from the 0.69 reported in 2022.

- Continued expansion of towns involved in the Municipal Road Safety grant program will increase the number of overtime enforcement patrols occurring, leading to safer roadways and higher awareness about impaired driving, occupant protection, speeding, motorcycle safety, and non-motorist (pedestrian/bicyclist) safety. This will lead to safer driving and more awareness among all who share the roadways in Massachusetts.

- Funding will be utilized through FFY 2024 – 2026 for communication outreach via social media and traditional mediums on traffic safety issues including impaired driving, occupant protection, speeding, distracted driving, motorcycle safety, and non-motorist (pedestrian/bicyclist) awareness. With more educational outreach, motorists and non-motorists alike will be better prepared to navigate the roadways safely and with higher awareness, leading to a lower number of fatalities.



Source: FARS, IMPACT

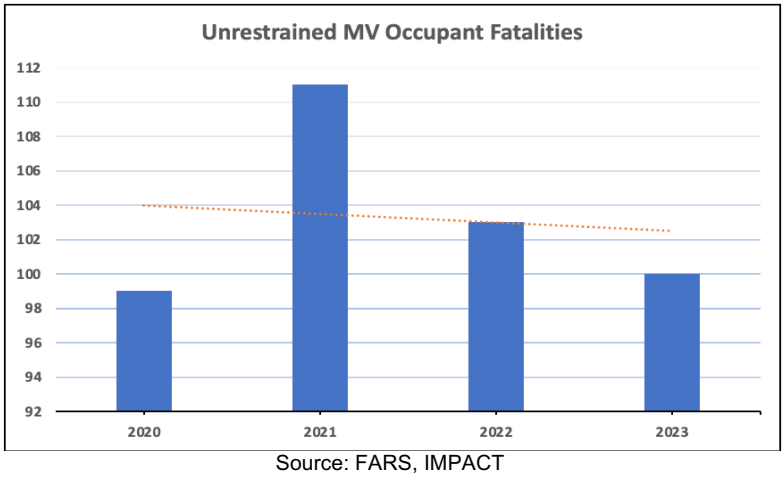
Actual				Preliminary	Five-Year Average	Future Estimates				Projected Five-Year Average	Pct. Change from 2022 to 2026
2018	2019	2020	2021	2022	2018-2022	2023	2024	2025	2026	2022-2026	
0.56	0.52	0.64	0.69	0.69	0.62	0.52	0.51	0.5	0.50	0.54	-12.0%

C-4 Unrestrained Motor Vehicle Occupant Fatalities

Performance Target for 2026:
Reduce the three-year average for unrestrained fatalities by 5.7% from 104 in 2022 to 99 by December 31, 2026

Justification:

- Trendline (dotted line) for 2020-2023 shows a downward path indicating the 111 unrestrained fatalities in 2021 may have been an outlier.
- The drop in unrestrained fatalities in 2022 as well as the (projected) continued decline in 2023 means fatalities will likely remain at or under 100 in the coming years.
- As of April 30, 2023, unrestrained deaths are down 14% from fatalities reported in the same period in 2022.
- Continued expansion of towns involved in May Click It or Ticket (CIOT) mobilization through the Municipal Road Safety program will increase the number of overtime enforcement patrols occurring, leading to more motor vehicle occupants being aware of the dangers of not wearing a seat belt when riding in a vehicle.
- Increased funding for Massachusetts State Police will allow for more saturation patrols across the state as well as better coordination with local law enforcement to enforce safe driving behavior not only during mobilizations (CIOT, DSOGPO), but also during non-mobilization periods.
- Funding will be utilized through FFY 2024 – 2026 for communication outreach via social media and traditional mediums about the importance of wearing belts, with particular focus on motor vehicle occupants under 35 years of age.



Source: FARS, IMPACT

Actual		Preliminary	Projected	Three-Year Average		Future Estimates			Projected Three-Year Average	Pct. Change from 2022 to 2026
2020	2021	2022	2023	2020-2022	2021-2023	2024	2025	2026	2024-2026	
99	111	103	100	104	105	100	98	98	99	-5.7%

C-5 Alcohol-Impaired Driver (BAC 0.08+)-Related Fatalities

Performance Target for 2026:
Reduce the three-year average for alcohol-impaired fatalities by 9.1% from 121 in 2022 to 110 by December 31, 2026

Justification:

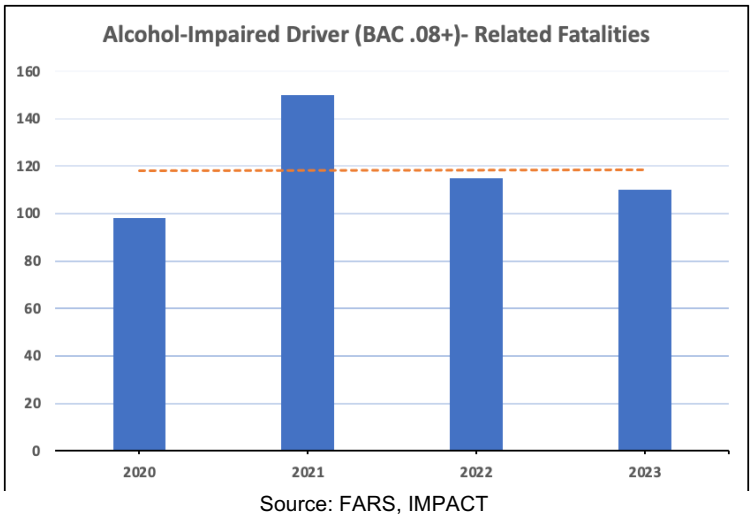
- Trendline (dotted line) for 2020-2023 shows a flat path indicating the 150 alcohol impaired fatalities in 2021 may have been an outlier and that fatalities are moving back down into the 100 to 120 range.

- The expected drop in 2022 as well as the (projected) continued decline in 2023 means fatalities will likely remain at or under 120 in the coming years. To take into consideration the flat projection in fatalities, the future estimates are set at midpoint in the 100 to 120 range.

- Continued expansion of towns involved in both the December and August DSOGPO mobilization through the Municipal Road Safety grant program will increase the number of overtime enforcement patrols, leading to more impaired drivers being removed from the roadways and reduced risk of fatal crashes caused by these drivers.

- Increased funding for Massachusetts State Police will allow for more sobriety checkpoints across the state as well as better coordination with local law enforcement to enforce safe driving behavior not only during mobilizations for DSOGPO but also during its sustained enforcement efforts throughout FFY 2024 - 2026.

- Funding will be utilized through FFY 2024 – 2026 for communication outreach via social media and traditional mediums about the importance of not drinking and driving, with particular focus on drivers between 25 - 34 years of age.



Source: FARS, IMPACT

Actual		Preliminary	Projected	Three-Year Average		Future Estimates			Projected Three-Year Average	Pct. Change from 2022 to 2026
2020	2021	2022	2023	2020-2022	2021-2023	2024	2025	2026	2024-2026	
98	150	115	110	121	125	110	110	110	110	-9.1%

C-6 Speeding-Related Fatalities

Performance Target for 2026:
Reduce the three-year average for speeding-related fatalities by 8.4% from 107 in 2022 to 98 by December 31, 2026

Justification:

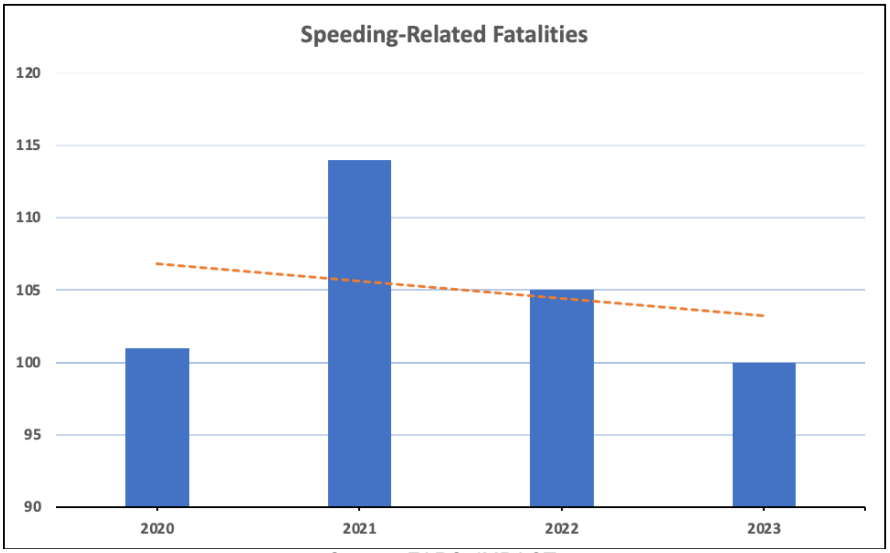
- Trendline (dotted line) shows a downward path indicating the 114 speeding fatalities reported in 2021 may have been an outlier. In the prior nine years (2012-2020), the average number of speeding fatalities was 100.

- The drop in unrestrained fatalities in 2022 as well as the (projected) continued decline in 2023 means fatalities will likely remain at or under 100 in the coming years.

- Funding of more training related to LiDAR will result in more officers certified in using speed measurement devices while on patrol, increasing ability to pull over drivers going over the posted speed limit.

- Increased funding for Massachusetts State Police will allow for more sustained enforcement patrols that focus on various driving issues including speeding as well as continue outreach through youth-centric programs aimed at increasing awareness of the dangers of speeding and aggressive driving to high school and college-age students.

- Funding will be utilized through FFY 2024 – 2026 for communication outreach via social media and traditional mediums about the dangers of speeding with particular focus on male drivers under 35 years of age.



Source: FARS, IMPACT

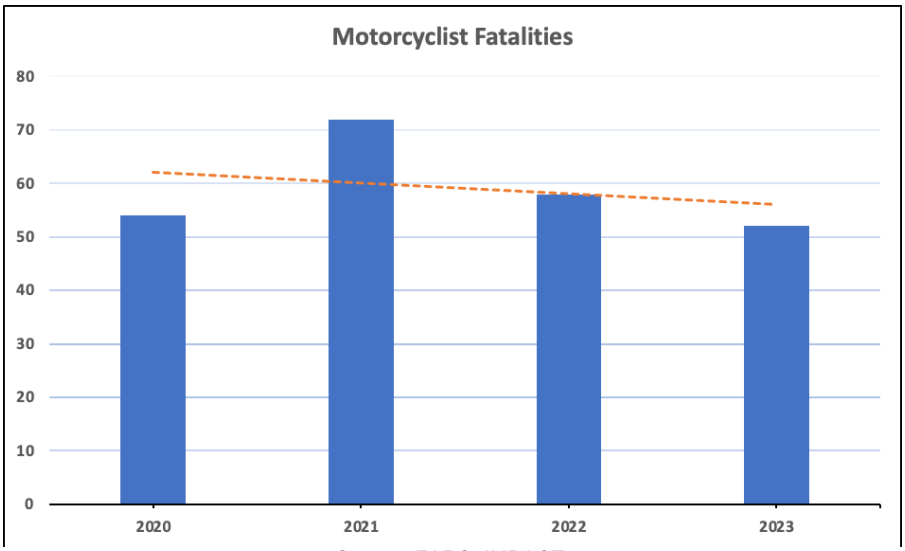
Actual		Preliminary	Projected	Three-Year Average		Future Estimates			Projected Three-Year Average	Pct. Change from 2022 to 2026
2020	2021	2022	2023	2020-2022	2021-2023	2024	2025	2026	2024-2026	
101	114	105	100	107	106	100	98	95	98	-8.4%

C-7 Motorcyclist Fatalities

Performance Target for 2026:
Reduce the three-year average for motorcyclist fatalities by 18.5% from 61 in 2022 to 50 by December 31, 2026

Justification:

- Trendline shows a downward path indicating that motorcyclist fatalities are regressing to the mean, which has been 51 (2012-2020) prior to the 72 reported in 2021.
- Number of motorcyclist fatalities reported as of April 30, 2023, is 22% lower than the number reported at the same time in 2022.
- Will continue working with RMV to promote motorcycle rider training classes for new and current motorcyclists through social media channels.
- Funding for Municipal Road Safety and Sustained Enforcement for local and State police, respectively, will help target impaired drivers and speeding drivers, both which are factors involved in motorcyclist fatalities.
- Funding will be utilized through FFY 2024 – 2026 for communication outreach via social media and traditional mediums raising awareness among drivers to look out for motorcyclists while on the roadways as well as messaging aimed at motorcyclist about the importance of being riding with helmets and within the speed limit.



Source: FARS, IMPACT

Actual		Preliminary	Projected	Three-Year Average		Future Estimates			Projected Three-Year Average	Pct. Change from 2022 to 2026
2020	2021	2022	2023	2020-2022	2021-2023	2024	2025	2026	2024-2026	
54	72	58	52	61	61	52	50	48	50	-18.5%

C-8 Unhelmeted Motorcyclist Fatalities

Performance Target for 2026:
Reduce the three-year average for unhelmeted motorcyclist fatalities 2 in 2022 to 1 by December 31, 2026

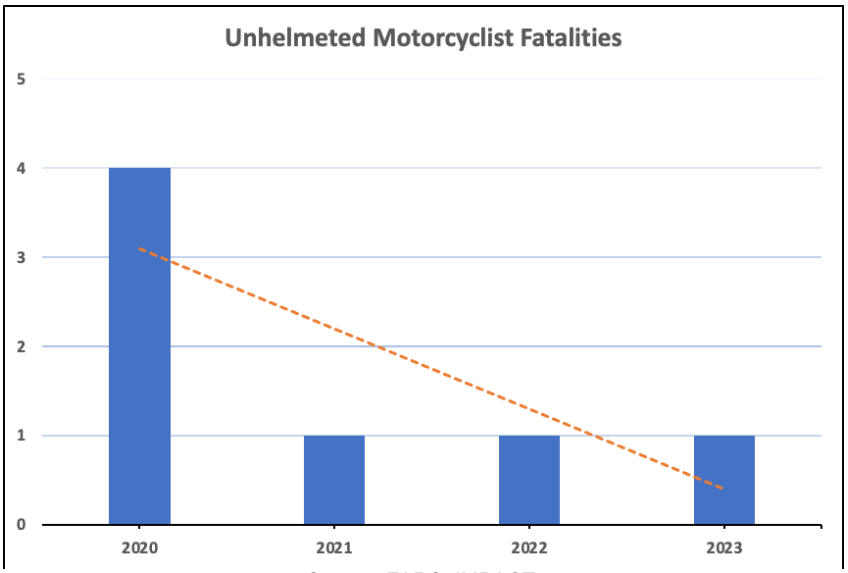
Justification:

- Trendline shows a downward path indicating the four unhelmeted fatalities in 2020 may have been an outlier.

- Massachusetts has a primary helmet law that requires all motorcycle riders to wear a helmet when on the roadway. This law has been crucial in keeping unhelmeted motorcyclist fatalities much lower than in states that don't have a helmet law.

- Will continue working with RMV to promote motorcycle rider training classes for new and current motorcyclists through social media channels, which reiterate the necessity of wearing a helmet as part of Massachusetts traffic laws.

- Funding will be utilized through FFY 2024 – 2026 for communication outreach via social media and traditional mediums about the importance of wearing helmets and the Massachusetts law related to wearing helmets while riding.



Source: FARS, IMPACT

Actual		Preliminary	Projected	Three-Year Average		Future Estimates			Projected Three-Year Average	Pct. Change from 2022 to 2026
2020	2021	2022	2023	2020-2022	2021-2023	2024	2025	2026	2024-2026	
4	1	1	1	2	1	1	1	1	1	-50.0%

C-9 Drivers under 21 involved in Fatal Crashes

Performance Target for 2026:
Reduce the three-year average for drivers under 21 involved in fatal crashes by 10.8% from 43 in 2022 to 39 by December 31, 2026

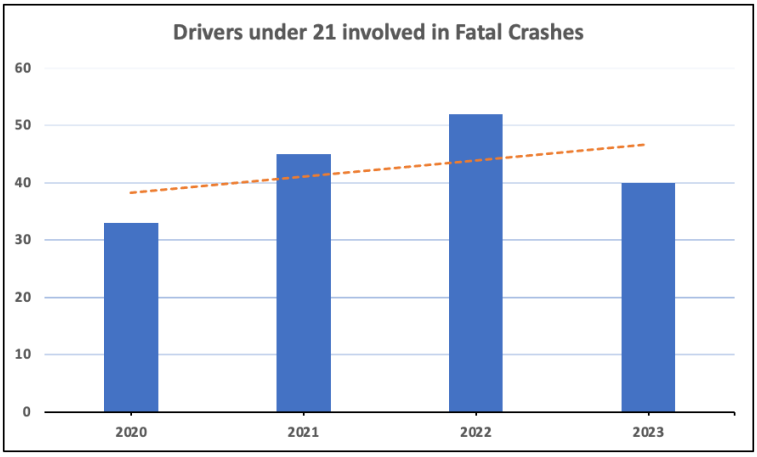
Justification:

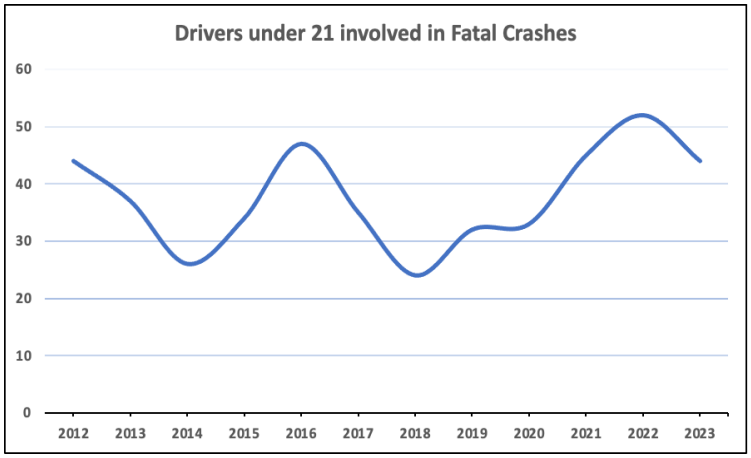
- While the trendline for 2020-2023 shows future number rising, the second graph (longitudinal) reveals that under 21 driver involvement has been cyclical since 2012. It appears with the 2023 projection the numbers will be the beginning of a downward cycle.

- Increased funding is planned for State police to expand its youth programs outreach, which is focused on traffic safety presentations at local high schools and safety fairs aimed at increasing awareness among young drivers on the dangers of impaired and distracted driving as well as speeding when behind the wheel.

- Increased funding for ABCC Compliance Check program, which targets liquor establishment and local events (fairs, concerts) in an effort to crack down on underage drinking. With the ability to conduct more compliance checks, ABCC will help reduce the number of underage drivers having access to alcohol and consequently, the number of underage impaired drivers behind the wheel.

- Funding will be utilized through FFY 2024 – 2026 for communication outreach via social media targeting young drivers on the dangers of drinking and driving, speeding, and not wearing a seat belt when riding in a motor vehicle.





Source: FARS, IMPACT

Actual		Preliminary	Projected	Three-Year Average		Future Estimates			Projected Three-Year Average	Pct. Change from 2022 to 2026
2020	2021	2022	2023	2020-2022	2021-2023	2024	2025	2026	2024-2026	
33	45	52	40	43	46	40	38	38	39	-10.8%

C-10 Pedestrian Fatalities

Performance Target for 2026:
Reduce the three-year average for unrestrained fatalities by 3.1% from 75 in 2022 to 73 by December 31, 2026

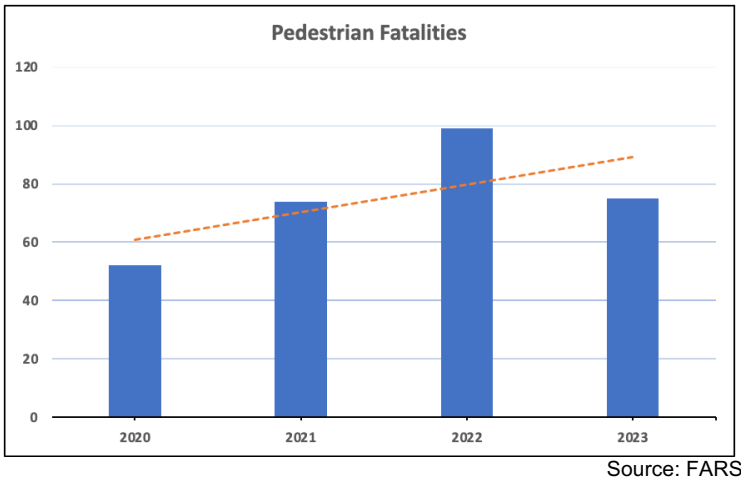
Justification:

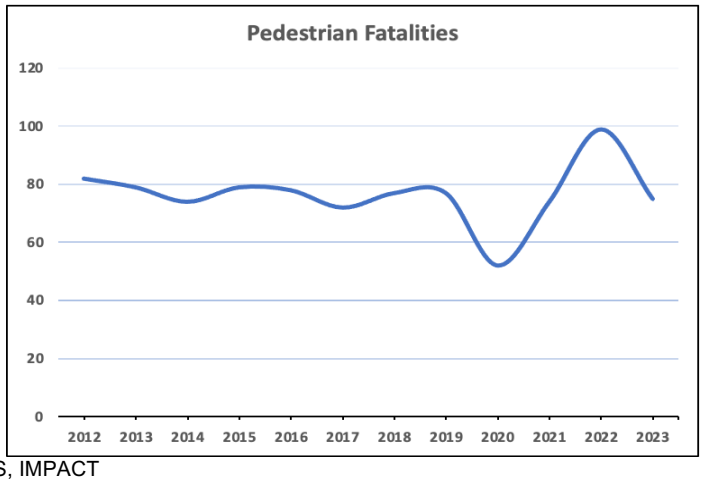
- While the trendline on first graph (2020-2023) appears to show an increase going forward, the longitudinal graph (2012-2023) reveals the period from 2020-2022 was an outlier and the 2023 numbers are moving toward historical mean prior to 2020 (77).

- As of April 30, 2023, pedestrian fatalities are down 23% from fatalities reported in the same period in 2022, which further supports regression to mean in 2023 and onward.

- Continued expansion of towns involved in Municipal Road Safety grant program will result in more communities getting the opportunity to purchase pedestrian-related safety products such as crosswalk reflectors and signage. In doing so, driver awareness of pedestrians in or along the roadway will improve leading to lower pedestrian fatalities.

- Funding will be utilized through FFY 2024 – 2026 for communication outreach via social media and traditional mediums about the importance of pedestrian safety and driver awareness of pedestrians and bicyclists. Boston, which has a high percentage of pedestrian fatalities, will be primary focus of outreach.





Source: FARS, IMPACT

Actual		Preliminary	Projected	Three-Year Average		Future Estimates			Projected Three-Year Average	Pct. Change from 2022 to 2026
2020	2021	2022	2023	2020-2022	2021-2023	2024	2025	2026	2024-2026	
52	74	99	75	75	83	75	73	70	73	-3.1%

C-11 Bicyclist Fatalities

Performance Target for 2026:
Reduce the three-year average for bicyclist fatalities from 8 in 2022 to 4 by December 31, 2026

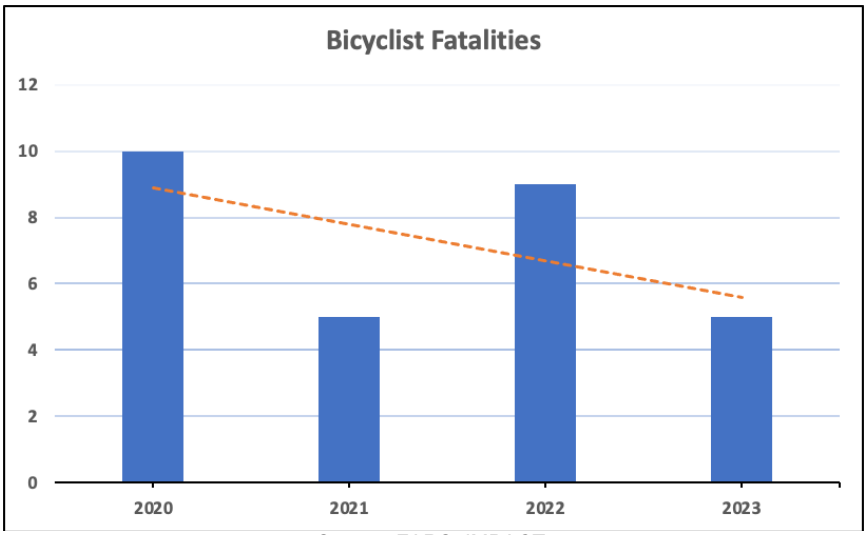
Justification:

- Trendline shows a downward path indicating bicyclist fatalities will likely be remaining under five deaths in the coming years.

- As of April 30, 2023, there has only been one bicyclist fatality reported in Massachusetts.

- Continued expansion of towns involved in Municipal Road Safety grant program will result in more communities getting the opportunity to purchase bicyclist-related safety products such as bicycle helmets and crosswalk signage. By handing out helmets to young riders within their respective communities, local law enforcement will be helping reduce the number of bicyclist fatalities. Crosswalk signage will raise awareness among drivers of upcoming bicyclist crossing or dedicated bicycle lanes.

- Funding will be utilized through FFY 2024 – 2026 for communication outreach via social media and traditional mediums about the importance of wearing helmets, driver awareness of bicycle riders in the roadway, and upcoming safety fairs where helmets are being distributed free of charge to young riders.



Source: FARS, IMPACT

Actual		Preliminary	Projected	Three-Year Average		Future Estimates			Projected Three-Year Average	Pct. Change from 2022 to 2026
2020	2021	2022	2023	2020-2022	2021-2023	2024	2025	2026	2024-2026	
10	5	9	5	8	6	5	4	3	4	-50.0%

B-1 Motor Vehicle Occupant Safety Belt Usage Rate

Performance Target for 2026:
Increase the three-year average for the statewide seat belt usage rate by 2.1% from 79 in 2022 to 80 by December 31, 2026

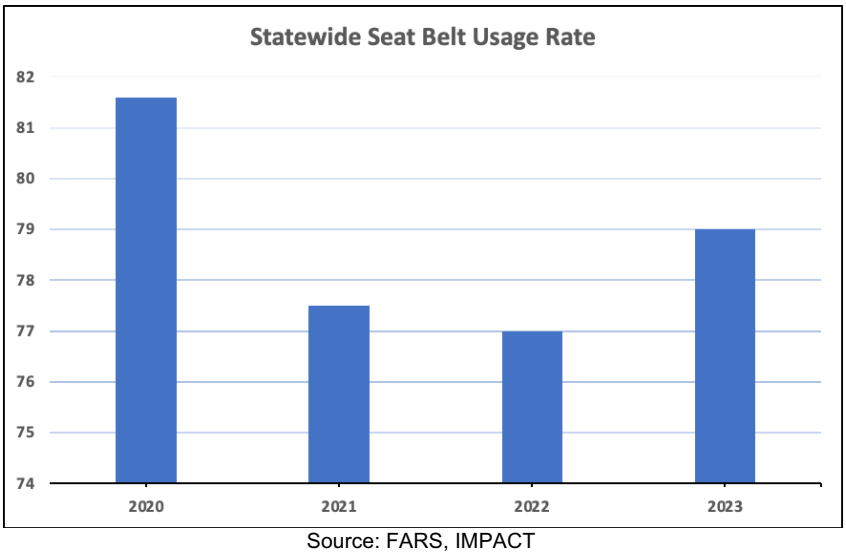
Justification:

- The drop in unrestrained fatalities in 2022 as well as the (projected) continued decline in 2023 means fatalities will likely remain at or under 100 in the coming years. This indicates motor vehicle occupants are more willing to wear seat belt when either behind the wheel or a passenger.

- According to Merit Rating Board data on violations, law enforcement in Massachusetts has issued 3% more "Failure to wear seat belt" violations in 2022 than in 2021 and 11% more than issued in 2020. This rise in issuance of seat belt violations helps raise awareness of the need to wear seat belts and leads more motor vehicle occupants to wear belt to avoid being fined for not doing so.

- Continued expansion of towns involved in May CIOT mobilization through the Municipal Road Safety grant program will increase the number of overtime enforcement patrols occurring, leading to more motor vehicle occupants being aware of the dangers of not wearing a seat belt when riding in a vehicle.

- Funding will be utilized through FFY 2024 – 2026 for communication outreach via social media and traditional mediums about the importance of wearing belts, with increased messaging visibility during the CIOT period (May) and post-period (June).



Source: FARS, IMPACT

Actual		Preliminary	Projected	Three-Year Average		Future Estimates			Projected Three-Year Average	Pct. Change from 2022 to 2026
2020	2021	2022	2023	2020-2022	2021-2023	2024	2025	2026	2024-2026	
81.6	77.5	77	79	79	78	80	80	81	80	2.1%

NC-1 Distraction-Affected Fatal Crashes

Performance Target for 2026:
Reduce the three-year average for distraction-affected fatal crashes by 16% from 33 in 2022 to 28 by December 31, 2026

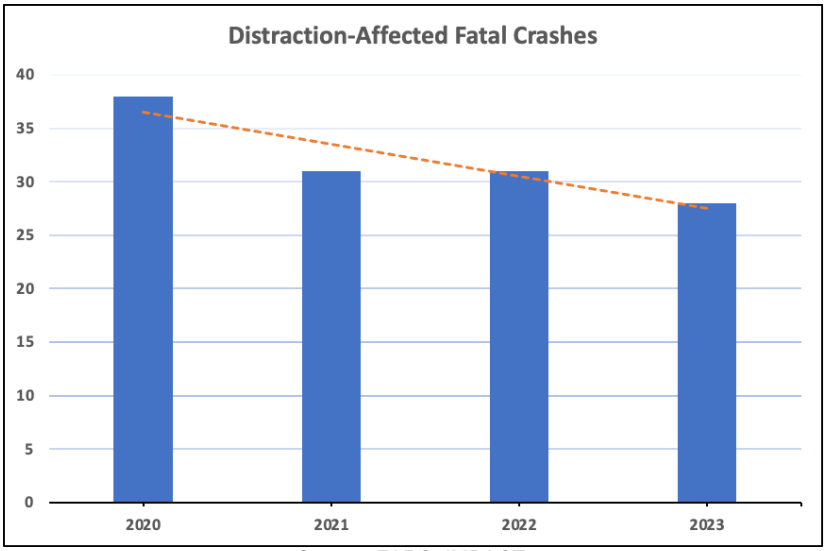
Justification:

- Trendline shows a downward path indicating distracted driving fatal crashes are expected to continue declining in coming years. Despite this projection, future estimates are kept steady because the nature of determining distractions in a fatal crash is very unpredictable; it relies on either eyewitness accounts or self-reported behavior by the driver(s) involved in the crash.

- Continued expansion of towns involved in April Distracted Driving mobilization through the Municipal Road Safety grant program will increase the number of overtime enforcement patrols occurring, leading to more motor vehicle occupants being aware of the dangers of driving distracted.

- Increased funding for Massachusetts State Police will allow for more saturation patrols across the state as well as better coordination with local law enforcement to enforce safe driving behavior not only during the Distracted Driving mobilization in April, but also throughout the year as part of its sustained enforcement efforts.

- Funding will be utilized through FFY 2024 – 2026 for communication outreach via social media and traditional mediums about the importance of keeping eyes on the road and not to allow distractions, either in the vehicle or outside the vehicle, to impair focus on driving.



Source: FARS, IMPACT

Actual		Preliminary	Projected	Three-Year Average		Future Estimates			Projected Three-Year Average	Pct. Change from 2022 to 2026
2020	2021	2022	2023	2020-2022	2021-2023	2024	2025	2026	2024-2026	
38	31	31	28	33	30	28	28	28	28	-16.0%

Traffic Records Performance Targets for FFY 2024-2026

Below are three performance targets determined by the TRCC to be utilized for FFY 2024-2026. If more targets are added or current targets revised, it will be indicated in the Annual Grant Application that is due by August 1st of each year during the FFY 2024-2026 HSP period.

Traffic Record Performance Target #1
Between 6/1/23 and 12/31/23, update the Massachusetts Crash Reporting Form and Crash Data System to collect, process, and share via MassDOT's IMPACT portal the necessary vulnerable road user data confirmed through the phase one focus groups/outreach.

Traffic Record Performance Target #2
DCJIS will install approximately 400 mobile printers in police vehicles and provide associated training for 75 local police departments new to MACCS between 7/1/23 and 6/30/24.

Traffic Record Performance Target #3
To date in State FY 2023 (July 1, 2022 to May 2, 2023, 2023), MSP-CARS responded to 232 serious/fatal injury crashes. Of these, 58 crashes (25%) involved a pedestrian or bicyclist. Investigating Troopers measured the frictional value of the roadway in approximately 22% of these crashes involving non-motorists. MSP aims to increase the percentage of crashes involving non-motorists where frictional value of the roadway data is collected to **75%** between October 1 to December 31, 2023.

SECTION IV: COUNTERMEASURE STRATEGY FOR PROGRAMMING FUNDS

For each program area identified in the Highway Safety Planning Process section, details on the countermeasure strategies guiding Massachusetts' program implementation and annual project selection are to be provided.

IMPAIRED DRIVING

Problem Identification: Impaired driving-involved crash fatalities accounted for 36% of all traffic fatalities in 2021, up from 29 % in 2020.

Strategy: To decrease impaired driving-involved crash fatalities through combination of education, enforcement, training, and communication outreach.

Link between Problem ID and Strategy: Fund planned activities aimed at educating motor vehicle occupants on dangers of impaired driving; enforcing impaired driving laws; increasing the number of officers trained in recognizing impaired drivers; and communication outreach targeting key demographics involved in impaired driving crashes.

Performance Target: (C-5) Reduce three-year average of impaired driving fatalities from 121 in 2022 to 110 by December 31, 2026.

Countermeasure #1: Communication & Outreach
Justification: Countermeasures that Work, 10th edition, 3 stars
Federal funds: $2,000,000 in 405d

Communication and outreach strategies seek to inform the public of the dangers of driving while impaired by alcohol or drugs. Education on dangers can take place through formal classroom settings, social media, news media, public service announcements (PSA), and a wide variety of other communication channels such as posters, billboards, and web banners. Based on state data, communication efforts will target drivers under 35 years of age with a focus on the counties of Bristol, Hampden, Middlesex, and Worcester. These four counties accounted for half of all drivers under 35 involved in a fatal crash from 2017 to 2021.

Massachusetts plans to utilize communication and outreach strategies in support of its two DSOGPO alcohol impairment mobilizations, which typically take place in late December and late August/early September. Messaging will focus on the dangers of using alcohol, marijuana, and other drugs and driving utilizing social media channels (Twitter, Facebook, Instagram) that drivers under 35 typically use. Outdoor signage and electronic message boards will be used as much possible, especially in Bristol and Hampden, which had the two highest totals of under 35 drivers involved in a fatal crash.

Countermeasure #2: High-Visibility Saturation Patrols
Justification: Countermeasures that Work, 10th, 3 stars
Federal funds: $7,000,000 in 405d and $5,000,000 in 402

Saturation patrols (or blanket patrols) consists of a large number of law enforcement agencies patrolling a specific region or area to crack down on impaired driving. Using data, law enforcement will focus on times and locations where impaired driving fatalities frequently occur. The primary purpose of saturation

patrols is to deter drinking and driving by increasing the perceived risk of arrest. High-visibility enforcement and saturation patrols are highly effective in deterring drivers from engaging in impaired driving. The recent jump in alcohol impaired fatalities in 2021, up over 50% from the previous year, shows how critical it is for Massachusetts to fund saturation patrols both for local and State police departments.

Through State and local police, Massachusetts will fund overtime enforcement patrols to allow law enforcement to support activities during mobilization periods as well as times and locations each police agency deems appropriate for their respective community. Based on current data, enforcement activities should be most frequent from Friday night through early Sunday morning in the counties of Bristol, Hampden, Middlesex, and Worcester. These four counties accounted for 53% of all alcohol impaired fatalities from 2017 to 2021.

Countermeasure #3: Breath Test Devices
Justification: Countermeasures that Work, 10th, 4 stars
Federal funds: $800,000 in 405d

A breath test device is a stationary or portable alcohol sensor used to measure a person's breath alcohol concentration (BAC). Law enforcement utilize breath test devices in the field to help establish probable cause for a OUI arrest. Proper training and maintenance, especially regular calibration checks, are critical to breath test device effectiveness. State and local police utilize breath test devices (typically called PBTs or preliminary breath tests) to not only remove impaired drivers from the roadways but also establish evidence of intoxication to be used in courtrooms. In Massachusetts, the first OUI conviction leads to a one-year license suspension; the second, a two-year suspension along with an ignition interlock device installed. The threat of losing driving privileges as well as the costs associated with a OUI (fines, lawyer costs, license reinstatement) is a deterrent for drivers.

Massachusetts will continue to fund breath test device training, purchases, and upgrades to ensure law enforcement, especially State Police, can have the latest technology at their disposal to safely and lawfully remove alcohol impaired drivers from the roadways. Having more officers certified to use PBTs will lead to more impaired drivers being removed from the roadways and a decline in the number of impaired driver fatalities reported.

Countermeasure #4: Enforcement of Drug-Impaired Driving
Justification: Countermeasures that Work, 10th, 3 stars
Federal funds: $3,000,000 in 405d

Enforcement of drug-impaired driving is difficult as there are no devices to screen drivers for drug usage during a motor vehicle stop that have proven to be accurate and reliable. Instead of technology, law enforcement has turned to drug recognition experts (DRE) to assist in investigating potential drug-impaired drivers. DREs use a standardized procedure to observe a suspected impaired driver's appearance, behavior, vital signs, and performance on psychophysical and physiological tests to determine if drugs are involved and if so, what kind(s). Without DREs, law enforcement would have a much more difficult time determining whether a driver is under the influence of drugs. Massachusetts expects to utilize funding to add at least 15 new DREs each year from 2024 to 2026, with an emphasis on increasing the number available in Essex and Bristol County. These two counties have the highest number of OUI-Drug violations and OUI-Drug case filings in recent years.

NHTSA has developed a training program called “Advanced Roadside Impaired Driving Enforcement (ARIDE)”, which bridges the gap between SFST and the DRE training programs. Available to any law enforcement professional to are already SFST certified, this training is another way for police officers to recognize impaired drivers while making traffic stops.

Massachusetts plans to fund programs to expand the number of DRE available across the state in order to ensure one will be in proximity of any crashes or traffic stops involving a possible impaired driver. Funding will also be used to offer numerous ARIDE classes for officers to attend and get certified at. Both programs will help improve the ability of law enforcement in Massachusetts to detect drug-impaired drivers and remove them from the roadways.

Countermeasure #5: Standardized Field Sobriety Test Training (SFST)
Justification: Countermeasures that Work, 10th, 4 stars
Federal funds: $800,000 in 405d

Law enforcement have relied on Standardized Field Sobriety Tests (SFST) for more than 40 years to identify alcohol-impaired drivers. The SFST is a three-test battery involving (1) the horizontal gaze nystagmus test, (2) the walk-and-turn test, and (3) the one-leg-stand test. Research has shown that these three tests, taken together, are over 90% accurate in identifying drivers with BAC over the limit of 0.8 g/dL. NHTSA recommends any officer working high-visibility enforcements should be SFST-trained. With an increased number of certified officers, Massachusetts local and State police can be better prepared to detect and remove impaired drivers during sobriety checkpoints, traffic stops, and at crash locations.

Massachusetts plans to fund a program to continue training and certifying law enforcement officers in SFST to ensure any police agency involved in enforcement activities will have certified officers on hand to determine if a driver is impaired and over the BAC .08 limit. The Municipal Police Training Committee (MPTC) will be responsible for providing SFST classes at its numerous training academies across the state. To ensure broad coverage of SFST certified officers, MPTC will focus on increasing attendance by law enforcement in western Massachusetts (Berkshire, Franklin, Hampden, and Hampshire County) during FFY 2024-2026.

Countermeasure #6: Alcohol Vendor Compliance Checks
Justification: Countermeasures that Work, 10th, 3 stars
Federal funds: $1,300,000 in 405d

The legal age to purchase alcoholic products in Massachusetts is 21 as is across the United States. However, this has not prevented underage customers from being able to buy alcohol. Studies have shown anywhere from 44% to 97% of young buyers were able to purchase alcohol without showing identification. One effective means of preventing underage alcohol buying is to improve the rate of vendors checking for identification at point of sale through compliance checks. A compliance check involves law enforcement observing underage persons attempting to buy alcohol and cite the server or vendor for a violation if a sale is made. The goal of compliance checks is to increase deterrence of selling alcohol to underage customers by making establishments or vendors worried about fines and violation.

For FFY 2024-2026, Massachusetts will continue funding the Alcohol Beverage Control Commission (ABCC) to conduct compliance checks across the state. Each year, through trained staff and in

collaboration with law enforcement agencies, ABCC observes alcohol establishments and vendors that known to and suspected of selling to underage customers and issue violations to – and in some cases, shut down – the business that engages in illegal sales to minors. ABCC also conducts compliance checks at concerts, state fairs, and professional athletic contests, which are all popular venues for underage drinking to occur. The success of ABCC over the years has been crucial to keeping Massachusetts' drinking and driving deaths among young drivers low.

Countermeasure #7: Prosecutor/Law Enforcement Training
Justification: Although there is no specific countermeasure strategy related to prosecutor training in the Countermeasures that Work, 10th, NHTSA has recognized the value of having a designated Traffic Safety Resource Prosecutor (TSRP) and developed a manual to assist TSRPs (NHTSA, 2007b), which is referenced in the CWT. Each state has a designated TSRP, which has proved to be highly effective and impactful on impaired driving legal support. Without a TSRP, states lack the professional experience and expertise to rely on when dealing with legal aspects of prosecuting impaired driving cases, whether alcohol-impaired, drug-impaired, or both. The same is true of support provided by a Law Enforcement Liaison (LEL).
Federal funds: $2,000,0000 in 405d

While there are no OUI courts in Massachusetts at this time, OUI cases can be highly complex and difficult to prosecute. In many cases, the prosecutor assigned to the case has little or no prior experience with OUI cases. Having a designated TSRP – someone who has deep experience in the prosecution of traffic crimes, especially OUI cases – will help develop training and education as well as technical support to prosecutors and law enforcement agencies.

Massachusetts will use funding to continue having a dedicated TSRP in the Massachusetts District Attorneys Association. The TSRP responsibilities will include, but not limited to, conducting impaired driving trainings and creating and maintaining vehicular crime resources for prosecutors and law enforcement agencies. Some of the planned trainings include advanced crash reconstruction, prosecuting OUI cases, and drug impairment for prosecutors. With a dedicated TSRP, Massachusetts prosecutors and law enforcement will have a valuable resource for all issues related to OUI arrests and prosecutions to help ensure impaired drivers are quickly and legally removed from the roadways.

Massachusetts will also use funding to support training and travel-related expenses for a Law Enforcement Liaison (LEL) attached to the MSP. Having an LEL within the State Police will help facilitate communication with MSP leadership as well as with the six Troops throughout the Commonwealth. This will enhance understanding of traffic safety issues occurring on state highways and spur greater cooperation between EOPSS and MSP leading to safer roadways.

Countermeasure #8: School-Based Programs
Justification: Countermeasures that Work, 10th, 3 stars
Federal funds: $2,500,000 in 405d

Providing educational and informational sessions in a school setting has been found to be well-received by communities and has resulted in increased understanding among young drivers (or soon-to-be young drivers) about safe behaviors as drivers and passengers.

Massachusetts plans to fund MSP, which will conduct demonstrations of the Rollover Simulator and Simulated Impaired Driving Experience (SIDNE) during presentations on impaired driving and occupant

protection to high school students across the state. In Massachusetts, 44% of alcohol-impaired driving fatalities from 2017 to 2021 were in the 21-34 age range. By presenting to high school students, it is to ensure these future and recently licensed drivers take to heart the dangers of getting behind the wheel while under the influence.

Countermeasure #9: Sustained Enforcement
Justification: Countermeasures that Work, 10th, 3 stars
Federal funds: $500,000 in 402

Sustained enforcement involves law enforcement conducting frequent overtime traffic enforcement patrols throughout the year rather than during short-term or "blanket enforcement" high-visibility campaigns. Unlike HVE, sustained enforcement tends not to suffer from the drop off in impact on roadway users as the enforcement efforts are occurring with regularity. Enforcement is focused on all traffic safety issues – impaired driving, unrestrained occupants, speeding, distracted driving, and non-motorist awareness – and allows law enforcement to dictate when and where to conduct overtime activities that would have the maximum effect on their respective communities.

Massachusetts plans to fund a program allowing MSP to conduct sustained enforcement overtime patrols throughout the year outside the national mobilization campaigns such as distracted driving (April), occupant protection (May), and impaired driving (August, December). The funding will help MSP focus enforcement efforts during key days/times as determined through data analysis and in collaboration with EOPSS. With the ability to engage in more enforcement patrols, MSP will help lower the number of fatal and serious injury crashes involving both motorists and non-motorists on Massachusetts roadways.

<u>OCCUPANT PROTECTION</u>

Problem Identification: Unrestrained motor vehicle occupant fatalities rose 12% in 2021 from 99 fatalities in 2020.

Strategy: To decrease unrestrained fatalities through combination of education, enforcement, training, and communication outreach.

Link between Problem ID and Strategy: Fund planned activities aimed at educating motor vehicle occupants on dangers of not wearing a seat belt; enforcing secondary seat belt laws when possible; increasing the number of officers trained in car seat installation and inspection; and communication outreach targeting key demographics associated with lower seat belt usage rates.

Performance Target: (C-4) Reduce three-year average of unrestrained motor vehicle occupant fatalities from 104 in 2022 to 99 by December 31, 2026.

Countermeasure #1: Communication & Outreach
Justification: Countermeasures that Work, 10th, 4 stars
Federal funds: $1,000,000 in 405b and 500,000 in 402

Communication and outreach strategies seek to inform the public of the dangers of not wearing a seat belt when riding in a motor vehicle. Education on these dangers can take place through formal

classroom settings, social media, news media, PSAs, and a wide variety of other communication channels such as posters, billboards, and web banners. The FFY 2024 – 2026 occupant protection campaigns will be focused on increasing belt usage on the roadways of Massachusetts. With one of the lowest belt usage rates in the country (77%) along with two consecutive years of triple-digit unrestrained fatalities (2021, 2022), media outreach is more critical than ever.

Massachusetts plans to utilize communication and outreach strategies in support of its seat belt enforcement campaign, "Click It or Ticket," which typically takes place in May. Through electronic billboards, roadside signage, and online media messaging, the dangers of not wearing your seat belt will be presented as well as reminders to "buckle up" every time you are an occupant in a motor vehicle. The combination of CIOT enforcement activity and supporting media messaging will help educate and reinforce the need to wear seat belts among drivers and passengers. The target group for messaging will be motor vehicle occupants under age 35, which accounted for nearly 50% of all unrestrained fatalities reported from 2017 to 2021. Focusing on this demographic will help lower unrestrained injuries and deaths as well as increase the annual seat belt observation usage rate.

Countermeasure #2: Short-term, High-Visibility Seat Belt Law Enforcement
Justification: Countermeasures that Work, 10th, 5 stars
Federal funds: $900,000 in 405b and $2,250,000 in 402

The most common high-visibility seat belt law enforcement method consists of short (typically lasting two weeks), intense, highly publicized periods of increased belt law enforcement, frequently using checkpoints, saturation patrols, or enforcement zones. It has been found that HVE campaigns are effective, whether a state has a primary or secondary belt law. Studies have also shown belt usage increases among traditionally lower belt use groups, including young drivers and males. In Massachusetts, males accounted for over 70% of all unrestrained fatalities from 2017 to 2021 and young drivers (under 21) represented 15% of fatalities. Overall, nearly 50% of unrestrained fatalities were under 35 years of age, indicating Massachusetts has its work cut out to impress upon younger populations the seriousness of wearing a seat belt.

Massachusetts plans at least one HVE in May to support the nationwide "Click It or Ticket" enforcement mobilization with both local and State police involved. The enforcement period is typically during May and runs for two to three weeks with communication support through traditional and social media channels. Over 100 police departments and all State police troops are expected to be involved in the enforcement efforts, which usually targets the key time-of-day/day-of-week for unrestrained deaths of 6pm to 6am during Fridays, Saturdays and Sundays along principal and minor arterial roadways. This HVE in tandem with media messaging on the dangers on not wearing a seat belt will help not only lower unrestrained fatalities below 100 but also increase the seat belt usage rate from 77% in the coming years.

Countermeasure #3: Child Restraint System Inspection Stations
Justification: Countermeasures that Work, 10th, 3 stars
Federal funds: $1,200,000 in 405b and $1,000,000 in 402

While child restraint systems (i.e. carriers, seats, boosters) has improved immeasurably in recent years, the misuse of child seats – primarily through incorrect installation of the restraint system – has led to unfortunate injuries and even fatalities to young motor vehicle occupants. Car seats decrease the risk

of fatal injury by 71% among infants and 54% among toddlers. Booster seats reduce the risk of non-fatal injuries by 45% among four-to-eight-year-old motor vehicle occupants.

Child passenger safety (CPS) inspection stations, alternatively named fitting stations, are locations or events where caregivers and parents can receive assistance from certified CPS technicians on properly installing child restraint systems. Studies have shown inspection stations have led to increased knowledge among parents and caregivers of proper usage of car seats as well as a having a higher positive regard for law enforcement agencies, who are typically the organizers of fitting stations. The higher regard for police is critical to getting more parents and caregivers to come into fitting stations, especially in low-income areas that tend to have higher distrust of law enforcement.

Massachusetts plans to fund programs in FFY 2024-2026 to help local and State police obtain certified child passenger seats for disbursement to community members that attend inspection or fitting stations. Police will be focused on offering inspection stations in known low-income areas of their respective communities to ensure those that may not have the ability to buy new car seats will be able to get one at no cost. Funding will also be utilized to train, certify, and recertify CPS technicians across Massachusetts in order to ensure every fitting station and car safety event will have qualified technicians available to assist with inspections and installations. Communities with high concentrations of low-income residents to be targeted during FFY 2024-2026 include Boston, Springfield, Chicopee, Lynn, Fall River, New Bedford, and Worcester.

Countermeasure #4: Data Collection
Justification: Not listed in Countermeasures that Work, 10th. Data collection needed to determine level of seat belt usage in Massachusetts each year as required by Federal regulations. Without the data collected through the annual seat belt observation survey, Massachusetts would have no idea if current programs aimed at occupant protection are having an impact. The data are critical in understanding what demographics and regions have the greatest issues with seat belt usage.
Federal funds: $700,000 in 405b

According to NHTSA's National Occupant Protection Use Survey (NOPUS) for 2022, overall front seat belt use was 91.6 percent, a record high although not statistically different (at the 0.05 level) from 90.4 percent reported in 2021. The survey found that primary law states had a higher belt usage rate (92.2 percent) than secondary law states (89.5 percent). NOPUS results are based on the observation of front seat occupant (driver and passenger) seat belt use during daylight hours (7am to 6pm).

Massachusetts will use funding to conduct its annual seat belt observation survey, which takes place during the month of June. This survey involves observations at 148 random locations, determined by a NHTSA-approved sampling plan, at various times and days of the week. Once completed, the results are confirmed and certified by a statistician. A report is created and submitted to NTHSA by the end of August. The report covers not only overall results but also subgroup usage such as sex (male/female), age (child, teen, adult, older adult), race (white, black, Asian, Hispanic) and if driver is alone or has a front-seat passenger. Data collected from the survey helps Massachusetts understand where key target areas are for improving belt safety awareness and usage.

Countermeasure #5: School-Based Programs
Justification: Countermeasures that Work, 10th, 3 stars
Federal funds: $200,000 in 405b

Providing educational and informational sessions in a school setting has been found to be well-received by communities and has resulted in increased understanding among young drivers (or soon-to-be young drivers) about safe behaviors as drivers and passengers.

Massachusetts plans to fund MSP in order to conduct demonstrations of the Rollover Simulator and Simulated Impaired Driving Experience (SIDNE) during presentations on impaired driving and occupant protection to high school students across the state. With one of the lowest belt usage rates in the country, getting young drivers to understand the importance using a seat belt every time they're in a motor vehicle will be crucial to increasing belt usage in the future.

Name of CM: Sustained Enforcement
Justification: Countermeasures that Work, 10th, 3 stars
Federal funds: $500,000 in 402

Sustained enforcement involves law enforcement conducting frequent overtime traffic enforcement patrols throughout the year rather than during short-term or "blanket enforcement" high-visibility campaigns. Unlike HVE, sustained enforcement tends not to suffer from the drop off in impact on roadway users as the enforcement efforts are occurring with regularity. Enforcement is focused on all traffic safety issues – impaired driving, unrestrained occupants, speeding, distracted driving, non-motorist awareness – and allows law enforcement to dictate when and where to conduct overtime activities that would have the maximum effect on their respective community.

Massachusetts plans to fund a program to allow MSP to conduct sustained enforcement overtime patrols throughout the year outside the national mobilization campaigns such as distracted driving (April), occupant protection (May), and impaired driving (August, December). The funding will help MSP focus enforcement efforts during key days/times as determined through data analysis and in collaboration with EOPSS. With the ability to engage in more enforcement patrols, MSP will help lower the number of fatal and serious injury crashes involving both motorists and non-motorists on Massachusetts roadways.

SPEEDING & AGGRESSIVE DRIVING

Problem Identification: Speed-related fatalities rose 13% in 2021 from 101 fatalities in 2020.

Strategy: To decrease speed-related fatalities through a combination of enforcement and communication outreach.

Link between Problem ID and Strategy: Fund planned activities to enforce speeding laws and communication outreach targeting key demographics associated with speed-related crashes.

Performance Target: (C-6) Reduce three-year average of speed-related fatalities from 107 in 2022 to 98 by December 31, 2026.

Countermeasure #1: Communication & Outreach
Justification: Countermeasures that Work, 10th, 3 stars
Federal funds: $1,250,000 in 402 and $150,000 in 405h

Communication and outreach strategies seek to inform the public of the dangers of driving too fast or aggressively. Education on these dangers can take place through formal classroom settings, social media, news media, PSAs, and a wide variety of other communication channels such as posters, billboards, and web banners. Data indicates Massachusetts has a higher proportion of motor vehicle occupants between 25 and 35 years of age accounting for speed-related fatalities in recent years. From 2017 to 2021, over 25% of fatalities were within this age range. Regarding motor vehicle occupants killed in speed-related crashes, over 80% were drivers and three-quarter of occupant deaths were male.

To lower the number of speed-related fatalities, especially among younger motor vehicle occupants, Massachusetts plans to utilize funding to support speeding and aggressive driving enforcement mobilizations by State and local police during FFY 2024-2026. While there is no national speeding awareness enforcement campaign period, Massachusetts will include speeding and aggressive driving prevention as part of the Municipal Road Safety (MRS) grant program. This program allows fund recipients (local police departments) to engage in enforcement activity outside the required mobilizations (impaired driving, occupant protection, and distracted driving). All communication and outreach focused on speeding and aggressive driving will occur during the months when a national enforcement campaign is not occurring to support any police conducting overtime enforcement activity.

Messaging will target motor vehicle occupants under 35 years of age, with focus on male drivers, as well as in areas of high speed-related fatality counts such as Hampden County, Bristol County, and Worcester County. These three counties accounted for 40% of all occupant fatalities in speed-related crashes in Massachusetts. Coupled with effective enforcement in these same counties, Massachusetts is confident communication and outreach efforts for FFY 2024-2026 will help lower speed-related fatalities in the coming years.

Countermeasure #2: High-Visibility Saturation Patrols
Justification: Countermeasures that Work, 10th, 3 stars
Federal funds: $4,000,000 in 402 and $300,000 in 405h

Saturation patrols (or blanket patrols) consist of a large number of law enforcement agencies patrolling a specific region or area to crack down on impaired driving. Using data, law enforcement will focus on times and locations where impaired driving fatalities frequently occur. The primary purpose of saturation patrols is to deter drinking and driving by increasing the perceived risk of arrest. High-visibility enforcement and saturation patrols are highly effective as a deterrent to drivers to abstain from engaging in impaired driving. The recent jump in speed-related fatalities in 2021, up 13% from the previous year, shows how critical it is for Massachusetts to fund saturation patrols both for local and State police departments.

Through its Municipal Road Safety grant program for local police and Sustained Traffic Enforcement Program for State Police, Massachusetts will fund overtime enforcement to allow law enforcement to target speeding and aggressive behaviors on the roadways of their respective communities or regions. The times and locations of enforcement activity will be determined by law enforcement as most active for speeding. Based on current data, enforcement activities should be most frequent from Friday night through early Sunday morning in the counties of Bristol, Hampden, and Worcester. These three counties accounted for 43% of all speed-related fatalities from 2017 to 2021.

Coupled with effective communication and outreach in these same counties, Massachusetts is confident high-visibility saturation patrols during FFY 2024-2026 will help lower speed-related fatalities in the coming years.

PEDESTRIAN & BICYCLIST SAFETY (NON-MOTORISTS)

Problem Identification: Pedestrian fatalities rose 38% from 74 in 2021 to 102 in 2022. Bicyclist fatalities increased from five in 2021 to 12 in 2022.

Strategy: To decrease both pedestrian and bicyclist fatalities through combination of enforcement and communication outreach.

Link between Problem ID and Strategy: Fund planned activities to conduct overtime enforcement focused on pedestrian and bicyclist safety; and communication outreach raising awareness among drivers of pedestrians and bicyclists sharing the roadway.

Performance Target: (C-10) Reduce three-year average of pedestrian fatalities from 75 in 2022 to 73 by December 31, 2026. (C-11) Reduce three-year average of bicyclist fatalities from 8 in 2022 to 4 by December 31, 2026.

Countermeasure #1: Communication & Outreach
Justification: While there is no communication and outreach countermeasure for pedestrian and bicyclist safety in CTW, 10th edition, communication countermeasure will be modeled after the communication and outreach countermeasure for impaired driving, which has three stars. By following the same model, the communication and outreach efforts for non-motorists should be as successful and impactful.
Federal funds: $500,000 in 405g and $500,000 in 405h

Communication and outreach strategies seek to inform drivers to be aware of non-motorists on the road and also inform non-motorists of their responsibility when out on the roadways. Education on these dangers can take place through formal classroom settings, social media, news media, public service PSAs, and a wide variety of other communication channels such as posters, billboards, and web banners. Particular focus of messaging will be on Suffolk County, which has the highest percentage of non-motorist fatalities of all traffic fatalities (44%) among the fourteen counties in Massachusetts. Bristol, Hampden, Middlesex, and Worcester will also be targeted as those counties had the top four highest pedestrian fatality counts from 2017 to 2021.

Massachusetts intends to fund a media messaging campaign aimed at encouraging all road users – drivers, pedestrians, and bicyclists – to share the road safely. The campaign will utilize traditional mediums (billboards, signage, press releases) and social media channels to promote pedestrian and bicyclist safety to a broad and diverse audience. Messaging will be most prominent during periods of high enforcement activities by local and State police to increase effectiveness and impact.

Countermeasure #2: High-Visibility Enforcement
Justification: Countermeasures that Work, 10th, 3 stars
Federal funds: $1,500,000 in 405g and $800,000 in 405h

High-visibility enforcement (HVE) campaigns have been used to deter dangerous driving behaviors such as impaired driving, speeding, distracted driving, and riding unrestrained in a motor vehicle, as well as increase awareness of pedestrian and bicyclist safety among drivers. In the HVE model, law enforcement targets high crash or high violation geographical areas using overtime enforcement patrols. All enforcement efforts are publicized beforehand. HVE have been shown to be effective in raising awareness and lowering the number of crashes if used consistently.

Massachusetts plans to use funding through its State Agency grant program and Municipal Road Safety (MRS) grant program to allow local and state law enforcement the ability to conduct multiple overtime HVE patrols, not only in support of national mobilization efforts, but also during months/times/days most critical for crashes and fatalities involving non-motorists (pedestrians, bicyclists) within each agency's respective communities. Outreach will be made by OGR staff to all towns and cities within Suffolk County as well as the four top fatality counties to encourage each municipality's police department to apply for the MRS grant. With more towns involved in pedestrian/bicyclist safety enforcement, Massachusetts hopes to see pedestrian and bicyclist fatalities within the targeted counties to decline in the near future.

Funding will also allow local law enforcement to invest in equipment aimed at improving pedestrian and bicyclist safety as well as driver awareness of non-motorists in the roadways. The expected net result of this funded program will be reduced crashes and fatalities involving pedestrians and bicyclists on the roads of Massachusetts.

MOTORCYCLE SAFETY

Problem Identification: Motorcyclist fatalities as a percentage of all traffic fatalities rose from 15.7% in 2020 to 17.3% in 2021.

Strategy: To decrease motorcyclist fatalities through communication/messaging outreach.

Link between Problem ID and Strategy: Fund planned communication outreach activities raising awareness among drivers of motorcyclists on the roadway as well as motorcyclist safety tips for motorcycle riders.

Performance Target: (C-7) Reduce three-year average of motorcyclist fatalities from 61 in 2022 to 50 by December 31, 2026. (C-8) Reduce three-year average of unhelmeted motorcyclist fatalities from 2 in 2021 to 1 by December 31, 2026.

Countermeasure #1: Communication & Outreach
Justification: While there is no communication and outreach countermeasure for motorcycle safety in CTW, 10th edition, communication countermeasure plans will be modeled after the communication and outreach countermeasure for impaired driving, which has three stars. By following the same model, the communication and outreach efforts for motorcyclists should be as successful and impactful.
Federal funds: $250,000 in 402 and $625,000 in 405f

Communication and outreach strategies seek to inform drivers to be aware of motorcyclists on the road and also inform motorcyclists of their responsibility when using the roadways. Education on these

dangers can take place through formal classroom settings, social media, news media, PSAs, and a wide variety of other communication channels such as posters, billboards, and web banners.

Massachusetts plans to support media campaigns in partnership with the RMV Motorcycle Rider Education Program (MREP). One campaign will focus on rider safety and the dangers of speeding and impaired riding. A second campaign will target drivers with messaging about sharing the roads with motorcyclists. It is expected that both campaigns will be active during peak motorcycle riding season, April to October, which is when over 80% of motorcycle fatalities occurred from 2017 to 2021.

DISTRACTED DRIVING

Problem Identification: Distracted driving fatal crashes in Massachusetts increased 12% to 38 in 2021 from 34 in 2020.

Strategy: To decrease distracted driving fatal crashes through a combination of enforcement and communication outreach to educate drivers on the dangers of driving distracted.

Link between Problem ID and Strategy: Fund planned communication outreach activities raising awareness among drivers of motorcyclists on the roadway as well as motorcyclist safety tips for motorcycle riders; to conduct overtime enforcement activity by law enforcement in support of distracted driving mobilizations and "Hands Free" law.

Performance Target: (NC-1) Reduce three-year average of distraction-affected crashes from 33 in 2022 to 28 by December 31, 2026.

Countermeasure #1: Communication & Outreach
Justification: While there is a communication and outreach countermeasure for distracted driving in CTW, 10th edition, it is only rated one star. This countermeasure will be modeled after the communication and outreach countermeasure for impaired driving, which has three stars. By following the same model, the communication and outreach efforts for distracted driving should be as successful and impactful.
Federal funds: $1,500,000 in 402

Communication and outreach strategies seek to inform the public of the dangers of distracted driving. Education on these dangers can take place through formal classroom settings, social media, news media, PSAs, and a wide variety of other communication channels such as posters, billboards, and web banners. While data on distracted driving tends to be questionable regarding accuracy due to the difficulty of proving someone was distracted at the time of a crash, the most recent available data suggests most distracted fatal crashes tend to occur during the daytime between 10am – 6pm. Fatalities involved in distracted crashes skew towards older persons (45+), which accounted for 62% of deaths. Those age 75 or older accounted for nearly a third of these fatalities.

Massachusetts intends to fund a statewide media campaign in support of the national Distracted Driving mobilization that takes place in April each year. Messaging will promote awareness of the "Hands-Free" Law in effect as well as the importance of keeping one's focus on the road when behind the wheel. Social media and press releases will be utilized to reach the maximum audience possible. The combination of media messaging and enforcement activity have been found to be effective in raising

awareness among drivers as to the dangers of taking one's eyes off the road. Messaging will also address the need for drivers to be aware of elderly persons trying to cross roads, as their hearing and/or eyesight may impair ability to react in a timely manner to oncoming traffic.

Countermeasure #2: High Visibility Cell Phone/Text Messaging Enforcement
Justification: Countermeasures that Work, 10th, 4 stars
Federal funds: $3,000,000 in 402

Similar to sobriety checkpoints, the objective is to deter cell phone usage among drivers by increasing the perceived risk of receiving a ticket. Using high-visibility enforcement patrols, law enforcement officers actively seek out any drivers seen using their cell phone while driving. Research has shown hand-held device usage among drivers declined substantially in the aftermath of HVE campaigns focused on distracted drivers.

Massachusetts plans to fund HVE activity by law enforcement in support of the distracted driving national mobilization held in April each year. In recent years, local and State police have employed several strategies such as spotter techniques, roving marked and unmarked cruisers, SUVs, and stationary vehicles to observe drivers using a hand-held device while driving. While use of an electronic device is the primary focus of the HVE, law enforcement has a secondary focus on other types of distracted driving behaviors including inattention and drifting into another lane while reaching for something in the vehicle.

Countermeasure #3: Sustained Enforcement
Justification: Countermeasures that Work, 10th, 3 stars
Federal funds: $500,000 in 402 and $450,000 in 405e and $150,000 in 405h

Sustained enforcement involves law enforcement conducting frequent overtime traffic enforcement patrols throughout the year rather than during short-term or "blanket enforcement" high-visibility campaigns. Unlike HVE, sustained enforcement tends not to suffer from the drop off in impact on roadway users as the enforcement efforts are occurring with regularity. Enforcement is focused on all traffic safety issues – impaired driving, unrestrained occupants, speeding, distracted driving, non-motorist awareness – and allows law enforcement to dictate when and where to conduct overtime activities that would have the maximum effect on their respective community.

Massachusetts plans to fund a program allowing MSP to conduct sustained enforcement overtime patrols throughout the year outside the national mobilization campaigns such as distracted driving (April), occupant protection (May), and impaired driving (August, December). The funding will help MSP focus enforcement efforts during key days/times as determined through data analysis and in collaboration with EOPSS. With the ability to engage in more enforcement patrols, MSP will help lower the number of fatal and serious injury crashes involving both motorists and non-motorists on the Massachusetts roadways.

TRAFFIC RECORDS

Traffic records-related planned activities aim to make core highway safety data accessible, accurate, timely, integrated, uniform, and complete. The countermeasures in NHTSA's Countermeasures that Work, 10th edition, do not apply to traffic records projects. Each planned activity will be detailed in the

Annual Grant Application due on August 1, 2023, and will note one of the countermeasures listed below associated with it.

Each and every traffic record planned activity or project must support one of the six countermeasures for traffic records:

- Improves timeliness of a core highway safety database
- Improves integration between one or more core highway safety databases
- Improves completeness of a core highway safety database
- Improves accuracy of a core highway safety database
- Improves accessibility of a core highway safety database
- Improves uniformity of a core highway safety database

For FFY 2024-2026, Massachusetts has at least three projects planned related to Traffic Records that will support all the countermeasures above in one way or another.

Tentative Planned Activity #1: Inclusion of Vulnerable Road Users in Crash Reporting

This planned project will help, in part, to address recommendations to improve the interfaces of the Crash Data System (CDS) and its data quality control program as detailed in the 2019 Massachusetts Traffic Records Self-Assessment. This project will enhance the accessibility, completeness, and integration of the crash data system in Massachusetts.

Target Associated with Planned Activity #1: Between 6/1/23 and 12/31/23, update the Massachusetts Crash Reporting Form and Crash Data System to collect, process, and share via MassDOT's IMPACT portal the necessary vulnerable road user data confirmed through the phase one focus groups/outreach.
Estimated funding for FFY 2024-2026: $988,000
Funding Source(s): 405c

Tentative Planned Activity #2: Improving Data Accuracy from the Scene of Motor Vehicle Crashes

This planned project will help in part to address the CDS' data quality control as detailed in the 2019 Massachusetts Traffic Records Self-Assessment. This project will enhance the accuracy, completeness, timeliness, and uniformity of the crash data system in Massachusetts.

Target Associated with Planned Activity #2: DCJIS will install approximately 400 mobile printers in police vehicles and provide associated training for 75 local police departments new to MACCS between 7/1/23 and 6/30/24.
Estimated funding for FFY 2024-2026: $988,000
Funding Source(s): 405c

Tentative Planned Activity #3: Motor Vehicle Automated Citation & Crash System (MACCS)

This planned activity will help, in part, to address the data quality control program for the citation/adjudication and CDS as detailed in the 2019 Massachusetts Traffic Records Self-Assessment. This project will enhance the accuracy, completeness, integration, timeliness, and uniformity of the citation/adjudication and CDS in Massachusetts.

Target Associated with Planned Activity #3: To date in State FY 2023 (July 1, 2022 to May 2, 2023), MSP-CARS responded to 232 serious/fatal injury crashes. Of these, 58 crashes (25%) involved a pedestrian or bicyclist. Investigating Troopers measured the frictional value of the roadway in approximately 22% of these crashes involving non-motorists. MSP aims to increase the percentage of crashes involving non-motorists where frictional value of the roadway data is collected to **75%** between October 1, 2023, and December 31, 2023.
Estimated funding for FFY2024-2026: $988,000
Funding Source(s): 405c

More information on these planned projects and any others that are added at a later time will be provided in the FFY2024 Annual Grant Application, which will be submitted by August 1, 2023.

SECTION V: PERFORMANCE REPORT

This section reviews the targets set in the FFY 2023 HSP and current progress made in meeting those targets.

Targets from FFY 2023 HSP

	Performance Measure (Data Source	Status
C-1	Number of traffic fatalities (FARS)	In progress
C-2	Number of serious injuries in traffic crashes (IMPACT)	In progress
C-3	Fatalities/VMT (FARS, FHWA)	In progress
C-4	Number of unrestrained passenger vehicle occupant fatalities, all seat positions (FARS)	In progress
C-5	Number of fatalities in crashes involving a driver or motorcycle operator with a BAC of .08 and above (FARS)	In progress
C-6	Number of speed-related fatalities (FARS)	In progress
C-7	Number of motorcycle fatalities (FARS)	In progress
C-8	Number of unhelmeted motorcyclist fatalities (FARS)	In progress
C-9	Number of drivers age 20 or younger involved in fatal crashes (FARS)	In progress
C-10	Number of pedestrian fatalities	In progress
C-11	Number of bicyclists fatalities	In progress
B-1	Observed seat belt use for passenger vehicles, front seat outboard occupants (Survey)	In progress
NC-1	Number of distraction-affected fatal crashes	In progress

C-1 Total Fatalities

In the FFY 2023 HSP, the five-year average target for fatalities was 355, a 1.69% decline from 361 reported in 2021. From 2018 to 2022, fatalities have risen 23%.

Actual					5-yr Avg 2018-2022	5-yr Avg 2023 Target
2018	2019	2020	2021	2022		
355	336	343	415	439	377	355

Based on current and historical data, it is highly unlikely the 2023 five-year average target of 355 will be met by December 31, 2023. To meet this target, Massachusetts would have to report total fatalities of 246 for 2023. As of April 30, 2023, there have been 102 fatalities recorded. This amount is higher than at the same time in 2020 (96), but lower than in 2022 (111) and 2021 (106). Based on this, fatalities are tentatively estimated to be in the mid-to-high 300s by December 31, 2023.

Countermeasures utilized during FFY 2023 such as high-visibility saturation patrols (local and State police enforcement), alcohol vendor compliance checks, short-term high-visibility seat belt law enforcement, and prosecutor/law enforcement training (MDAA Traffic Safety Resource Officer) are expected to help lower the number of traffic fatalities in 2023 and 2024.

C-2 Serious Injuries

In the FFY 2023 HSP, the five-year average target for serious injuries was 2,568, a 1.69% decline from 2,620 reported in 2021. From 2018 to 2022, serious injuries have gone up 17%.

Actual					5-yr Avg 2018-2022	5-yr Avg 2023 Target
2018	2019	2020	2021	2022		
2,560	2,736	2,365	2,890	2,983	2,707	2,568

To meet the 2023 five-year average target of 2,568, serious injuries will have to decline 37% to 1,866 in 2023 from 2,983 in 2022. As of April 30, 2023, there have been 725 serious injuries reported. This amount is higher than the same time in 2020 (629), but lower than in 2021 (717) and 2022 (768). Based on this, serious injuries are tentatively estimated to be in the 2,700 – 2,800 range by December 31, 2023.

Countermeasures utilized during FFY 2023 such as high-visibility saturation patrols (local and State police enforcement), child restraint system inspection stations, short-term high-visibility seat belt law enforcement, and sustained enforcement by State Police are expected to help lower the number of serious injuries in crashes during 2023 and 2024.

C-3 Fatality Rate

In the FFY 2023 HSP, the five-year average target for fatality rate was 0.59, a 1.99% decline from 0.60 reported in 2021. From 2018 to 2022, the fatality rate has risen slightly to 0.62.

Actual					5-yr Avg 2018-2022	5-yr Avg 2023 Target
2018	2019	2020	2021	2022		
0.56	0.52	0.64	0.69	0.69	0.62	0.59

Countermeasures utilized during FFY 2023 such as high-visibility saturation patrols (local and State police enforcement), alcohol vendor compliance checks, short-term high-visibility seat belt law enforcement, and prosecutor/law enforcement training (MDAA Traffic Safety Resource Officer) are

expected to help lower the number of traffic fatalities in 2023 and 2024, which will lead to a lower fatality rate.

C-4 Unrestrained MV Occupant Fatalities

In the FFY 2023 HSP, the five-year average target for fatalities was 100, a 4% decline from 105 reported in 2021. From 2018 to 2022, unrestrained fatalities have dropped 2%.

Actual					5-yr Avg 2018-2022	5-yr Avg 2023 Target
2018	2019	2020	2021	2022		
106	97	99	111	104	103	100

Unrestrained fatalities fell 12% from 2021 to 2022. Although the trendline projects a slight increase in fatalities for 2023, the number of deaths reported for the first two months of the year (11) is much lower than the amount for the same period over the past three years – 18 (2022), 20 (2021), and 24 (2020). With six unrestrained deaths per month, 2023 could end with fatalities in the mid-to-low 70s. Taking into account the usual fluctuations in fatalities during warmer months, OGR projects unrestrained fatalities for 2023 to fall in the 90 – 100 range by December 31, 2023.

Countermeasure programming such as short-term, high-visibility seat belt law enforcement (CIOT mobilization in May 2023) and Child Restraint Systems Inspection Stations (Car seat installation and inspection stations/events) will help lower unrestrained fatalities to hopefully meet the 2023 five-year average target of 100 by December 31, 2023.

C-5 Alcohol Impaired-related Fatalities (0.08+= BAC)

In the FFY 2023 HSP, the five-year average target for alcohol impairment-related fatalities was 108, a 3% decline from 112 reported in 2021. From 2018 to 2022, alcohol impairment-related fatalities have dropped 6%.

Actual					5-yr Avg 2018-2022	5-yr Avg 2023 Target
2018	2019	2020	2021	2022		
122	112	98	150	*115*	119	108

Preliminary data suggest alcohol impairment-related fatalities dropped 23% from 2021 to 2022. To meet the 2023 target of 108, fatalities would have to be 65 or fewer in 2023. The data related to fatalities involving a driver with BAC .08 or higher is highly incomplete on IMPACT at this time for 2023. As of April 30, 2023, there were only three alcohol impaired fatalities, which is improbable given the average for the same period from 2018 to 2021 was 39. In 2022, there were 33 fatalities during the first four months of the year, which is slightly lower than the average and lower than in 2021 (45). Although the 2023 numbers are incomplete, Massachusetts estimates alcohol-impaired fatalities will be lower than in 2022 with a final total in the 100-120 range.

The countermeasure programming such as high-visibility saturation patrols (both local and State police in support of DSOGPO mobilizations), breath test device trainings, SFST training, and alcohol vendor compliance checks to hopefully allow Massachusetts to meet the 2023 five-year average for alcohol impairment-related fatalities target of 108 by December 31, 2023.

C-6 Speed-related Fatalities

In the FFY 2023 HSP, the five-year average target for speed-related fatalities was 90, a 5% decline from 94 reported in 2021. From 2018 to 2022, speed-related fatalities have dropped 5%.

Actual					5-yr Avg 2018-2022	5-yr Avg 2023 Target
2018	2019	2020	2021	2022		
100	80	101	114	*95*	98	90

To meet the 2023 five-year average target of 90, speed-related fatalities will have to decline 37% to 60 or less in 2023 from the preliminary number of 95 in 2022. As of April 30, 2023, there have been 19 speed-related fatalities reported. This amount is lower than what was reported in the same period for 2022 (20), 2021 (30), and 2020 (27). Based on this, speed-related fatalities are tentatively estimated to be in the 85 – 95 range by December 31, 2023.

The impact of countermeasure programming such as high-visibility speed enforcement efforts by both local and State police as well as targeted communications and outreach focused on educating drivers on the dangers of speeding and aggressive driving will help meet the 2023 five-year average for speed-related fatalities target of 90 by December 31, 2023.

C-7 Motorcyclist Fatalities

In the FFY 2023 HSP, the five-year average target for motorcyclist fatalities was 58, a 2% decline from 60 reported in 2021. From 2018 to 2022, motorcyclist fatalities had no change. From 2021 to 2022, deaths have declined 19% to 58.

Actual					5-yr Avg 2018-2022	5-yr Avg 2023 Target
2018	2019	2020	2021	2022		
58	46	52	82	58	58	58

Despite the outlier value in 2021 of 82, motorcycle fatalities hit the 2023 five-year average target of 58 as set in the FFY 2023 HSP by December 31, 2022. Currently, motorcyclist fatalities are trending to be lower in 2023. As of April 30, 2023, there have been seven motorcyclist fatalities reported. This is lower than the nine fatalities reported during the same period for each of the last three years (2020 – 2022). Based on this, Massachusetts estimates motorcycle fatalities to be in the 50 – 55 range by December 31, 2023.

While there has been no funded programming regarding motorcyclists in recent years, OGR has been working with RMV on new (or updated) motorcyclist safety awareness messaging for spring/summer 2023. This is part of the 2023 HSP's Communication and Outreach countermeasure for motorcycle riders. Making drivers more aware of motorcyclists around them on the roadways is the primary message of the awareness efforts. This communication outreach, coupled with enforcement activity by local and state police departments throughout the year (speeding, impaired driving), will help lower motorcyclist fatalities by December 31, 2023, below the 2023 five-year target of 58.

C-8 Unhelmeted Motorcyclist Fatalities

In the FFY 2023 HSP, the five-year average target for unhelmeted motorcyclist fatalities was 2, a 33% decline from 3 reported in 2021. From 2018 to 2022, unhelmeted motorcyclist fatalities have dropped to zero.

Actual					5-yr Avg 2018-2022	5-yr Avg 2023 Target
2018	2019	2020	2021	2022		
5	0	4	1	0	2	3

If the preliminary number of zero remains as is for 2022, the five-year average for unhelmeted motorcyclist fatalities will be two, which is below the 2023 target of three. Through the first four months of 2023, there have been no unhelmeted fatalities reported. Based on this, Massachusetts projects unhelmeted fatalities to remain zero for the entire year and bring the five-year average as of December 31, 2023, down to one.

The impact of the countermeasure programming involving communications and outreach in collaboration with RMV for spring/summer 2023 targeting motorcycle riders will help meet the 2023 five-year average for unhelmeted motorcyclist fatalities of 2 by December 31, 2023.

C-9 Drivers Age 20 or younger involved in a Fatal Crash

In the FFY 2023 HSP, the five-year average target for young drivers in fatal crashes was 32, a 5% decline from 34 reported in 2021. From 2018 to 2022, young driver involvement nearly doubled, rising from 24 to 52.

Actual					5-yr Avg 2018-2022	5-yr Avg 2023 Target
2018	2019	2020	2021	2022		
26	32	35	48	54	39	32

To meet the five-year average target of 32, the number of drivers age 20 or younger involved in a fatal crash will have to decline to less than zero in 2023 from the preliminary number of 54 in 2022 – an impossibility. As of April 30, 2023, there have been eight young drivers (under 21) involved in a fatal crash. This amount is same as reported in same period for 2022, but lower than in 2021 (13) and 2020

(9). Based on this, young drivers involved in fatal crashes are tentatively estimated to be in the 40 – 45 range by December 31, 2023.

The impact of countermeasure programming such as youth programs (MSP driving demonstrations at high schools), high-visibility cellphone and text messaging enforcement, and targeted communications through leading social media sites will help meet the 2023 five-year average for drivers under 21 involved in a fatal crash target of 32 by December 31, 2023.

C-10 Pedestrian Fatalities

In the FFY 2023 HSP, the five-year average target for pedestrian deaths was 69, a 3% decline from 71 reported in 2021. From 2018 to 2022, pedestrian fatalities rose 30% from 77 to 100.

Actual					5-yr Avg 2018-2022	5-yr Avg 2023 Target
2018	2019	2020	2021	2022		
77	77	52	74	100	76	69

After a historical low of 54 in 2020 (COVID-19 year), pedestrian fatalities have jumped substantially over the last two years. To meet the target five-year average of 69 by December 31, 2023, the total pedestrian fatalities in 2023 would have to be 45 or less. While this is highly unlikely, given the recent rise in deaths, it does appear that pedestrian fatalities will be lower than in 2022. With 23 fatalities reported as of April 30, 2023, this is lower than in 2022 (30) for the same period and slightly higher than in 2021 (21). Based on this, the estimated number of pedestrian fatalities by December 31, 2023, will be in the 70 – 75 range.

Countermeasures such as short term, high-visibility traffic enforcement aimed at pedestrian safety and driver awareness will help reduce pedestrian fatalities in 2023 and onwards. Media messaging supporting pedestrian safety and raising driver awareness for pedestrians along or in the roadways will be pushed through social media channels (Facebook, Twitter, Instagram, LinkedIn).

C-11 Bicyclist Fatalities

In the FFY 2023 HSP, the five-year average target for bicyclist deaths was 6, a 10% decline from 7 reported in 2021. From 2018 to 2022, bicyclist fatalities rose from 4 to 10.

Actual					5-yr Avg 2018-2022	5-yr Avg 2023 Target
2018	2019	2020	2021	2022		
4	5	10	5	10	7	6

To meet the five-year average target of 6 by December 31, 2023, the total bicyclist fatalities in 2023 would have to be one or zero. While this is a possibility, given the numbers over the past five years, it does not seem highly likely to happen. As of April 30, 2023, there has been one bicyclist fatality reported, which is higher than zero reported for same period in 2022 but equal to 2021 (1). Based on

current and historical data, it is estimated that bicyclist fatalities will be in the 5 – 8 range by December 31, 2023.

Countermeasure programming involving communications and outreach targeting both non-motorists and drivers will help Massachusetts meet the 2023 five-year average target for bicyclist fatalities of 6 by December 31, 2023.

B-1 Seat Belt Usage Rate

In the FFY 2023 HSP, the five-year average target for seat belt usage rate was 82, a 4% increase from 79 reported in 2021. From 2018 to 2022, the seat belt usage rate reported in Massachusetts declined 6%.

Actual					5-yr Avg 2018-2022	5-yr Avg 2023 Target
2018	2019	2020	2021	2022		
81.6	81.6	81.6	77.5	77.0	80	82

After three years of over 80% usage rate, the seat belt usage rate has dropped in the last two years. It appears motor vehicle occupants in Massachusetts have forgotten how crucial seat belts are in crashes after the lifting of COVID-19 restrictions across the state.

For the 2023 seat belt survey, Massachusetts reselected its site observation locations as required by NHTSA to be done every five years. The site reselection sampling plan was approved by NHTSA and a new slate of 148 observation locations have been determined.

Countermeasures in FFY 2023 aimed at belt safety such as short-term, high-visibility seat belt law enforcement (local and State mobilizations during Click It or Ticket campaign in May); sustained enforcement efforts by State Police throughout the year; and media messaging through traditional channels (billboards, signage) and social media sites (Facebook, Twitter, Instagram, LinkedIn) will help drive home the importance of wearing seat belts for all motor vehicle occupants. In doing so, these countermeasures should help raise the five-year seat belt usage rate average to 82 by the end of 2023.

NC-1 Distraction-Affected Fatal Crashes

In the FFY 2023 HSP, the five-year average target for distraction-affected fatal crashes was 28, a 5% decrease from 30 reported in 2021. From 2017 to 2021, distraction-affected fatal crashes reported in Massachusetts rose 8.6%. The preliminary 2022 value for distracted-affected fatal crashes on MassDOT IMPACT is 12, which far lower than the average over the past five years. It has been noted in the past the value for this measure is inaccurate until finalized, which occurs 6-8 months after the calendar year had ended. To ensure greater accuracy of the data involving distracted driving fatal crashes, the 2022 preliminary value will not be used here. The 2017 – 2021 numbers will be utilized instead.

Actual					5-yr Avg 2018-2022	5-yr Avg 2023 Target
2017	2018	2019	2020	2021		
35	38	31	34	38	35	28

As of December 31, 2021, the five-year average for distracted-affected fatal crashes is 25.7% higher than the 2023 target of 28. Utilizing countermeasure programming such as high-visibility cellphone/text messaging enforcement and communications outreach on the dangers of distracted driving, Massachusetts hopes to lower the five-year average for distraction-affected fatal crashes to 28 by December 31, 2023.

Traffic Records-Related Performance Targets for FFY 2023

Decrease the rate at which occupant coded fields (protective system, sex, transported by, injury severity, ejected) are left empty in police crash reports queried within MassDOT's crash data portal, IMPACT, by 20% (2.23 relative percentage points) from 11.15% (62369/621595) in January-June 2021 to 8.92% in April-June 2023.

Progress Report: As of spring 2023, UMassSafe's *Crash Report E-Manual: Law Enforcement Agency Targeted Resources to Improve Crash Data Quality Project* (TR 23-02) was still working towards its performance measure goal. A final measure will be taken in mid-July 2023. A progress check in spring 2023 revealed the benchmark for January-June 2021 was updated from 11.15% (62369/621595) to 15.0% (179,127/1,196,935), reflecting a more finalized crash dataset in IMPACT. Reporting on a comparable 6 months of data for the most recent time period, October 2022 - March 2023, the replicable performance measure stands at 14.7% (215,397/1,464,640), representing a 1.7% improvement/decrease (0.3 relative percentage points) in invalid/incomplete data of occupant coded fields. The deployment of the new changes/additions to the Crash E-Manual will be fully implemented by June 2023, therefore initial results for the performance measure will be known in mid-summer 2023.

Between 7/1/22 and 6/30/23, DCJIS will install approximately 400 mobile printers for police vehicles and provide associated training for 36 departments new to MACCS.

Progress Report: Through April 2023, DCJIS has installed 301 printers for police vehicles and provided associated training for 30 departments new to MACCS. This project is expected to meet its performance measure goal by the time the project ends in June 2023.

Increase the number of linked crash-acute hospital case mix records held by the MA Crash-related Injury Surveillance System (MA CRISS). The injury severity field is assessed for accuracy, completeness, and uniformity from 0 as of 8/1/22 to 40,000 by 6/30/23.

Progress Report: The project had to modify its performance target after the initial target was set. The new performance measure sought to increase the accuracy, completeness, and uniformity of crash data by increasing the number of linked crash-hospital discharge records for drivers and non-motorists in which the alcohol and drug fields were assessed for *accuracy and uniformity* from 0 as of 7/1/22 to 3,373 as of 11/30/22, and the number of unlinked crash records for drivers and non-motorists in which

the alcohol and drug fields were assessed for *completeness and internal consistency* from 0 as of 7/1/22 to 334,661 as of 11/30/22.

The next two targets were added in an FFY 2023 HSP Amendment that was completed at the beginning of FFY 2023 (October 1, 2022).

Within two weeks following the anticipated 9/1/23 launch of MRB's citation data portal, survey principal users identified in the needs assessment done during the project's phase one to determine the level of satisfaction of these users with access through the new portal to needed citation data they previously identified.

Progress Report: This project is on track to meet its performance measure goal by its conclusion at the end of FFY 2023.

To reduce the average number of days from when citations are issued by Boston Police Department personnel to when these citations are posted to the statewide citation data system, from 21 for the baseline period of 8/15/21 to 8/14/22 to 19 days during the performance period of 8/15/22 to 8/14/23.

Progress Report: This project is on track to meet its performance measure goal by its conclusion at the end of FFY 2023.