



# BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

Jamey Tesler, MassDOT Secretary and CEO and MPO Chair  
Tegin L. Teich, Executive Director, MPO Staff

## ***TECHNICAL MEMORANDUM***

**DATE: February 3, 2022**  
**TO: Boston Region Metropolitan Planning Organization**  
**FROM: Michelle Scott, MPO Staff**  
**RE: Federally Required Calendar Year 2022 Roadway Safety Targets**

The United States Department of Transportation (US DOT) requires states and metropolitan planning organizations (MPO) to establish targets each year for federally required roadway safety performance measures, which pertain to fatalities and serious injuries from motor vehicle crashes. The Boston Region MPO has voted to support the Commonwealth of Massachusetts' federally required annual targets for these roadway safety performance measures each year from 2018 through 2021. The Commonwealth has set its roadway safety targets for calendar year (CY) 2022, and the MPO is required to establish its CY 2022 targets by February 27, 2022, by either agreeing to support the Commonwealth's targets or setting its own. MPO staff recommends that the MPO vote to support the Commonwealth's CY 2022 targets for these federally required measures, and requests that the MPO take action to do so at its February 3, 2022, meeting.

### **1 FEDERAL ROADWAY SAFETY PERFORMANCE MONITORING REQUIREMENTS**

A series of federal rules designed to focus the federal surface transportation program on achieving performance outcomes was initiated under the Moving Ahead for Progress in the 21st Century (MAP-21) legislation and continued under the Fixing America's Surface Transportation (FAST) Act (see Appendix A for more details). These rules remain in effect under the Bipartisan Infrastructure Law (BIL). The National Performance Management Measures: Highway Safety Improvement Program rule identifies five performance measures related to crashes involving motor vehicles for which targets must be set:

- 1) Number of fatalities
- 2) Rate of fatalities per 100 million vehicle-miles traveled (VMT)
- 3) Number of serious injuries
- 4) Rate of serious injuries per 100 million VMT
- 5) Number of nonmotorized fatalities and nonmotorized serious injuries

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The US DOT requires states to establish and report targets for these measures for the next calendar year by August 31 each year. MPOs have 180 days—no later than February 27 of the applicable calendar year—to establish their own targets using one of the following methods:

- *Supporting state targets.* Should the MPO select this option, it would agree to plan and program projects so that they contribute to accomplishing the Commonwealth’s targets.
- *Setting quantifiable targets specific to the MPO region.* Should the MPO select this option, it would need to estimate VMT for all public roads in the MPO region and report the methods used to produce those estimates.

In either case, the MPO will need to coordinate with the Commonwealth when setting targets. It will also need to incorporate goals, objectives, measures, and targets from the Commonwealth’s safety plans and processes into the MPO’s planning process.

The MPO has reported on these roadway safety measures and targets, along with other performance measures and targets, in its current Long-Range Transportation Plan (LRTP), *Destination 2040*. In the LRTP, the MPO identified baseline values for these measures and listed recent MPO targets. The MPO provides similar information in the Transportation Improvement Program (TIP), along with descriptions of how projects programmed in the TIP may support improvements in these performance measures and progress toward achieving roadway safety targets.

## 2 PAST MASSACHUSETTS ROADWAY SAFETY PERFORMANCE TARGETS

As previously mentioned, the Commonwealth has set targets for these federally required roadway safety performance measures for 2018 through 2021. The Federal Highway Administration (FHWA) encourages states to set targets that are “data-driven, realistic, and attainable,” and that align with US DOT’s performance management framework and legislative intent.<sup>1</sup> The Commonwealth has applied these principles when setting targets for these federally required measures.

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<sup>1</sup> US Department of Transportation Federal Highway Administration. “State Safety Performance Targets.” July 8, 2020. Accessed January 23, 2022, at [https://safety.fhwa.dot.gov/hsip/spm/state\\_safety\\_targets](https://safety.fhwa.dot.gov/hsip/spm/state_safety_targets).

Table 1 lists the Commonwealth’s CY 2018 safety targets (set in 2017), CY 2019 targets (set in 2018), CY 2020 targets (set in 2019), and CY 2021 targets (set in 2020). Beyond these quantified targets, the Commonwealth has a long-term goal to eliminate fatalities and serious injuries on Massachusetts roadways. This goal is described in MassDOT’s Tracker performance report card and in the Commonwealth’s 2018 Strategic Highway Safety Plan (SHSP).<sup>2</sup> The 2018 SHSP also identifies interim goals that the Commonwealth will work toward to advance its long-term goal, and describes the planning, programming, and other strategies that the Commonwealth and partner entities can implement to improve safety outcomes. The Commonwealth is currently developing a new SHSP, which is expected to be complete by the end of 2022.

**Table 1**  
**Massachusetts CY 2018–21 Targets**  
**for Roadway Safety Performance Measures**

Performance Measure	2018 Target (2014–18)	2019 Target (2015–19)	2020 Target (2016–20)	2021 Target (2017–21)
Number of Fatalities	352.00	353.00	347.00	339.00
Fatality Rate per 100M VMT	0.61	0.58	0.56	0.55
Number of Serious Injuries	2,896.00	2,801.00	2,689.00	2,580.00
Serious Injury Rate per 100M VMT	5.01	4.37	4.30	4.23
Number of Nonmotorized Fatalities and Serious Injuries	540.80	541.00	505.40	506.00

Note: Target values are expressed as five-year rolling annual averages.

CY = Calendar Year. M = Million. MA = Massachusetts. VMT = Vehicle-Miles Traveled.

Sources: Commonwealth of Massachusetts and Boston Region MPO Staff.

The FHWA assesses each state’s performance regarding its targets as data become available to determine whether the state has made significant progress toward meeting its performance targets. To make significant progress, a state must meet four out of the five roadway safety performance targets or have actual performance better than the baseline for those measures. Should a state not make significant progress, the FHWA will limit that state’s flexibility when spending federal transportation dollars to direct funding toward projects and initiatives that would improve roadway safety.<sup>3</sup> The FHWA conducted a

<sup>2</sup> Massachusetts Department of Transportation. “MassDOT Tracker 2020.” Accessed January 21, 2021, at <https://www.massdottracker.com/wp/>. Massachusetts Department of Transportation. *Massachusetts Strategic Highway Safety Plan*. Accessed January 22, 2022, at <https://www.mass.gov/doc/massachusetts-shsp-2018/download>, page i.

<sup>3</sup> For more details on the response required of states when the FHWA determines they have not met or made significant progress towards its safety performance targets, see the following:

significant progress determination for the Commonwealth’s 2018 roadway safety targets in 2020 and found that the Commonwealth had met or exceeded four of its targets and performed better than the baseline value for a fifth measure (number of fatalities). More details are available in the February 2021 memorandum titled “Federally Required Calendar Year 2021 Safety Targets.”<sup>4</sup>

In 2021, the FHWA determined it had sufficient data to assess state performance against CY 2019 roadway safety performance targets and conducted a similar evaluation. For Massachusetts, the FHWA compared the 2018 target for each measure (which reflected a 2015–19 rolling annual average) to baseline values for that measure (the 2013–17 rolling annual average) and the outcome for that measure (actual 2015–19 rolling annual average, based on US DOT data).<sup>5</sup> Table 2 summarizes the FHWA’s assessment of Massachusetts’s performance against CY 2019 performance targets. For three of the measures, Massachusetts’ performance met or was better than the CY 2019 target. While the actual 2015–19 averages for the number of fatalities and the rate of serious injuries were not better than the targets set for those measures, performance was better than the baseline (2013–17 average) in each case. As a result, the FHWA determined that Massachusetts made significant progress with respect to its CY 2019 performance targets.

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US Department of Transportation Federal Highway Administration, “Met or Made Significant Progress Determination Fact Sheet,” November 18, 2021. Accessed January 22, 2022, at [https://safety.fhwa.dot.gov/hsip/spm/pm\\_progress\\_fs.cfm](https://safety.fhwa.dot.gov/hsip/spm/pm_progress_fs.cfm).

<sup>4</sup> Boston Region Metropolitan Planning Organization Staff. “Federally Required Calendar Year 2021 Safety Targets.” February 4, 2021. Available at <https://www.bostonmpo.org/data/pdf/programs/performance/CY2021-Federally-Required-Highway-Safety-Targets.pdf>.

<sup>5</sup> US Department of Transportation Federal Highway Administration. “State Highway Safety Report (2019) – Massachusetts.” May 26, 2021. Accessed January 22, 2022, at <https://www.fhwa.dot.gov/tpm/reporting/state/safety.cfm?state=Massachusetts>.

**Table 2  
US DOT Assessment of  
Massachusetts CY 2019 Safety Performance Targets**

<b>Performance Measure</b>	<b>2015–19 Target</b>	<b>2015–19 Outcome*</b>	<b>Target Achieved</b>	<b>2013–17 Baseline</b>	<b>Outcome Better than Baseline</b>
Number of Fatalities	353.0	353.4	No	356.6	Yes
Fatality Rate per 100M VMT	0.580	0.560	Yes	0.600	Yes
Number of Serious Injuries	2,801.0	2,753.2	Yes	2,943.0	Yes
Serious Injury Rate per 100M VMT	4.37	4.38	No	4.966	Yes
Number of Nonmotorized Fatalities and Serious Injuries	541.0	524.4	Yes	545.8	Yes

Notes: All baseline and target values for federally required performance measures are expressed as five-year rolling annual averages.

\* Data used to measure the 2015–19 outcomes was compiled by US DOT.

CY = Calendar Year. M = Million. MPO = Metropolitan Planning Organization. US DOT = US Department of Transportation. VMT = Vehicle-Miles Traveled.

Sources: Federal Highway Administration, Commonwealth of Massachusetts, and Boston Region MPO Staff.

The FHWA will not review MPO progress on these performance measures directly, and the MPO will neither be penalized for not achieving roadway safety targets nor rewarded for attaining them. During quadrennial certification reviews, the FHWA will examine how MPOs are implementing performance-based planning and programming principles and assess how MPOs are progressing toward their own targets or assisting the state in making progress toward its targets.

### **3 ROADWAY SAFETY PERFORMANCE TARGETS AND DATA**

#### **3.1 Massachusetts CY 2022 Roadway Safety Performance Targets**

Roadway safety performance targets for CY 2022 will reflect a 2018–22 rolling annual average, as required by US DOT. When setting targets, the Commonwealth considered the following:

- Historic trends for these measures and their component metrics (such as annual VMT).
- Draft 2019 and 2020 values for these measures and their component metrics along with 2021 year-to-date estimates of these measures at the time of target setting (spring and summer 2021).
- Changes in travel behavior and traffic volumes in response to the COVID-19 pandemic, which were considered in VMT projections for CYs 2021 and 2022.

- Implementation of changes to meet data-reporting requirements, particularly those that would help law enforcement agencies report injury severity more easily and in a more objective manner.
- Implementation of safety improvement policies and strategies, including those pertaining to engineering, enforcement, education, awareness, data collection, and emergency response. For example, MassDOT has adopted a speed management focus and safe systems focus, and it continues to implement strategies outlined in the 2018 Strategic Highway Safety Plan and the Statewide Bicycle and Pedestrian Plans.<sup>6</sup>
- The Commonwealth’s long-term goals of eliminating fatalities and serious injuries on Massachusetts’ roadways.

Table 3 shows the Commonwealth’s CY 2022 roadway safety performance targets and reiterates the Commonwealth’s long-term targets. Finally, the table notes the Commonwealth’s long-term goal to eliminate fatalities and serious injuries on Massachusetts roadways.

**Table 3  
Massachusetts CY 2022 Safety Performance Targets**

<b>Performance Measure</b>	<b>CY 2022 Target (2018–22 Average)*</b>	<b>MA Long-Term Target</b>
Number of Fatalities	340.00	0.00
Fatality Rate (per 100M VMT)	0.56	0.00
Number of Serious Injuries	2,504.00	0.00
Serious Injury Rate (per 100M VMT)	4.11	0.00
Number of Nonmotorized Fatalities and Serious Injuries	471.00	0.00

\* This target value is expressed as a five-year rolling annual average.  
 CY = Calendar Year. M = Million. MA = Massachusetts. MPO = Metropolitan Planning Organization. VMT = Vehicle-Miles Traveled.  
 Sources: Federal Highway Administration, Commonwealth of Massachusetts, and Boston Region MPO Staff.

### 3.2 Performance Measure-Specific Data and Target Setting Methodologies

Figures 1 through 5 display actual and draft data, projections, and CY 2022 targets for Massachusetts for each of the roadway safety performance measures. These figures show information that was available in spring and summer 2021, when the Commonwealth was setting CY 2022 targets. These figures also show

<sup>6</sup> The Commonwealth’s resources on speed management are available at <https://www.mass.gov/safe-speeds>. The Massachusetts Bicycle and Pedestrian Plans are available at <https://www.mass.gov/statewide-plans>. To learn more about safe systems, visit [https://safety.fhwa.dot.gov/zerodeaths/zero\\_deaths\\_vision.cfm](https://safety.fhwa.dot.gov/zerodeaths/zero_deaths_vision.cfm).

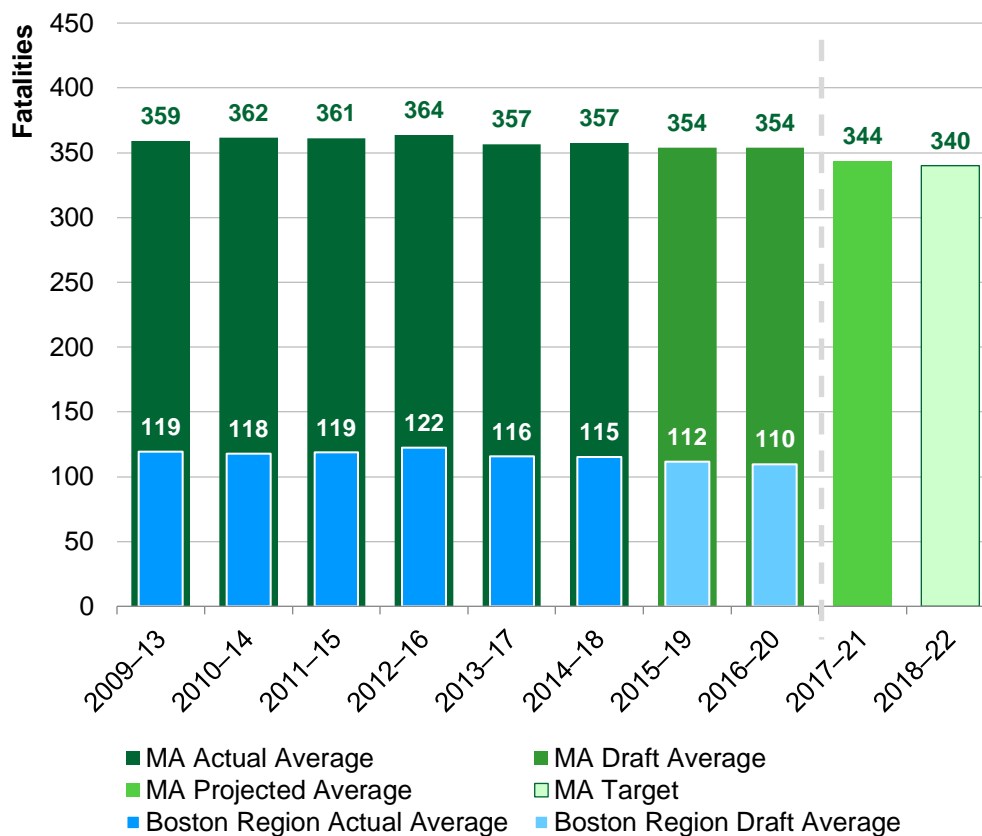
actual and draft data for the Boston region. Supplementary data are available in Appendix B. Additional crash data can be explored using MassDOT's web-based IMPACT crash data analysis tools.<sup>7</sup>

Figure 1 shows data, projections, and the Commonwealth's CY 2022 target for the number of fatalities. As shown in this chart and Figure 2, five-year rolling averages for fatality-oriented measures at both the Massachusetts level and the Boston region level through 2020 have decreased following a spike in fatalities in 2016. When developing projections and CY 2022 targets in spring and summer 2021, the Commonwealth chose not to incorporate fatality data from 2020, given the effects of the COVID-19 pandemic and related responses on travel behavior. Instead, the Commonwealth assumed that the number of fatalities from motor vehicle crashes that would occur in 2021 would equal the number that occurred in 2019 (336 fatalities). Next, the Commonwealth projected that fatalities would decrease by 2.5 percent between 2021 and 2022, to 328 fatalities. The Commonwealth set this percentage change because it reflected a reasonable but desirable percent change in annual fatalities. (Figure B-1 in Appendix B provides annual values for fatalities.) Using these projections, finalized fatality data for 2018, and draft data for 2019, the Commonwealth set a target average for 2018–22 of 340 fatalities. As previously mentioned, this target has been set to meet federal roadway safety performance requirements, but the Commonwealth has an overarching goal of zero fatalities and injuries on Massachusetts' roadways.

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<sup>7</sup> MassDOT's IMPACT crash data analysis tools are available at <https://apps.impact.dot.state.ma.us/cdp/home>.

**Figure 1  
Number of Fatalities**

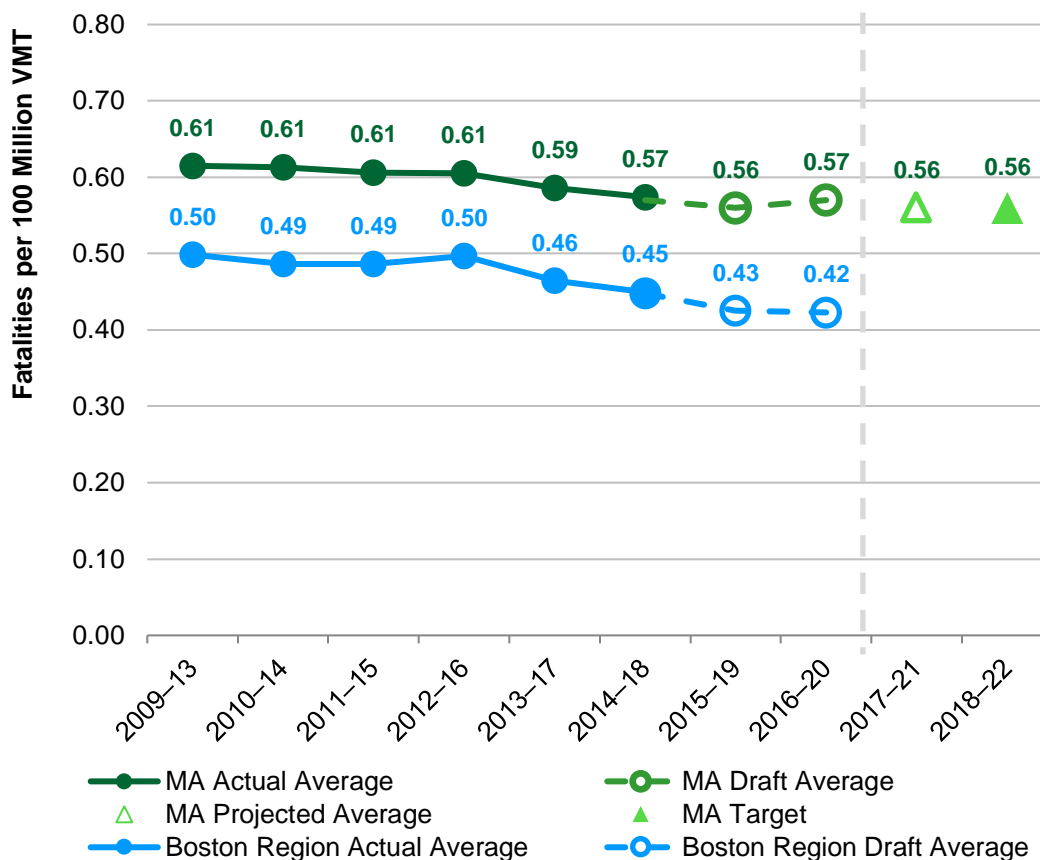


Notes: Values reflect five-year rolling annual averages and have been rounded to the nearest integer. Draft 2019 and 2020 data in these averages are from May 2021(Massachusetts) and June 2021(Boston region). MA = Massachusetts. MPO = Metropolitan Planning Organization. Sources: National Highway Traffic Safety Administration Fatality Analysis and Reporting System, Massachusetts Department of Transportation, Boston Region MPO Staff.

The Commonwealth estimated fatality rates per 100 million VMT using actual, estimated, or projected values for fatalities, as previously discussed, along with recent and projected values for VMT. Because of the pandemic and related responses, VMT decreased in CY 2020 compared to prior years, though the Commonwealth anticipated that 2021 and 2022 VMT values would be higher, reflecting a gradual return to pre-pandemic levels of travel. Figure 2 shows data and projections pertaining to the fatality rate per 100 million VMT, including the Commonwealth’s target 2018–22 average of 0.56 fatalities per 100 million VMT. (Figure B-2 in Appendix B provides annual VMT values.)



**Figure 2**  
**Fatality Rate per 100 Million VMT**



Notes: Values reflect five-year rolling annual averages and have been rounded to the hundredths decimal place. Draft 2019 and 2020 fatality values in these averages are from May 2021 (for Massachusetts) and June 2021 (for the Boston region). MassDOT plans to revisit 2018 VMT data for future target-setting activities.

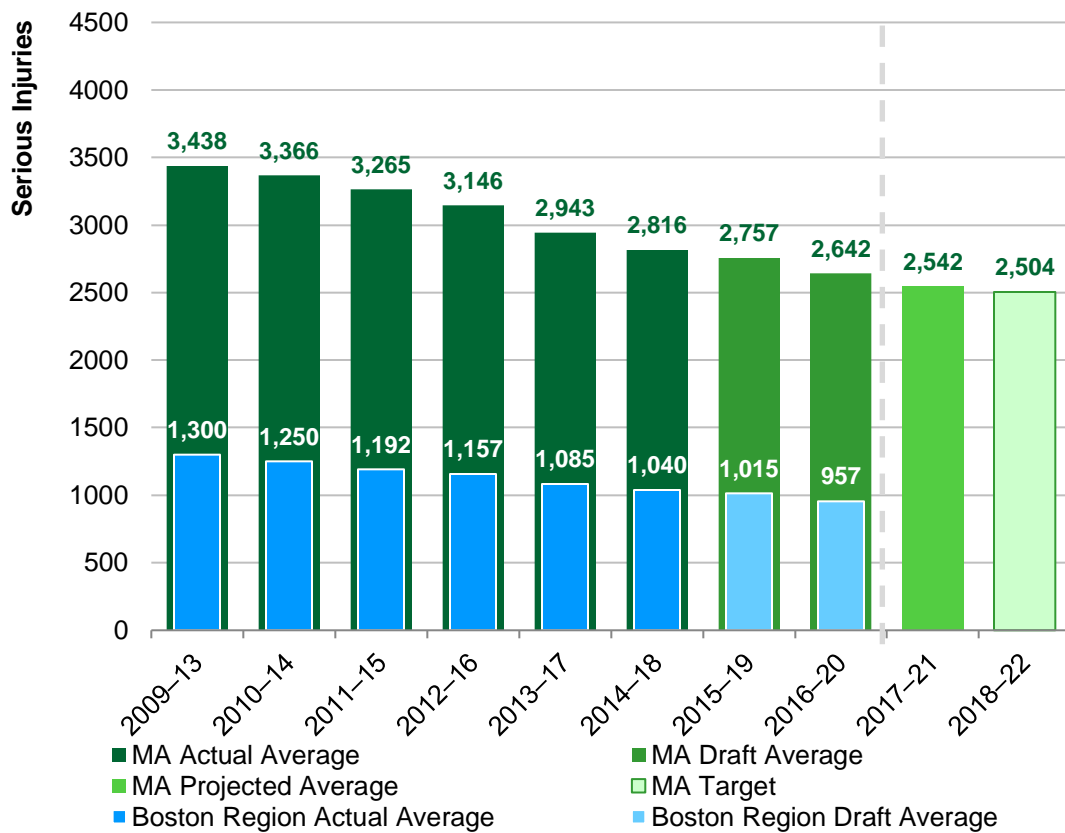
MA = Massachusetts. MPO = Metropolitan Planning Organization. VMT = Vehicle-Miles Traveled. Sources: National Highway Traffic Safety Administration Fatality Analysis and Reporting System, Massachusetts Department of Transportation, and Boston Region MPO Staff.

Figure 3 shows data, projections, and the Commonwealth’s CY 2022 target for the number of serious injuries. (Figure B-3 in Appendix B provides annual values for serious injuries.) As shown in the chart and in Figure 4, five-year rolling averages for the serious injury-oriented measures have decreased over time at both the Massachusetts level and the Boston region level. To meet federal requirements, MassDOT updated its definition of serious injuries that are recorded in the Commonwealth’s Crash Data System (CDS) as of January 2019.<sup>8</sup> This data change may have affected the count of serious injuries for 2019,

<sup>8</sup> As of April 15, 2019, states are required to define serious injuries using the definition of “Suspected Serious Injury (A),” as detailed in the Model Minimum Uniform Crash Criteria 4th

and some local agencies are still transitioning to the new definition. The number of serious injuries that occurred in 2020, which was lower than previous years, was likely affected by the pandemic and related travel behavior changes. Given the circumstances affecting these 2019 and 2020 serious injury data, the Commonwealth assumed a three percent decrease in serious injuries between 2018 and 2021, and another four percent decrease between 2021 and 2022. These percent decrease values reflect reasonable but desirable changes in annual serious injuries. Based on these calculations, the Commonwealth set a target 2018–22 average of 2,504 serious injuries.

**Figure 3  
Number of Serious Injuries**



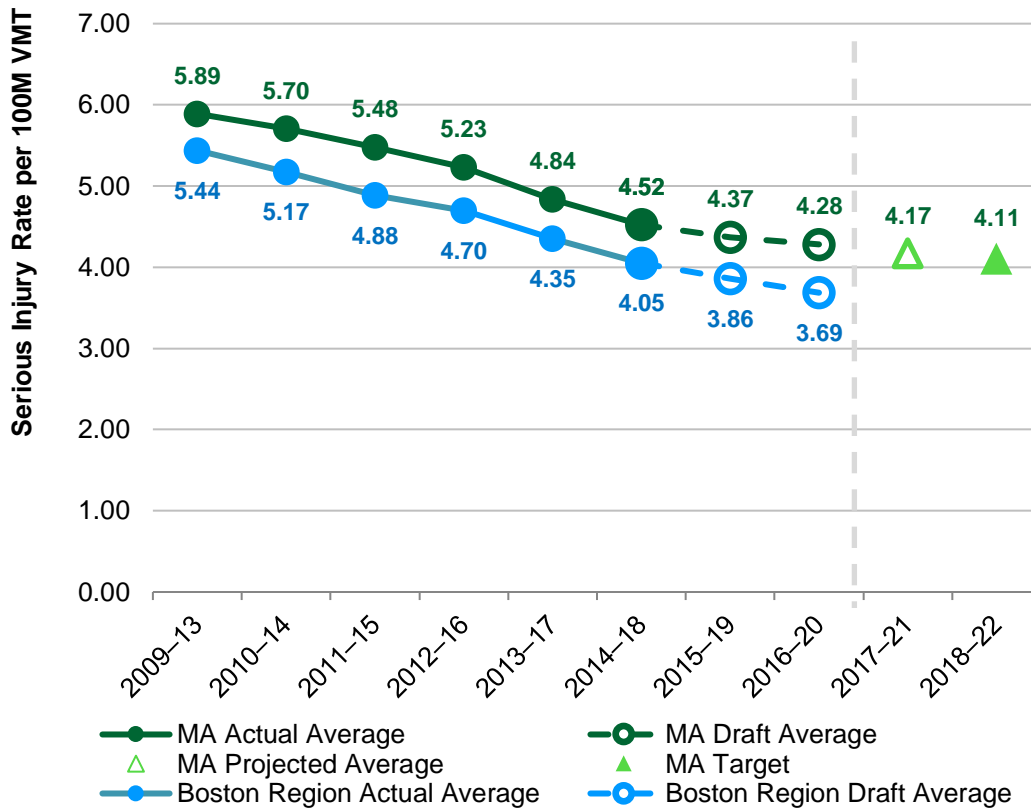
Notes: Values reflect five-year rolling annual averages and have been rounded to the nearest integer. Draft 2019 and 2020 data in these averages are from May 2021 (for Massachusetts) and June 2021 (for the Boston region).

MA = Massachusetts. MPO = Metropolitan Planning Organization. VMT = Vehicle-Miles Traveled. Sources: Massachusetts Department of Transportation, and Boston Region MPO Staff.

Edition. Massachusetts Department of Transportation implemented this change in its statewide crash data system as of January 1, 2019.

Figure 4 shows data and projections pertaining to the serious injury rate per 100 million VMT, as well as the Commonwealth’s target 2018–22 average of 4.11 serious injuries per 100 million vehicle-miles traveled.

**Figure 4**  
**Serious Injury Rate per 100 Million VMT**



Notes: Values reflect five-year rolling annual averages and have been rounded to the nearest integer. Draft 2019 and 2020 serious injuries data in these averages are from May 2021 (for Massachusetts) and June 2021 (for the Boston region). MassDOT plans to revisit 2018 VMT data for future target-setting activities. MA = Massachusetts. MPO = Metropolitan Planning Organization. VMT = Vehicle-Miles Traveled. Sources: Massachusetts Department of Transportation, Boston Region MPO Staff.

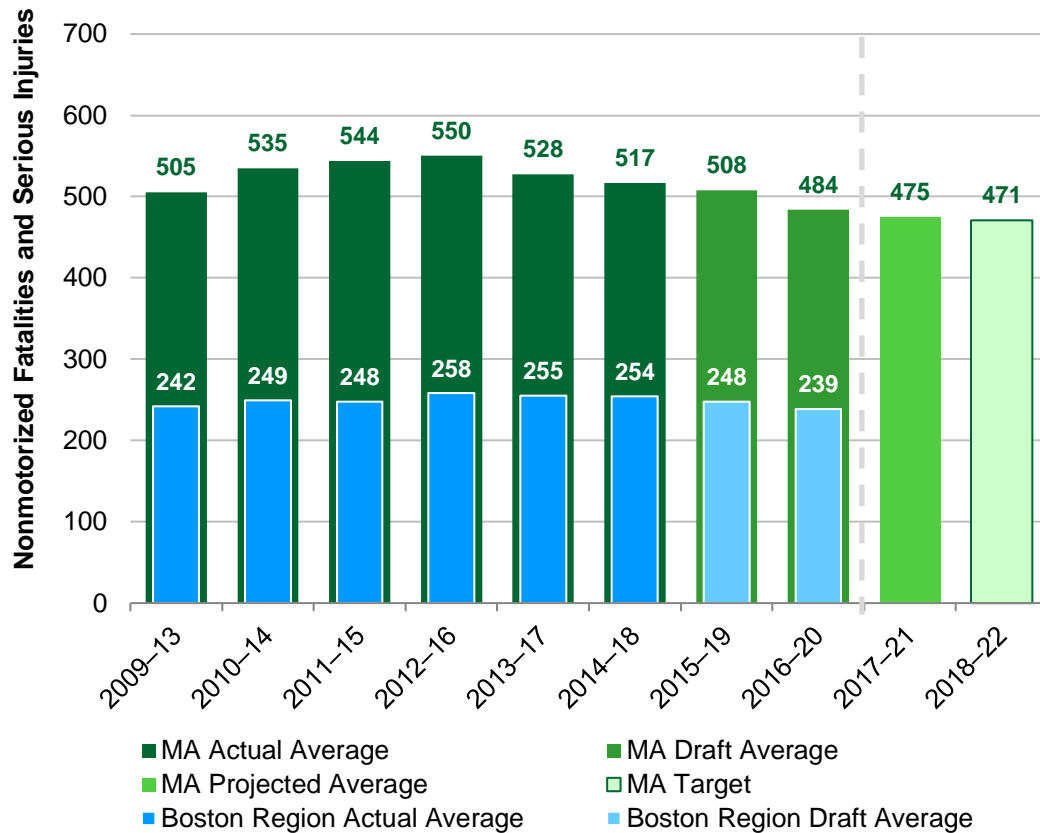
Figure 5 shows data, projections, and the CY 2022 target for the number of nonmotorized fatalities and serious injuries. This category includes people who walk, bicycle, skate, or use wheelchairs or other mobility devices.<sup>9</sup> When developing this target, the Commonwealth considered fluctuations in the annual numbers of nonmotorized fatalities and nonmotorized serious injuries, including

<sup>9</sup> For this reporting cycle, the Commonwealth has adjusted its inclusion criteria for nonmotorists by excluding the nonmotorist type “not reported.” By manually inspecting crash data, the Commonwealth found that many people in this category were not actually bicyclists or pedestrians but bystanders (such as people who were in a building when it was struck by a vehicle).

the drop in both crash outcomes that occurred in 2020. (Figure B-4 in Appendix B shows annual values for combined nonmotorized fatalities and serious injuries while Figures B-5 and B-6 show annual values for nonmotorized fatalities and nonmotorized serious injuries, respectively.) The Commonwealth assumed that the number of 2021 nonmotorized fatalities and serious injuries would equal the 2017–19 average and assumed that this 2021 value would decrease by two percent between 2021 and 2022 (a reasonable but desirable change). Using these calculations, the Commonwealth set a target average for 2018–22 of 471 nonmotorized fatalities and serious injuries.

Figure 5 shows recent decreases in the five-year rolling average of nonmotorized fatalities and serious injuries for both Massachusetts and the Boston region. However, on average, the Boston region makes up a larger share of nonmotorized fatalities and serious injuries in Massachusetts than of overall fatalities or of overall serious injuries. This safety performance area in particular should be addressed through coordinated planning, investment, and strategy implementation between the Massachusetts Department of Transportation (MassDOT), the Boston Region MPO, the region’s municipalities, and other stakeholders.

**Figure 5**  
**Number of Nonmotorized Fatalities and Serious Injuries**



Notes: Values reflect five-year rolling annual averages and have been rounded to the nearest integer. Draft 2019 and 2020 data in these averages are from May 2021 (for Massachusetts) and June 2021 (for the Boston region).  
 MA = Massachusetts. MPO = Metropolitan Planning Organization. VMT = Vehicle-Miles Traveled.  
 Sources: Massachusetts Department of Transportation and Boston Region MPO Staff.

#### 4 REQUESTED ACTION AND NEXT STEPS

MPO staff recommends that the Boston Region MPO vote to support the Commonwealth’s CY 2022 roadway safety performance targets. This option would satisfy federal requirements and would reflect the way the MPO will need to collaborate with the Commonwealth on safety strategies to reduce fatalities and injuries in the Boston region, which include education campaigns and driver behavior laws as well as infrastructure investment. Should the MPO select this target-setting approach, staff will present and describe these targets in the performance chapters of the federal fiscal years 2023–27 TIP document. FHWA will review the Commonwealth’s progress with respect to its targets once data are available and will notify the Commonwealth about whether it has met or made significant progress toward its safety performance targets. MPO staff

expects that the FHWA will report on Massachusetts' progress toward CY 2022 targets in CY 2024.

The Boston Region MPO, MassDOT, the region's municipalities, and other stakeholders will need to work together on planning and investment activities that will support improvements in roadway safety outcomes. These activities include addressing factors driving fatalities during the pandemic, such as increased instances of speeding and decreased use of occupant protections such as seatbelts. There are many opportunities in CY 2022 to collaborate on these issues, including the start of work on the next SHSP and the MPO's next Long-Range Transportation Plan and Needs Assessment. Other resources and support may become available as the US DOT establishes its first National Roadway Safety Strategy and begins to implement transportation-safety-oriented components of the BIL.<sup>10</sup> MPO staff hope the data presented here can serve as a springboard for future discussions about how to leverage opportunities to improve roadway safety in the region.

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Appendix A: Federal Roadway Safety Performance Rules

Appendix B: Supplementary Roadway Safety Performance Charts

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<sup>10</sup> US Department of Transportation. "NHTSA Announces \$260 Million in Grants for Highway Safety Programs Made Possible by the Bipartisan Infrastructure Law." December 16, 2021. Accessed January 24, 2022, at <https://www.transportation.gov/briefing-room/nhtsa-announces-260-million-grants-highway-safety-programs-made-possible-bipartisan>.

The Boston Region Metropolitan Planning Organization (MPO) operates its programs, services, and activities in compliance with federal nondiscrimination laws including Title VI of the Civil Rights Act of 1964 (Title VI), the Civil Rights Restoration Act of 1987, and related statutes and regulations. Title VI prohibits discrimination in federally assisted programs and requires that no person in the United States of America shall, on the grounds of race, color, or national origin (including limited English proficiency), be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination under any program or activity that receives federal assistance. Related federal nondiscrimination laws administered by the Federal Highway Administration, Federal Transit Administration, or both, prohibit discrimination on the basis of age, sex, and disability. The Boston Region MPO considers these protected populations in its Title VI Programs, consistent with federal interpretation and administration. In addition, the Boston Region MPO provides meaningful access to its programs, services, and activities to individuals with limited English proficiency, in compliance with U.S. Department of Transportation policy and guidance on federal Executive Order 13166.

The Boston Region MPO also complies with the Massachusetts Public Accommodation Law, M.G.L. c 272 sections 92a, 98, 98a, which prohibits making any distinction, discrimination, or restriction in admission to, or treatment in a place of public accommodation based on race, color, religious creed, national origin, sex, sexual orientation, disability, or ancestry. Likewise, the Boston Region MPO complies with the Governor's Executive Order 526, section 4, which requires that all programs, activities, and services provided, performed, licensed, chartered, funded, regulated, or contracted for by the state shall be conducted without unlawful discrimination based on race, color, age, gender, ethnicity, sexual orientation, gender identity or expression, religion, creed, ancestry, national origin, disability, veteran's status (including Vietnam-era veterans), or background.

A complaint form and additional information can be obtained by contacting the MPO or at [http://www.bostonmpo.org/mpo\\_non\\_discrimination](http://www.bostonmpo.org/mpo_non_discrimination).

To request this information in a different language or in an accessible format, please contact

Title VI Specialist  
Boston Region MPO  
10 Park Plaza, Suite 2150  
Boston, MA 02116  
[civilrights@ctps.org](mailto:civilrights@ctps.org)

**By Telephone:**

857.702.3702 (voice)

For people with hearing or speaking difficulties, connect through the state MassRelay service:

- **Relay Using TTY or Hearing Carry-over:** 800.439.2370
- **Relay Using Voice Carry-over:** 866.887.6619
- **Relay Using Text to Speech:** 866.645.9870

For more information, including numbers for Spanish speakers, visit <https://www.mass.gov/massrelay>.

## **APPENDIX A: FEDERAL ROADWAY SAFETY PERFORMANCE RULES**

Several federal rules pertain to performance-based planning and programming (PBPP) practices for roadway safety and inform this aspect of the Boston Region's Metropolitan Planning Organization's (MPO) PBPP process:

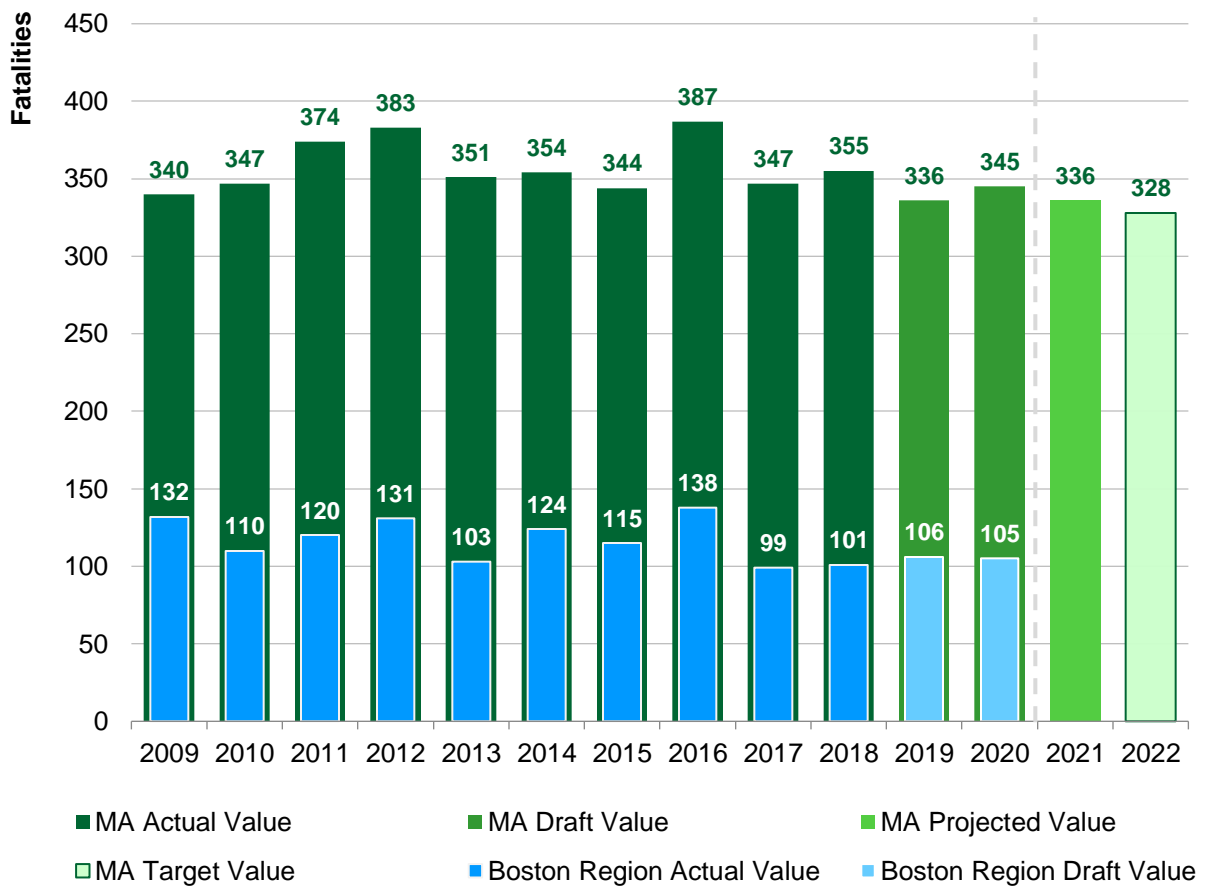
- The Statewide and Nonmetropolitan Transportation Planning and Metropolitan Transportation Planning final rule establishes requirements for state and MPO planning processes, including those pertaining to performance-based decision making, target setting, and reporting. (23 Code of Federal Regulations [CFR] Parts 450 and 771 and 49 CFR Part 613)
- The Highway Safety Improvement Program rule includes requirements for states to report annually on targets and progress for federally identified highway safety performance measures. (23 CFR Part 494)
- The National Performance Management Measures: Highway Safety Improvement Program rule identifies the relevant performance measures. (23 CFR Part 490)



## APPENDIX B: SUPPLEMENTARY ROADWAY SAFETY PERFORMANCE DATA

The figures in this appendix provide additional roadway safety performance data, which inform the performance measures and targets shown in Figures 1 through 5 in the memorandum. Data are presented annually, so the figures show the year-to-year fluctuations that are evened out in the five-year rolling averages included in Figures 1 through 5. Projections for Massachusetts values follow the methods outlined in the memorandum.

**Figure B-1  
Number of Fatalities (Annual)**

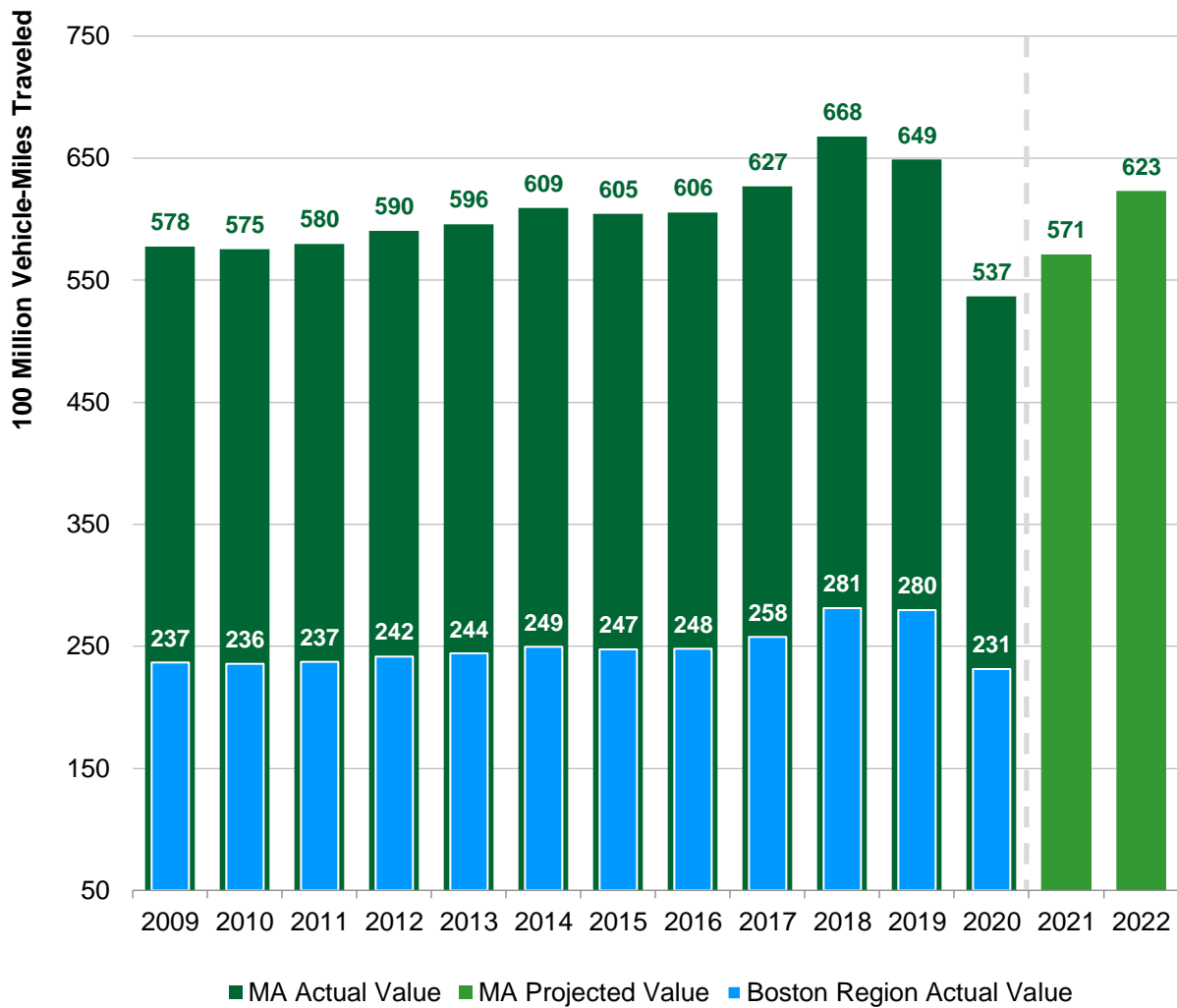


Notes: Draft 2019 and 2020 fatality values are from May 2021 (for Massachusetts) and June 2021 (for the Boston region).

MA = Massachusetts. MassDOT = Massachusetts Department of Transportation. MPO = Metropolitan Planning Organization.

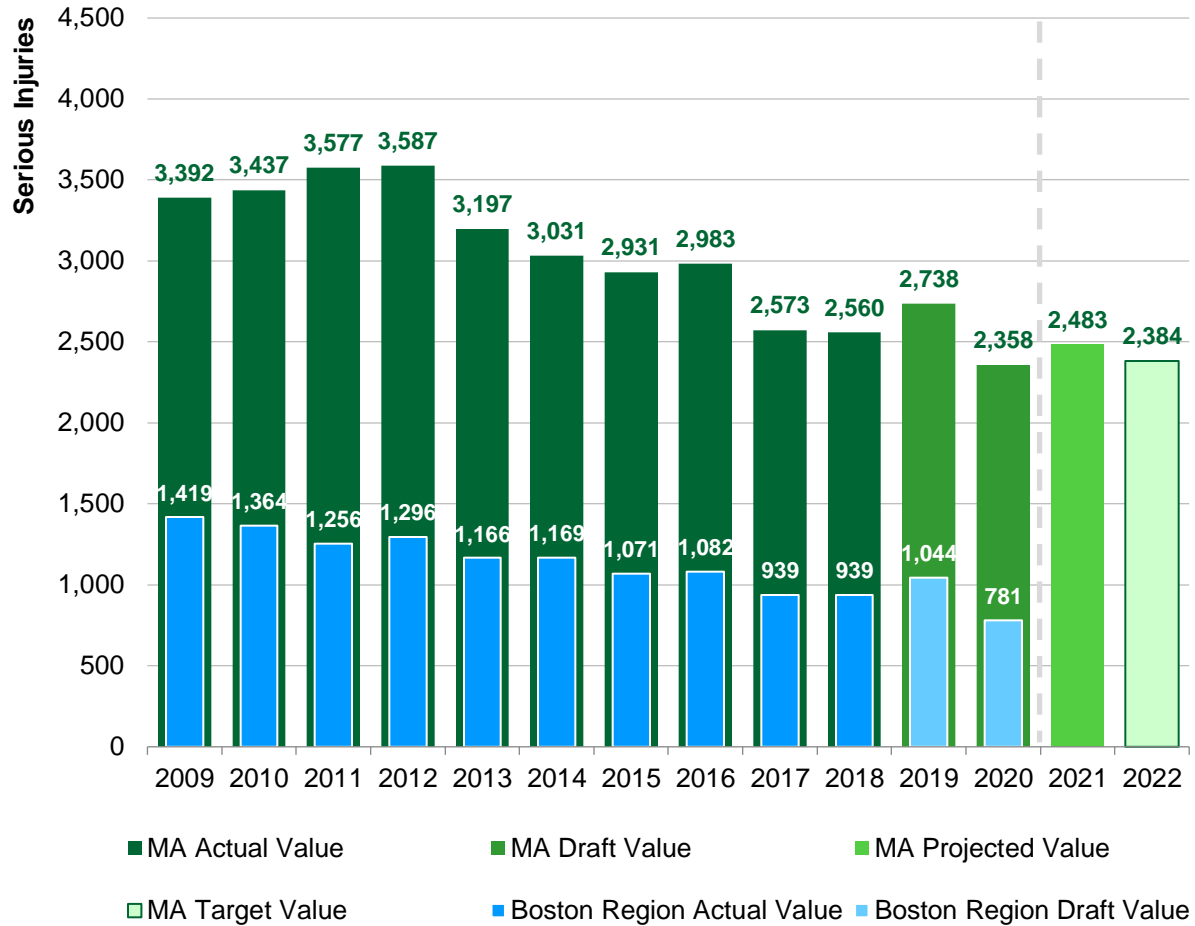
Sources: National Highway Traffic Safety Administration Fatality Analysis and Reporting System, MassDOT, and Boston Region MPO Staff.

**Figure B-2  
Annual Vehicle-Miles Traveled**



Notes: MassDOT plans to revisit 2018 VMT data for future target setting activities.  
 CY = Calendar Year. MA = Massachusetts. MassDOT = Massachusetts Department of Transportation. MPO = Metropolitan Planning Organization. VMT = Vehicle-Miles Traveled.  
 Sources: MassDOT and Boston Region MPO Staff.

**Figure B-3  
Number of Serious Injuries (Annual)**

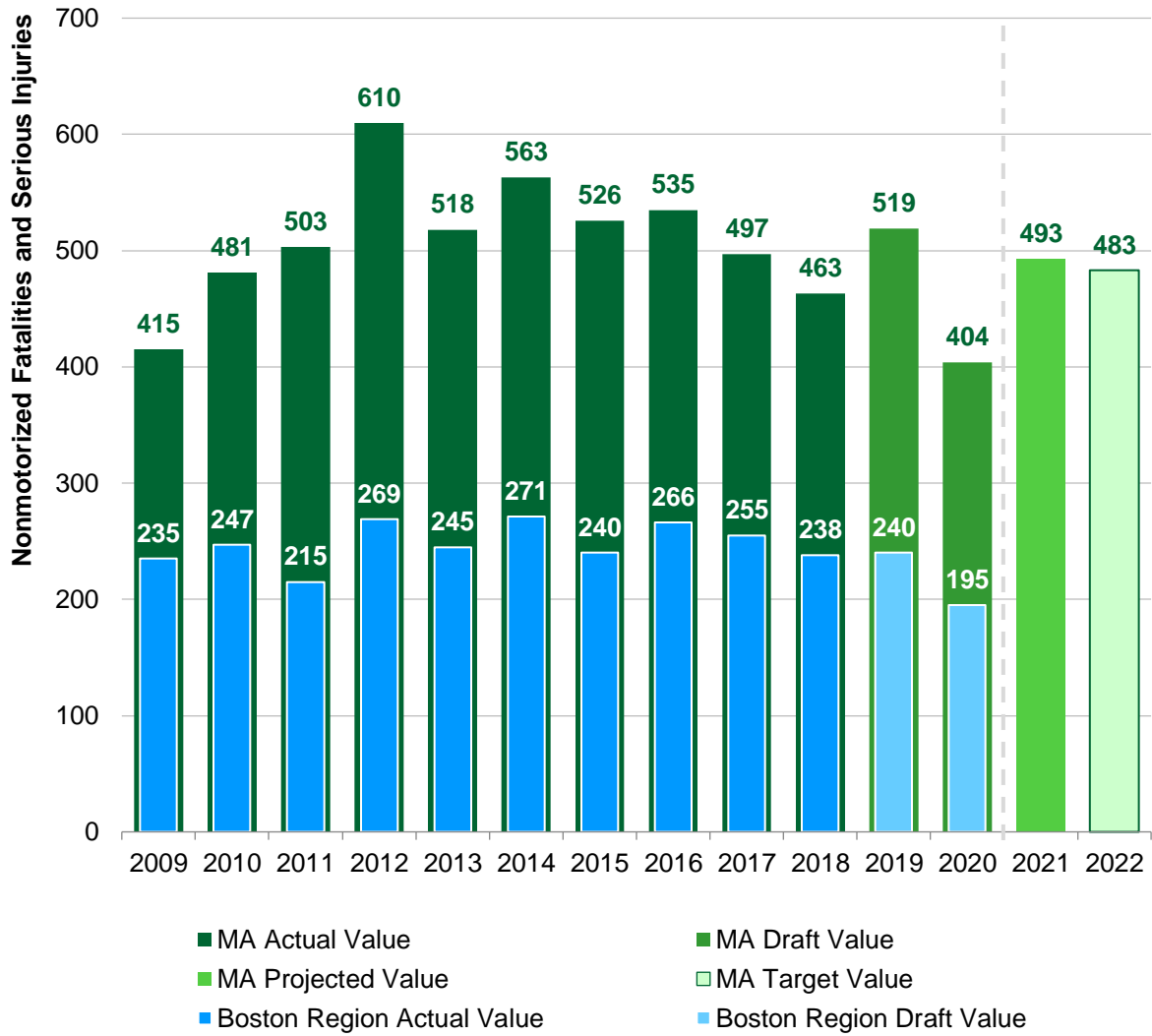


Notes: Draft 2019 and 2020 serious injury values are from May 2021 (for Massachusetts) and June 2021 (for the Boston region).

MA = Massachusetts. MPO = Metropolitan Planning Organization. VMT = Vehicle-Miles Traveled.

Sources: Massachusetts Department of Transportation and Boston Region MPO Staff.

**Figure B-4  
Number of Nonmotorized Fatalities and Serious Injuries (Annual)**

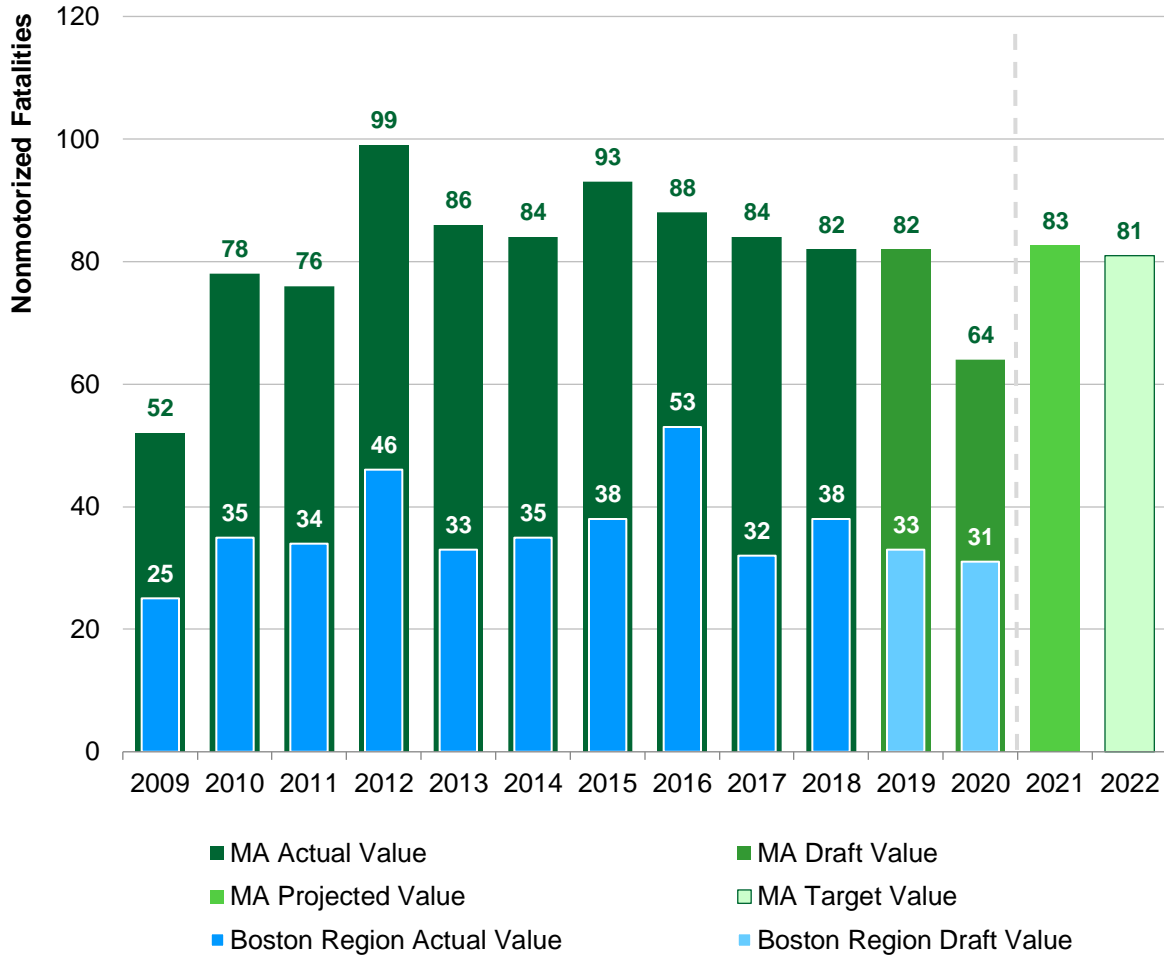


Notes: Draft 2019 and 2020 fatality and serious injury values are from May 2021 (for Massachusetts) and June 2021 (for the Boston region). Data for non-motorized serious injuries has been modified from previous years to exclude the “not-reported” nonmotorist type.

MA = Massachusetts. MPO = Metropolitan Planning Organization. VMT = Vehicle-Miles Traveled.

Sources: National Highway Traffic Safety Administration Fatality Analysis and Reporting System, Massachusetts Department of Transportation, and Boston Region MPO Staff.

**Figure B-5  
Number of Nonmotorized Fatalities (Annual)**

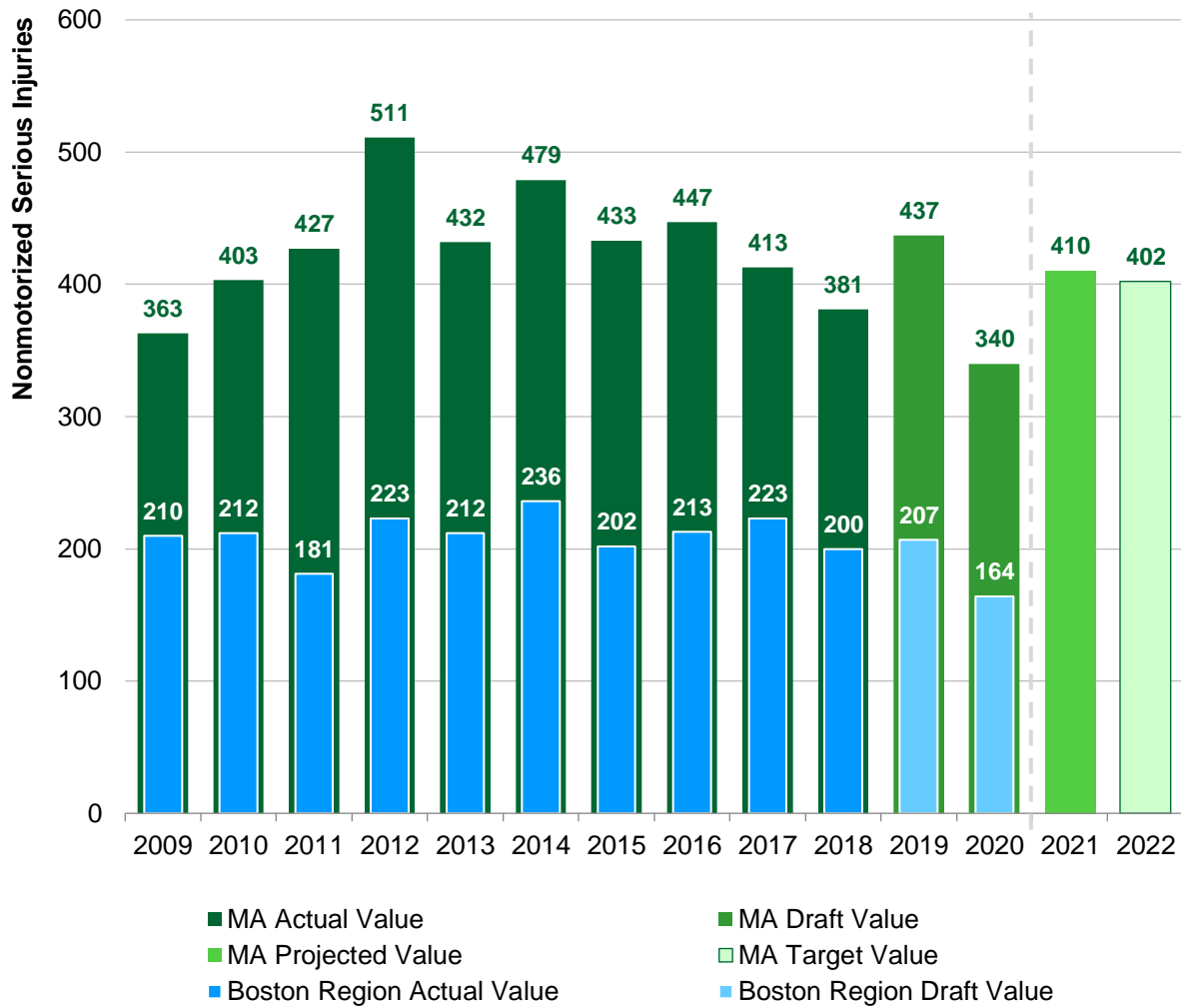


Notes: Draft 2019 and 2020 fatality values are from May 2021 (for Massachusetts) and June 2021 (for the Boston region).

MA = Massachusetts. MPO = Metropolitan Planning Organization.

Sources: National Highway Traffic Safety Administration Fatality Analysis and Reporting System, Massachusetts Department of Transportation, and Boston Region MPO Staff.

**Figure B-6  
Number of Nonmotorized Serious Injuries (Annual)**



Notes: Draft 2019 and 2020 serious injury values are from May 2021 (for Massachusetts) and June 2021 (for the Boston region). Data for nonmotorized serious injuries has been modified from previous years to exclude the “not-reported” nonmotorist type.

MA = Massachusetts. MPO = Metropolitan Planning Organization.

Sources: Massachusetts Department of Transportation and Boston Region MPO Staff.