# 2025
# Massachusetts
# Safety Belt Usage
# Observational Study

*Prepared for*

**Executive Office of Public Safety and Security**
**Office of Grants & Research**
**Highway Safety Division**
35 Braintree Hill Office Park Suite 302
Braintree, MA 02184

*Prepared by*

**University of Massachusetts Transportation Center - Traffic Safety Research Program**
316 Hampshire House
131 County Circle, Amherst, MA 01003
Main Number: (413) 545-2604
Fax: (413) 545-9569
umasssafe@umass.edu

July 21, 2025

## *Introduction*

This report presents the results of the 2025 Safety Belt Usage Observational Study conducted within the Commonwealth of Massachusetts. The observations and report were completed by the University of Massachusetts Traffic Safety Research Program (UMassSafe) located at the University of Massachusetts Amherst. This observational study was conducted as part of an effort to evaluate safety belt usage in the Commonwealth as directed by the Executive Office of Public Safety and Security's Office of Grants and its Office of Grants and Research, Highway Safety Division (EOPSS/OGR/HSD).

The reported safety belt usage rate in Massachusetts, a secondary law state, has been consistently lower than the national average. The results of the safety belt usage observational surveys in Massachusetts from 2021 – 2025 are presented in Table 1 below.

**Table 1 Massachusetts Safety Belt Usage Rates, 2021-2025**

| Observation Year | Observed Safety Belt Usage Rate (Weighted and Rounded) |
|---|---|
| 2021 | 78% |
| 2022 | 77% |
| 2023 | 80% |
| 2024 | 84% |
| 2025 | 86% |

Source: Highway Safety Division, 2023 Massachusetts Safety Belt Usage Observation Survey

In 2025, similar to previous years, the Safety Belt Usage Observation Study consisted of a single-stage statewide survey assessing safety belt usage in the Commonwealth of Massachusetts, in compliance with the federal requirements of Uniform Criteria for State Observational Surveys of Seat Belt Use (23 CFR Part 1340).

The sampling model used in this effort was developed and approved by the National Highway Traffic Safety Administration (NHTSA) prior to the study in 2023, replacing the previous protocol that had been employed since 2018. Similar to the previous protocol, the sampling of segments for inclusion was based upon roadway lengths proportional to the total length within the given stratum. Roadways were stratified based on roadway classification and geographic region, with the observation time period randomly selected to ensure adequate representation of daylight hours. First implemented in the 2023 sampling plan is additional segment weighting based on an estimation of the coverage of vehicles observed and the weight for missing data on persons within sampled autos.

## *Review of Sampling and Observation Approach*

Massachusetts is composed of 14 counties, 12 of which account for over 99% of the passenger vehicle crash-related fatalities in the state, according to the Fatality Analysis Reporting System (FARS) data average for the period of 2016 to 2020. The regions where safety belt observations were conducted were initially identified using both geographic proximity to one another and the annual traffic fatality count (a measure of importance within the sampling guidelines). As a result, the sampling plan included a selection of roadways from seven regions comprised of 12 counties (all but Nantucket and Dukes) as presented in Table 2 and Figure 1. Within each region, 21 hour-long observations were made at randomly assigned time of day/day of week combinations. In total, the observation teams visited 147 locations across the Commonwealth.

**Table 2 Passenger Vehicle Fatality Average Counts by Developed Region (2016 to 2020)**

| Region | County | County | | Region | |
|---|---|---|---|---|---|
| | | Average Number of Fatalities | Percent of All Statewide Traffic Fatalities | Average Number of Fatalities | Percent of All Statewide Traffic Fatalities |
| 1 | Berkshire | 7.6 | 3.6% | 41.2 | 19.4% |
| | Franklin | 4.2 | 2% | | |
| | Hampden | 25.4 | 11.9% | | |
| | Hampshire | 4 | 1.9% | | |
| 2 | Worcester | 34 | 16% | 34 | 16.0% |
| 3 | Middlesex | 24.2 | 11.4% | 24.2 | 11.4% |
| 4 | Essex | 22.6 | 10.6% | 22.6 | 10.6% |
| 5 | Norfolk | 21 | 9.9% | 29.6 | 13.9% |
| | Suffolk | 8.6 | 4% | | |
| 6 | Bristol | 28.6 | 13.4% | 28.6 | 13.4% |
| 7 | Barnstable | 9 | 4.2% | 32.2 | 15.1% |
| | Plymouth | 23.2 | 10.9% | | |
| Non-Sampled Counties | Dukes | 0.4 | 0.2% | 0.6 | 0.3% |
| | Nantucket | 0.2 | 0.1% | | |

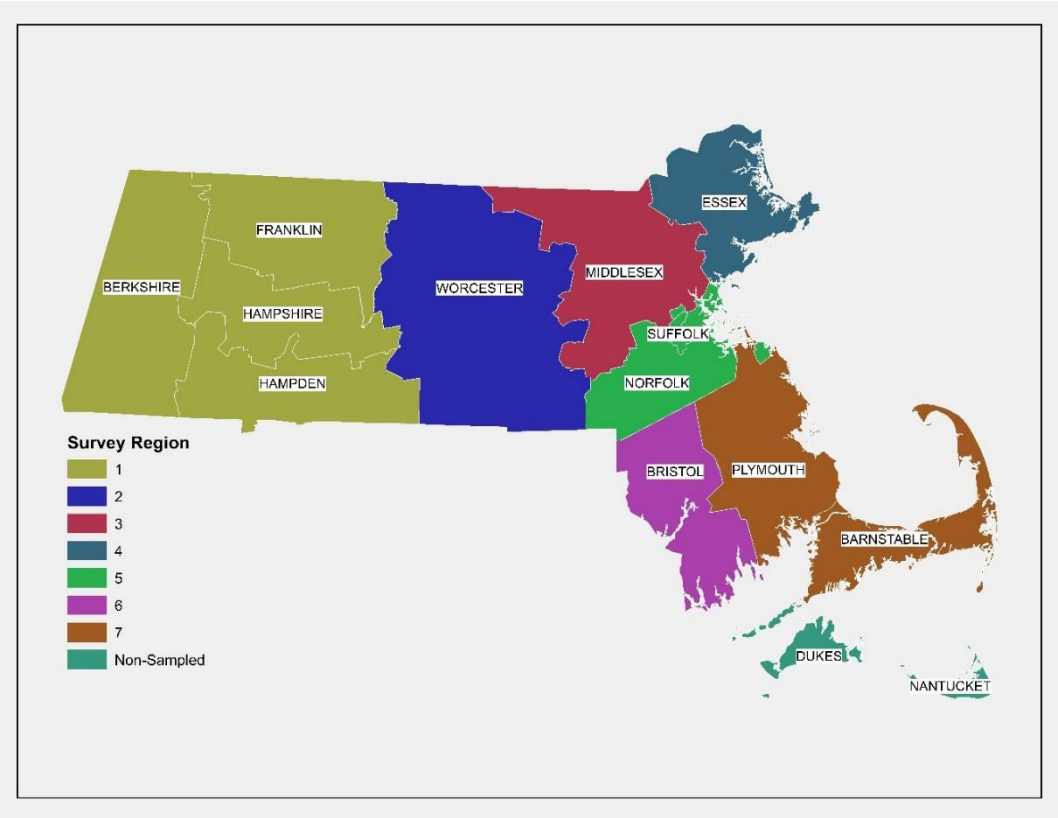


**Figure 1 Massachusetts Counties and Study Regions**

Using 2021 TIGER data developed by the U.S. Census Bureau, a listing of road segments was selected which have been classified by the U.S. Census Bureau using the MAF/TIGER Feature Class Code (MTFCC). There are principally three roadway classifications: 1) Primary Roads, 2) Secondary Roads, and 3) Local Roads (See Table 3 for detailed definitions). In addition, the listings include segment length as determined by TIGER. This descriptive information allowed for stratification of road segments, while a systematic probability proportional to size (PPS) sample was employed to select the road segments to be used as observation sites.

**Table 3 Massachusetts MTFCC Codes Included by Default in the Road Segment File**

| Code | Name | Definition |
|---|---|---|
| S1100 | Primary Road | Primary roads are generally divided, limited-access highways within the interstate highway system or under state management, and are distinguished by the presence of interchanges. These highways are accessible by ramps and may include some toll highways. |
| S1200 | Secondary Road | Secondary roads are main arteries, usually in the U.S. Highway, State Highway or County Highway System. These roads have one or more lanes of traffic in each direction, may or may not be divided, and usually have at-grade intersections with many other roads and driveways. They often have both a local name and a route number. |
| S1400 | Local Neighborhood Road, Rural Road, City Street | These are generally paved non-arterial streets, roads, or byways that usually have a single lane of traffic in each direction. Roads in this feature class may be privately or publicly maintained. Scenic Park roads are included in this feature class, as are (depending on the region of the country) some unpaved roads. |

Although not a variable used for sampling, the day of week/time of day observations were aggregated for analysis consistent with previous years for comparison purposes. The aggregation was as follows and corresponds to the observation periods:

- Weekday A.M. Peak Period (7 a.m. to 10 a.m.)
- Weekday Midday Peak Period (10 a.m. to 3 p.m.)
- Weekday P.M. Peak Period (3 p.m. to 7 p.m.)
- Weekend Period (Saturday/Sunday 7 a.m. to 7 p.m.)

Once they had arrived at their assigned location, the two-person teams observed and recorded the following attributes for occupants of passing vehicles:

- Vehicle information:
  - Vehicle type (passenger, SUV, pick-up, mini-van, small commercial vehicle)
  - State of vehicle registration (MA, NH, other)
- Shoulder belt usage:
  - Driver-seat belt usage
  - Front-seat outboard-passenger seat belt usage
- Vehicle occupant information:
  - Driver apparent sex (male, female, unknown)
  - Driver apparent age (teen, adult, elder adult, unknown)
  - Driver apparent race (White, Black, Hispanic, other, unknown)
  - Passenger apparent sex (male, female, unknown)
  - Passenger apparent age (child, teen, adult, elder adult, unknown)
  - Passenger apparent race (White, Black, Hispanic, other, unknown)

It should be noted that although it was not needed, the approved sampling plan allowed for the inclusion of additional sites if the calculated variance did not achieve plus/minus 2.5% as required by the NHTSA protocol.

## *Results and Discussion*

Between the 3rd and 28th of June 2025, a total of 24,662 drivers and front outboard passengers in 23,298 vehicles were observed at 147 observation locations across Massachusetts. The statistically weighted percentage of front seat occupants visibly using safety belts during the observational study was 85.53%. The 95% confidence interval ranged from 84.47% to 86.59%, with a relative error well below the required 2.5% threshold. The unweighted usage rate was 84.34%, representing a modest increase from the 2024 unweighted value of 83.10%; similarly, the weighted usage rate increased from 84.36% in 2024 to 85.53% in 2025. Although this reflects continued improvement, the relative increase of 1.4% is smaller than the 4.9% increase observed from 2023 to 2024.

Table 4 presents weighted usage rates by variable, with comparisons to both 2024 and 2023. Several noteworthy patterns emerged:

- Occupants identified as female continued to use seat belts at a substantially higher rate (90.12%) than those identified as male (81.94%). While male occupants experienced an increase of 2.84 percentage points over 2024, female usage declined slightly by 0.57 percentage points.

- Adults, who historically show lower usage than other age groups, demonstrated strong gains in 2025, increasing by 2.15 percentage points to a usage rate of 85.58%. In contrast, elder adults saw a slight decline (from 86.09% to 84.93%), and teens decreased modestly by 0.73 percentage points to 84.77%.

- Seat belt usage among Hispanic occupants increased significantly, rising from 70.92% in 2024 to 77.09% in 2025, a 6.17 percentage point gain. Black occupants also showed improvement, with usage increasing to 81.43% (+1.87 points). White occupants rose modestly to 86.10%, while those categorized as "Other" decreased from 91.91% to 88.79%.

- Vehicles registered in Massachusetts continued to show high seat belt usage at 85.58%, with a modest increase from 2024 (+0.85 points). Notably, vehicles registered in New Hampshire experienced a sharp 11.16 percentage point increase to 85.43%, effectively closing the longstanding gap with Massachusetts rates.

- Seat belt usage by vehicle type showed continued disparities. SUVs maintained the highest usage at 89.78%, followed by vans (87.33%) and passenger cars (85.37%). Despite an 1.69 percentage point improvement, pick-up trucks remained low at 72.64%. Small commercial vehicles saw one of the most substantial improvements, increasing nearly 10 percentage points to 67.03%.

- Weekend seat belt usage recovered in 2025, rising to 84.88%, an increase of 3.83 percentage points from 2024. Weekday A.M. peak usage also rose, up 1.78 points to 87.27%, while the P.M. peak dipped slightly to 85.62%.

- Regionally, improvements were uneven. Region 3 (Middlesex County) and Region 4 (Essex County) showed notable increases to 87.65% and 83.79%, respectively. Region 5 (Suffolk/Norfolk) slightly declined but remained high at 86.38%. Region 6 (Bristol County) continued to exhibit the lowest usage at 78.01%.

- Drivers accompanied by passengers had a higher usage rate (89.55%) than drivers alone (85.13%), a relative increase of 4.10 percentage points—higher than the 2024 differential. Passengers themselves had an even higher rate of 89.64%, up 3.22 points from 2024.

- Among roadway classifications, primary roads (interstates) saw the highest belt usage at 87.02%, with a 2.22 percentage point increase. Secondary roads remained steady at 85.65%, while local roads increased modestly to 84.56%.

**Table 4 Summary of Weighted Study Data by Observation Variable with Known Belt Status**

| Observation Variable | 2025 Data | | 2024 Data | 2023 Data | Change in Percentage Points (2025 vs. 2024) |
|---|---|---|---|---|---|
| | Total Observed Occupants | Weighted % Belted | Weighted % Belted | Weighted % Belted | |
| All Vehicle Occupants | 24662 | 85.53% | 84.36% | 80.44% | 1.17% |
| Apparent Sex | | | | | |
| Male | 13624 | 81.94% | 79.10% | 75.22% | 2.84% |
| Female | 10792 | 90.12% | 90.69% | 86.48% | -0.57% |
| Status Unknown | 246 | 86.65% | 80.50% | 73.18% | 6.15% |
| Apparent Age | | | | | |
| Child (passenger <12) | 144 | 96.01% | 95.00% | 92.15% | 1.01% |
| Teen | 626 | 84.77% | 85.50% | 83.45% | -0.73% |
| Adult | 20369 | 85.58% | 83.43% | 78.89% | 2.15% |
| Elder Adult (>65) | 3472 | 84.93% | 86.09% | 87.43% | -1.16% |
| Status Unknown | 51 | 89.72% | 76.02% | 70.66% | 13.70% |
| Apparent Race | | | | | |
| Black | 1841 | 81.43% | 79.56% | 81.57% | 1.87% |
| Hispanic | 683 | 77.09% | 70.92% | 71.87% | 6.17% |
| White | 18654 | 86.10% | 85.10% | 80.46% | 1.00% |
| Other | 2348 | 88.79% | 91.91% | 87.28% | -3.12% |
| Status Unknown | 1136 | 79.49% | 79.24% | 79.10% | 0.25% |
| State of Vehicle Registration | | | | | |
| Massachusetts | 23128 | 85.58% | 84.73% | 80.93% | 0.85% |
| New Hampshire | 383 | 85.43% | 74.27% | 69.93% | 11.16% |
| Out of State (Other) | 1109 | 84.43% | 85.84% | 81.48% | -1.41% |
| Unknown | 42 | 86.91% | 83.75% | 82.26% | 3.16% |
| Vehicle Type | | | | | |
| Passenger Car | 6828 | 85.37% | 85.92% | 82.21% | -0.55% |
| Pick-Up Truck | 2589 | 72.64% | 70.95% | 63.58% | 1.69% |
| SUV | 13053 | 89.78% | 89.68% | 86.25% | 0.10% |
| Van | 789 | 87.33% | 87.39% | 82.47% | -0.06% |
| Small Commercial Vehicle | 1336 | 67.03% | 57.14% | 52.35% | 9.89% |
| Unknown (other) | 67 | 85.30% | 82.97% | 70.96% | 2.33% |
| Time of Day/Day of Week | | | | | |
| A.M. Peak – Weekday | 5960 | 87.27% | 85.49% | 78.06% | 1.78% |
| Mid-day – Weekday | 6624 | 84.33% | 82.54% | 79.68% | 1.79% |
| P.M. Peak – Weekday | 7251 | 85.62% | 86.12% | 82.49% | -0.50% |
| Weekend | 4827 | 84.88% | 81.05% | 83.65% | 3.83% |
| Observation Region | | | | | |
| Region 1 | 2128 | 86.86% | 84.64% | 83.21% | 2.22% |
| Region 2 | 2255 | 82.07% | 83.99% | 81.51% | -1.92% |
| Region 3 | 4474 | 87.65% | 85.50% | 82.99% | 2.15% |
| Region 4 | 3834 | 83.79% | 80.62% | 75.44% | 3.17% |
| Region 5 | 4125 | 86.38% | 87.32% | 81.35% | -0.94% |
| Region 6 | 4114 | 78.01% | 78.27% | 72.89% | -0.26% |
| Region 7 | 3732 | 85.69% | 85.58% | 79.97% | 0.11% |
| Occupant Role | | | | | |
| Driver Alone | 21881 | 85.13% | 83.78% | 78.91% | 1.35% |
| Driver with Passenger | 1417 | 89.55% | 85.45% | 84.80% | 4.10% |
| Passenger | 1364 | 89.64% | 86.42% | 84.56% | 3.22% |
| Roadway Classification | | | | | |
| Primary (Interstate) | 1326 | 87.02% | 84.80% | 81.57% | 2.22% |
| Secondary (Arterial) | 6885 | 85.65% | 85.32% | 80.18% | 0.33% |
| Local (All others) | 16451 | 84.56% | 83.21% | 79.58% | 1.35% |