# Maine Seat Belt Use 2023



# Survey Research Center

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## **EXECUTIVE SUMMARY**

This report summarizes the results from the 2023 seat belt observation study conducted to determine the current level of compliance in Maine.

- Overall, 94.5% of occupants (drivers and front seat passengers) were belted.
- Female occupants were more likely to use seat belts than male occupants; 92.9% of male occupants were belted, compared to 96.6% of female occupants.
- Drivers appeared less likely to use seat belts than passengers; 94.2% of drivers were belted, compared to 96.8% of passengers. These differences disappear, however, after controlling for sex.
- Passengers' use of seat belts was correlated with drivers' use of seat belts—98.7% of
  passengers riding with belted drivers were likewise belted, while only 37.8% of
  passengers riding with unbelted drivers were belted.
- There was no statistically significant difference in seat belt use by urban/rural designation; 95.3% of occupants were belted in rural sites, compared to 94.6% of occupants in urban locations.
- Drivers of SUV's were the most likely to be belted at 95.7%, followed by drivers of cars at a rate of 94.1%, and drivers of vans at 93.3%. Drivers of pickup trucks were the least likely to be belted, at 90.5%.
- Seat belt use was highest from 3:30 PM to 6:00 PM (96.7%) and lowest from 9:00 AM to 10:59 AM (92.6%).
- While seat belt use was highest on Tuesdays and Sundays (at 97.6% and 96.3%, respectively), there is no apparent pattern to the variation of rates over time.
- Seat belt use was highest during rainy weather, at 97.6%, compared to use during sunny/clear weather, at 92.2%.
- Maine ranked 7<sup>th</sup> out of the 51 U.S. states and districts reporting in 2022, the most recent year for which all states' data were available.
- Drivers with license plates from states other than Maine were belted at a statistically higher rate of 97.6%, compared to drivers with Maine license plates, at 94.0%.

## INTRODUCTION

Seat belts save lives. According to one landmark study, the use of seat belts cuts the risk of crash fatalities by 45% for front seat occupants in passenger cars and by 60% for front seat occupants in pickup trucks, SUV's, vans and minivans.<sup>1</sup> Nationally, seat belts saved the lives of 14,955 people ages 5 and older in 2017.<sup>2</sup> In Maine, seat belts saved approximately 69 lives a year over one decade, a total of 688 lives, and could have saved 204 more if all occupants were properly restrained.<sup>3</sup>

Efforts to increase belt use rates in Maine include a mandatory seat belt law for adults that went into effect in 1996 and a primary enforcement law that went into effect in 2007. Nevertheless, from 2014 to 2019, Maine's national rank ranged between 27 and 35 out of 51 states/territories. In 2020, however, Maine's rate started to increase again while the national rate plateaued. By 2021, Maine's rank had improved to 17, and its belt use was higher than the national average for the first time. In 2022, Maine ranked 7<sup>th</sup> in the nation, with a rate of 93.4% compared to the national average of 91.6%.<sup>4</sup> It remains to be seen how the current year's rate of 94.5% will stack up against the rest of the nation.

For a number of years, the Maine Bureau of Highway Safety has contracted with external partners to conduct observation studies of seat belt use in Maine in order to determine the level of compliance in the state. The first of these studies was conducted in 1986 by Northeast Research for the School of Public Health of the Boston University Medical School.<sup>5</sup> The next four (in years 1992, 1995, 1997, and 1999) were conducted by the University of Southern Maine's Survey Research Center (SRC).<sup>6</sup> The 2002 study was completed by CSI® Santa Rita Research Center.<sup>7</sup> All studies conducted from 2003 on have been conducted by USM's Survey Research Center.

This report summarizes the results from the 2023 study and presents comparisons with past years' findings. The findings from these studies are the official measure of seat belt use in Maine and are used in the annual highway safety plans submitted to the National Highway Traffic Safety Administration (NHTSA), which are used to determine funding. The current study

design incorporates the standardized requirements developed by NHTSA in an effort to ensure reliability and comparability of findings between each of the states. It was approved by NHTSA in early 2012. Every five years NHTSA requires a new sampling over observation sites be drawn from the population of road segments. The sites used for this study were approved on February 14, 2022.

Due to the COVID-19 pandemic, NHTSA issued a waiver enabling US states and territories to use their 2019 seat belt use rate for their 2020 seat belt use rate. Maine was one of thirty states and territories that did not conduct seat belt use surveys in 2020. This report compares data from this year's study (2023) with data from previous years with the exception of 2020.

## **METHODOLOGY**

#### **Site Selection**

In keeping with NHTSA guidelines, seat belt observations sites are re-selected every five years according to the methods described in the approved design. The year 2022 was Maine's last reselection year. The sites chosen in Maine come from 12 of the state's 16 counties. The 12 counties selected represent at least 85% of passenger vehicle traffic fatalities in the state, as measured by the Fatality Analysis Reporting System (FARS) over the last three years of available data prior to re-selection. (See Appendix A for full list of sites.) Within each county, either 10 or 11 road segments were chosen for observation, including a mix of road types.

#### **Road Sections**

Observation sites must allow the opportunity for a reasonably representative flow of multipurpose traffic, while allowing observers a safe viewing position from which to observe and
record the seat belt use of front seat occupants in each vehicle. Observers were given
descriptions of the road segment to observe (e.g., "in Auburn, on Minot Avenue, between Heath
Lane and Garfield Road"). They were also told which direction of traffic to observe. They then
were able to find the most advantageous spot on the road segment from which to observe.
They were instructed to only include vehicles that had actually passed through the first identifier
of the description (in the example above, the intersection of Minot Avenue and Heath Lane).
Observations were conducted from a single point on each segment. In all, observations of 9,235
passenger vehicles were made, and the use or nonuse by 11,309 occupants was recorded.

## Sampling

The sites to be observed were selected by the Preusser Research Group, Inc. (PRG) of Trumbull, CT. The sampling design was developed to ensure compliance with NHTSA's standardized guidelines. The design of the sampling process provides a confidence level of 95% with a standard error of 1.107%, a relative standard error of 1.172%, and a final sample size of 127 road segments. The probability of a road segment being selected was proportional to the traffic

volume measured in average daily vehicle-miles traveled (DVMT) on each road segment, based on Maine Department of Transportation data.

## Weighting

Consistent with NHTSA guidelines, the data were weighted to reflect the sampling design and the average traffic volume at the selected road segments. The weighting simply adjusts the actual number of vehicles observed to reflect the expected number of vehicles based on the traffic volume where the segment is located and combines the site data in a way that represents statewide traffic volumes. The findings in this report are based on weighted data unless otherwise stated.

## **Observation Days and Times**

This observation study was conducted from June 7 to July 1, immediately following a high visibility enforcement and awareness campaign. There was one exception to this timeframe—one site was redone on July 17 due to a technical issue. While it seems likely that these campaigns may temporarily boost people's likelihood of using safety belts, a study conducted by the SRC in September of 2009, three months after the campaign ended, found only a slight drop off in rates relative to the summer rates of that same year.

Observations were made for 45 minutes at each location, on a structured schedule of times and days that would maximize the opportunity to study variations in restraint use by time and by day of the week. Road segments were randomly assigned to a day and time for observations, although consideration had to be given for trips to locations that required lengthy travel times. Each day and time had an equal probability of selection. All observations were done during daylight hours. All observations in each county were conducted over a two-day period. If any site had to be rescheduled due to inclement weather, the observations were done on the same day of the week and at the same time of day as the originally scheduled time. Likewise, if any site had to be reselected due to construction, reselection was made from spare road segments (chosen at the same time as the primary segments) that matched the county and road type of the primary segment.

Many roads have two or more lanes of traffic in each direction. In those cases, the observation period was divided by the number of lanes, and each lane was observed for the proportional length of time. For example, a road with three lanes would require that each lane be observed for 15 minutes (3 lanes x 15 minutes = 45 minutes, the full observation period).

## **Observer Training**

Observers were trained by Katie Raboin from PRG. They were trained to observe proper shoulder belt use (vs. improper or no use) of the driver and, if present, a right front seat passenger. (Infants in car seats were excluded.) Observations were made for private passenger vehicles and for certain commercial and emergency vehicles. The training involved written material, oral presentation, and field practice. The field practice was conducted on Forest Avenue in Portland, near the SRC office. The practice observations were crucial. Results were reviewed and analyzed for accuracy and consistency; no observers were allowed to begin until their practice observations met training standards.

#### **Vehicles Included**

In keeping with current NHTSA guidelines, commercial and emergency vehicles are included for observation (taxi cabs, police cars, etc.), while large commercial vehicles (generally those with more than four wheels) are excluded.

## **FINDINGS**

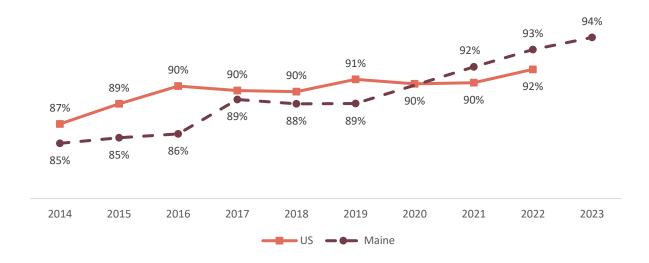
#### Overview

A total of 9,235 vehicles and 11,332 occupants (defined here as drivers and front seat occupants) were observed for seat belt use. A small proportion of these observations (<0.5%) were inconclusive—observers could not determine whether occupants were belted. Results here are based on the remaining observations (n=11,309).

In 2023, 94.5% of occupants were belted, Maine's highest rate thus far. This is an increase of 1.1 percentage points over the 2022 Maine rate of 93.4%. It remains to be seen whether this increase will keep Maine above the national rate or if other states will likewise see an increase in rates. While the national rate has remained between 86.7% and 91.6% during the years 2014 to 2022<sup>4,8</sup>, the increase in Maine may be part of a larger behavioral pattern and the forthcoming national rate for 2023 may reflect this.

Overall Seat Belt Use				
Lap/Shoulder Belts (n=11,309)	94.5%			

N Vehicles = 9,235



## Sex

Female occupants continue to use seat belts at a higher rate than male occupants. While 96.6% of female occupants were restrained in the current study, only 92.9% of male occupants were. Both male and female occupants have increased their rates of use over the past 10 years, but male occupants have increased at a slightly higher rate, closing the gap between the sexes from 8 percentage points in 2014 to 4 percentage points in 2023.

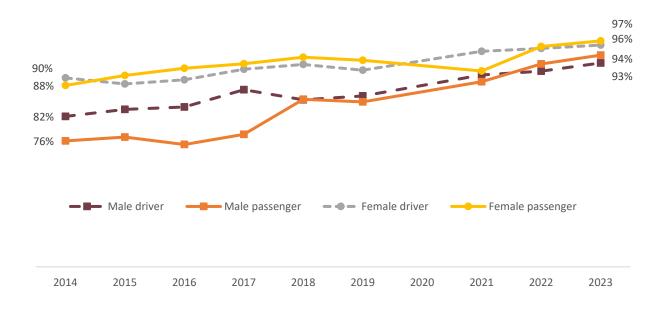
Seat Belt Use by Sex				
Female (N=5,104)	96.6%			
Male (N=6,205)	92.9%			



## **Seating Position**

In 2023, passengers were more likely than drivers to be wearing seat belts—96.8% of passengers were belted compared to 94.2% of drivers. However, passengers are more likely to be female and drivers are more likely to be male. When seating position was looked at separately for male and female occupants, the differences disappeared. Thus, what appears to be a difference in driver and passenger rates is in fact a difference between male and female occupants.

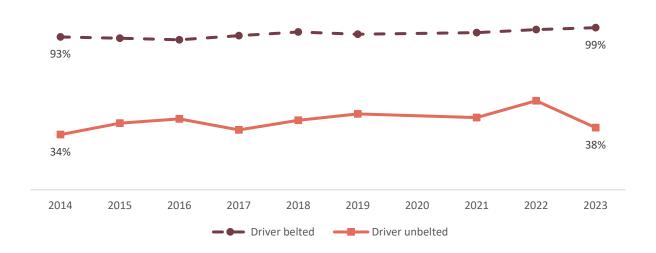
Seat Belt Use by Seat Position and Sex			
Female driver (N=3,607)	96.5%		
Female passenger (N=1,497)	97.3%		
Male driver (N=5,604)	92.7%		
Male passenger (N=601)	94.3%		
All drivers (male, female, and unknown) (N=9,211)	94.2%		
All passengers (male, female, and unknown) (N=2,098)	96.8%		



## Passenger Use Related to Use by Driver

While 97.4% of passengers were belted (unweighted rate), the rate varied depending on whether the vehicle driver was belted. Passengers riding with belted drivers were much more likely to be belted themselves; 98.7% of these passengers were belted compared to 37.8% of passengers riding with unbelted drivers. This holds true historically as well—buckling up is and always has been a friend and family affair. (Note: Rates are based on unweighted data.)

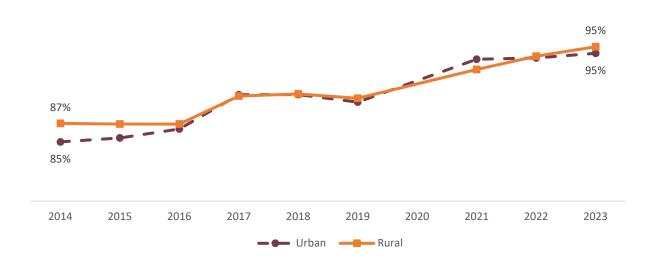
Seat Belt Use of Passenger by Driver Seat Belt Use					
Driver wearing seat belt (N=2,064) 98.7%					
Driver not wearing seat belt (N=45)	37.8%				



## **Urban/Rural Location**

While seat belt rates for rural and urban areas are different, the difference is not statistically significant. Approximately 94.6% of occupants observed in urban locations were belted and approximately 95.3% of those in rural locations. (Note: Rates are based on unweighted data.)

Seat Belt Use by Urban and Rural Location						
Urban (N=3,599) 94.6%						
Rural (N=7,450)	95.3%					

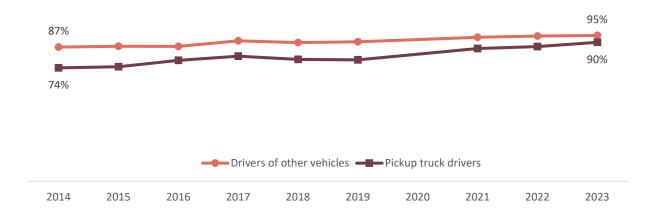


## Type of Vehicle

Seat belt use varied greatly by vehicle type. Drivers of SUV's were the most likely to be belted at 95.7%, followed by drivers of cars, at a statistically similar rate of 94.1%. Drivers of vans had a rate of 93.3% belt usage, and drivers of pickup trucks were the least likely to be belted, at a rate of 90.5%. While the seat belt rates of SUV's, cars, and vans have fluctuated and shifted position over the past 10 years, they have remained higher than those of pickup truck drivers. This gap, however, is closing. In 2014 there was a 14-percentage point gap between pickup truck drivers and drivers of all other vehicles. By 2023, the gap closed to 4-percentage points.

While male drivers are more likely to drive pickup trucks, the differences in seat belt use cannot be explained by sex; both male and female drivers of pickup trucks used their seat belts at lower rates than male and female drivers of other vehicles. Male pickup truck drivers used belts at a rate of 89.1% and female pickup truck drivers used seat belts at a rate of 92.4%, compared to male drivers of other vehicles at 94.3%, and female drivers of other vehicles at 96.4%.

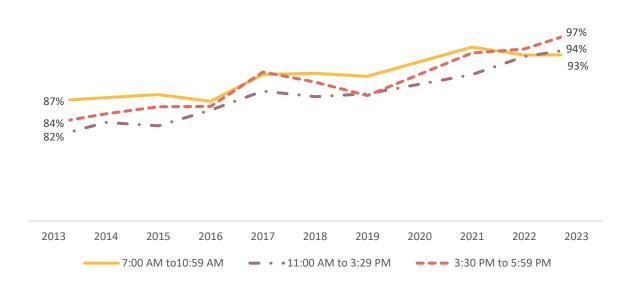
Seat Belt Use of Driver by Type of Vehicle			
SUV (N=4,053)	95.7%		
Car (N=2,492)	94.1%		
Truck (N=2,093)	90.5%		
Van (N=573)	93.3%		



## **Time of Day**

Driver seat belt use varied slightly depending on time of day. Historically, rates have been highest from early to late morning (between 7:00 AM and 10:59 AM), lower from mid-afternoon to early evening (3:30 PM to 5:59 PM), and lowest from late morning to mid-afternoon (11:00 AM to 3:29 PM). This was not the case in 2023, however. In 2023, the highest rate was from 3:30 PM to 6:00 PM (96.7%), while the lowest rate occurred between 9:00 AM and 10:59 AM (92.6%). (Note: Rates are based on unweighted data.)

Driver Seat Belt Use by Time of Day				
7:00 AM – 8:59 AM	(N=1,325)	94.4%	02 59/	
9:00 AM – 10:59 AM (N=1,364)		92.6%	93.5%	
11:00 AM – 1:29 PM	(N=3,077)	94.1%	94.4%	
1:30 PM – 3:29 PM	(N=1,896)	94.9%	94.4%	
3:30 PM – 6:00 PM	(N=1,562)	96.7%	96.7%	

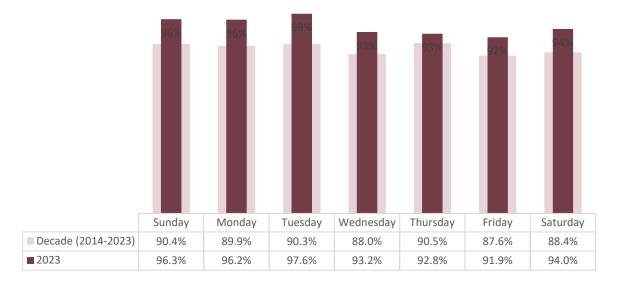


## **Day of Week**

In 2023, seat belt use was highest among drivers on Tuesdays and Sundays (97.6% and 96.3%, respectively). Historically, rates have fluctuated with no apparent pattern to the variation of rates among days.

(Note: While the assignment of days and times of observation to the sites was systematic and unbiased, inclement weather necessitated the rescheduling of some sites, resulting in a lower number of observations on some days. The number of observations obtained each day varied further due to differences in traffic volume. Rates are based on unweighted data.)

Driver Seat Belt Use by Day of the Week				
Sunday (N=1,428)	96.3%			
Monday (N=1,359)	96.2%			
Tuesday (N=1,185)	97.6%			
Wednesday (N=898)	93.2%			
Thursday (N=2,317)	92.8%			
Friday (N=1,093)	91.9%			
Saturday (N=944)	94.0%			

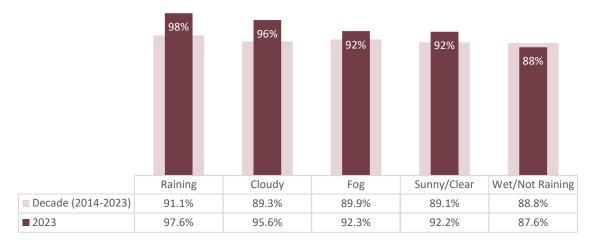


#### **Weather and Road Conditions**

Driver seat belt use varied by weather. It was highest during rainy weather, at 97.6%, compared to use during sunny/clear weather, at 92.2%. Observations done in cloudy and foggy conditions yielded rates of 95.6% and 92.3%, respectively. The few observations (n=121) that took place in wet but not raining conditions yielded the lowest rate of 87.6%.

The propensity to buckle up in rainy weather holds true historically as well, although the difference in rates has been much smaller historically compared to the current year, meaning that while weather historically had an effect, it had been a small one. Rates for the last decade range from 88.8% to 91.1%, a range of 2.3 percentage points, while rates for 2023 range from 87.6% to 97.6%, a difference of 10.0 percentage points.

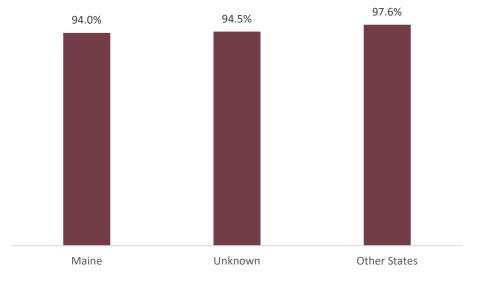
Driver Seat Belt Use by Weather Conditions				
Raining (N=1,165)	97.6%			
Cloudy (N=4,600)	95.6%			
Fog (N=222)	92.3%			
Sunny/Clear (N=3,116)	92.2%			
Wet/Not Raining (N=121)	87.6%			



## **License plates**

This year, observers were asked to note whether the license plate of the car was from Maine or from another state. When observers could not discern whether the license plate was from Maine or not, they were instructed to report this as unknown. Approximately 94.0% of drivers with Maine license plates were belted. Drivers of vehicles with license plates that were from other states were belted at a statistically higher rate of 97.6%. Because this is the first year that observers have recorded state of license plates, no comparison to previous years can be made. (Note: Rates are based on unweighted data.)

Seat Belt Use by License Plate				
Maine (N=7,568)	94.0%			
Other States (N=1,326)	97.6%			
Unknown (N=330)	94.5%			



## **Comparison with Other States**

While Maine's seat belt use rate has improved substantially over the last decade, the last two years have seen a significant increase compared to other states. From 2014 through 2019, Maine placed between 27<sup>th</sup> and 35<sup>th</sup> out of the 51 states/districts reporting. By 2021, Maine's rate had improved dramatically to 17<sup>th</sup> in the country, and by 2022, it improved even further to 7<sup>th</sup> in the country.<sup>4</sup> The high seat belt use rate of 2023 could bring Maine to the top 10 percent of the national standings.

Seat Belt Use Rates Reported by States to NHTSA 2020-2022							
State	2020	2021	2022	State	2020	2021	2022
Alabama	NA	91%	93%	Montana	90%	92%	93%
Alaska	NA	92%	92%	Nebraska	81%	81%	76%
Arizona	NA	89%	87%	Nevada	NA	93%	93%
Arkansas	NA	84%	79%	New Hampshire	72%	76%	76%
California	NA	97%	95%	New Jersey	NA	94%	93%
Colorado	86%	87%	87%	New Mexico	NA	90%	90%
Connecticut	NA	92%	92%	New York	NA	93%	92%
Delaware	NA	92%	90%	North Carolina	87%	90%	91%
Dist. Of Columbia	96%	96%	95%	North Dakota	84%	82%	81%
Florida	NA	90%	88%	Ohio	NA	84%	81%
Georgia	NA	95%	89%	Oklahoma	NA	84%	80%
Hawaii	NA	94%	96%	Oregon	95%	95%	97%
Idaho	NA	83%	88%	Pennsylvania	89%	90%	90%
Illinois	NA	94%	93%	Rhode Island	NA	89%	87%
Indiana	NA	93%	93%	South Carolina	NA	90%	91%
lowa	95%	93%	96%	South Dakota	68%	87%	88%
Kansas	85%	86%	87%	Tennessee	NA	90%	91%
Kentucky	NA	90%	87%	Texas	NA	90%	90%
Louisiana	NA	86%	86%	Utah	NA	88%	92%
Maine	NA	92%	93%	Vermont	89%	89%	90%
Maryland	90%	91%	93%	Virginia	NA	82%	76%
Massachusetts	NA	78%	77%	Washington	93%	94%	94%
Michigan	NA	93%	93%	West Virginia	NA	88%	93%
Minnesota	NA	92%	93%	Wisconsin	89%	88%	88%
Mississippi	79%	80%	79%	Wyoming	83%	80%	78%
Missouri	86%	88%	89%	Nationwide	90%	90%	92%

<sup>&</sup>gt; Rates in states with primary belt enforcement laws appear in **BOLD.** Primary enforcement allows police to stop and cite motorists simply for not wearing seat belts.

Due to the COVID-19 pandemic, NHTSA issued a waiver enabling states to use their 2019 rates for an additional year. Only 21 states conducted 2020 seat belt use surveys.

The "nationwide" rates are from NHTSA's National Occupant Protection Use Survey (NOPUS).

## REFERENCES

- <sup>1</sup> National Center for Statistics and Analysis. (2020, June.). *Occupant protection in passenger vehicles:* 2018 data (Traffic Safety Facts. Report No. DOT HS 812 967). Washington, DC: National Highway Traffic Safety Administration.
- National Center for Statistics and Analysis. (2019, June). Lives saved in 2017 by restraint use and minimum-drinking-age laws (Traffic Safety Facts, DOT HS 812 683). Washington, DC: National Highway Traffic Safety Administration.
- National Center for Statistics and Analysis. (multiple years). Lives saved in [2008-2017] by restraint use and minimum-drinking-age laws (Traffic Safety Facts, DOT HS 811 153, DOT HS 811 383, DOT HS 811 580, DOT HS 811 702, DOT HS 811 851, DOT HS 812 137, DO HS 812 218, DOT HS 812 319, DOT HS 812 454, DOT HS 812 683). Washington, DC: National Highway Traffic Safety Administration.
- <sup>4</sup> National Center for Statistics and Analysis. (2023, July). Seat belt use in 2022—Use rates in the States and Territories (Traffic Safety Facts. Report No. DOT HS 813 487). Washington, DC: National Highway Traffic Safety Administration.
- <sup>5</sup> Hungerford, D., Kovenock, D., & Sorg, J. (1986). *Maine Seat Belt Use Observation Study: Preliminary Summary.* Orono, ME: Northeast Research.
- <sup>6</sup> Leighton, A., Ziller, E., & Hart, S.K. (multiple years). Safety Belt Use in Maine [1992, 1995, 1997, 1999].
  Edmund S. Muskie Institute of Public Affairs, University of Southern Maine, prepared for the Bureau of Highway Safety, Department of Public Safety, State of Maine.
- <sup>7</sup> Bose, A. (2002). Safety Belt Use in Maine 2002. CSI Santa Rita Research Center, Arizona.
- National Center for Statistics and Analysis. (2021, April). Seat belt use in 2020—Use rates in the States and Territories (Traffic Safety Facts. Report No. DOT HS 813 109). Washington, DC: National Highway Traffic Safety Administration.

## APPENDIX A: MAINE 2023 OBSERVATION SITE LIST

#### Androscoggin (11)

- 1 Auburn (2)
- 2 Greene (1)
- 3 Lewiston (4)
- 4 Lisbon (1)
- 5 Livermore (1)
- 6 Poland (1)
- 7 Sabattus (1)

#### Aroostook (10)

- 1 Caribou (1)
- 2 Fort Fairfield (1)
- 3 Fort Kent (1)
- 4 Island Falls (2)
- 5 Monticello (1)
- 6 New Sweden (1)
- 7 Presque Isle (2)
- 8 Smyrna (1)

#### **Cumberland (11)**

- 1 Brunswick (3)
- 2 Falmouth (2)
- 3 Freeport (2)
- 4 Portland (2)
- 5 Scarborough (1)
- 6 South Portland (1)

#### Hancock (10)

- 1 Bar Harbor (1)
- 2 Bucksport (2)
- 3 Dedham (2)
- 4 Gouldsboro (1)
- 5 Orland (1)
- 6 Penobscot (1)
- 7 Trenton (1)
- 8 Waltham (1)

## Kennebec (11)

- 1 Albion (1)
- 2 Augusta (3)
- 3 China (1)
- 4 Hallowell (1)
- 5 Pittston (1)
- 6 Sidney (1)
- 7 Vassalboro (1)
- 8 Waterville (1)
- 9 Windsor (1)

#### Lincoln (10)

- 1 Boothbay (1)
- 2 Bristol (1)
- 3 Damariscotta (1)
- 4 Dresden (1)
- 5 Edgecomb (1)
- 6 Newcastle (2)
- 7 Somerville (1)
- 8 Wiscasset (2)

#### Oxford (10)

- 1 Bethel (1)
- 2 Fryeburg (1)
- 3 Otisfield (2)
- 4 Peru (2)
- 5 Rumford (1)
- 6 Waterford (1)
- 7 Woodstock (2)

#### Penobscot (11)

- 1 Bangor (4)
- 2 Brewer (1)
- 3 Carmel (1)
- 4 Dexter (1)
- 5 Medway (1)
- 6 Newport (1)
- 7 Orrington (1)
- 8 Plymouth (1)

#### Somerset (11)

- 1 Fairfield (4)
- 2 Madison (4)
- 3 Pittsfield (1)
- 4 Skowhegan (1)
- 5 St Albans (1)

#### **Waldo (10)**

- 1 Belfast (4)
- 2 Brooks (1)
- 3 Frankfort (1)
- 4 Lincolnville (1)
- 5 Monroe (1)
- 6 Searsmont (2)

#### Washington (11)

- 1 Baring Plt (1)
- 2 Calais (1)
- 3 Harrington (1)
- 4 Machiasport (1)
- 5 Marshfield (1)
- 6 Robbinston (1)
- 7 Steuben (1)
- 8 T30 MD (1)
- 9 Whiting (2)
- 10 Woodland (1)

#### York (11)

- 1 Arundel (1)
- 2 Biddeford (1)
- 3 Eliot (1)
- 4 Ogunquit (1)
- 5 Saco (2)
- 6 Sanford (1)
- 7 Waterboro (1)
- 8 Wells (3)

## APPENDIX B: HISTORY OF OCCUPANT PROTECTION LAWS

YEAR	LAW
1983	Children aged 0 to 4 years must be secured in a child safety seat.
1987	Children aged 4 to 13 years must be secured in a child safety seat or safety belt.
1989	Law expanded to include children 4 to 16 years.
1991	Law expanded to include persons 4 to 19 years.
1993	Penalty changed from fine of \$25 for first violation and \$50 for each subsequent violation for those aged 0 to 4 to traffic infraction (up to \$500 fine).
1993	Penalty changed from fine of \$25 for first violation and \$200 for each subsequent violation for those 4 to 19 to traffic infraction (up to \$500 fine).
1994	Driver made responsible for securing children under 4 years in a child safety seat.
1995	With the implementation of Title 29A, the child safety seat law and seat belt law were combined into one law.
1995	A statewide referendum requiring adults 19 and older to use safety belts passed in November. The law could be enforced only if the police officer had detained the operator of a motor vehicle for a suspected violation of another law.
1997	The operator is responsible for securing persons under age 18 in a safety belt/seat. Persons 18 years and older are responsible for securing themselves.
1997	A law enforcement officer may take enforcement action against an operator or passenger 18 years or age or older who fails to wear a seat belt only if the officer detains the operator for a suspected violation of another law. The requirement that the operator must receive a fine for the other violation in order to be subject to a penalty for the seat belt violation has been deleted.
2003	The operator is responsible for ensuring that a child (from 40 pounds but less than 80 pounds and less than 8 years of age) is properly secured in a federally approved child restraint system.
2007	Primary enforcement law takes effect; ticketing began on April 1, 2008.

## APPENDIX C: MAINE SEAT BELT OBSERVATION FORM

SITE	ITE ID: SHEET:																		
	BSERVER: DIRECTION:															CLEAR/SUNNY CLEAR/WET LIGHT RAIN			
	ATION:E: START TIME:											· C	O CLOUDY						
DATE	::						DDI		KIIIN	ИЕ: _	1		) A CCE	NCC		. (	FOG		21
		VEH	ICLE			DRIVER SEX SEATBEL				LT		SEX	/A33E	NGEI SE	MAINE LT LICENSE				
	CAR	TRK	SUV	VAN	М	F	?	Y	N	?	М	F	?	Y	N	?	ME	Oth	?
1	0	0	0	0	0	0	0	0	0	0	0	0	$\circ$	0	$\circ$	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	$\circ$	0	0	0	$\circ$	0	0	0	0	0	$\circ$	0	0	$\circ$	0	0	0	0
4	0	0	0	0	0	0	0	0	$\circ$	0	0	0	0	0	0	0	0	0	0
	CAR	TRK	suv	VAN	М	F	?	Y	N	?	М	F	?	Y	N	?	ME	Oth	?
5	0	$\circ$	0	0	0	$\circ$	0	0	0	0	0	$\circ$	0	0	$\circ$	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	$\circ$	$\circ$	0	0	$\circ$	$\circ$	0	$\circ$	0	0	0	$\circ$	0	$\circ$	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CAR	TRK	suv	VAN	М	F	?	Y	N	?	М	F	?	Y	N	?	ME	Oth	?
9	0	$\circ$	$\circ$	0	0	$\circ$	$\circ$	0	$\circ$	0	0	$\circ$	$\circ$	0	$\circ$	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	$\circ$	$\circ$	0	0	$\circ$	$\circ$	0	$\circ$	0	0	$\circ$	$\circ$	0	$\circ$	0	0	0	0
12	0	0	0	0	0	$\circ$	0	0	0	0	0	0	0	0	0	0	0	0	0
	CAR	TRK	suv	VAN	М	F	?	Y	N	?	М	F	?	Y	N	?	ME	Oth	?
13	0	$\circ$	$\circ$	0	0	$\circ$	0	0	0	0	0	$\circ$	$\circ$	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	$\circ$	0	0	0	0	0	0	0	0	0	$\circ$	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	VEHICLE					VEHICLE DRIVER							PASSE	MAINE					
	040				SEX	_		ATBE			SEX	_	32000	ATBE			ICENS	XX-22	
	_		SUV	20.000	M	<u>F</u>	?	Y	N	?	M	F	?	Y	N	?	_	Oth	?
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CAR	TRK	SUV	VAN	М	F	?	Y	N	?	М	F	?	Y	N	?	ME	Oth	?
21	0	$\circ$	$\circ$	0	0	$\circ$	0	0	$\circ$	0	0	$\circ$	$\circ$	0	$\circ$	0	0	0	0
22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CAR	TRK	SUV	VAN	М	F	?	Υ	N	?	М	F	?	Υ	N	?	ME	Oth	?
25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CAR	TRK	SUV	VAN	М	F	?	Y	N	?	М	F	?	Υ	N	?	ME	Oth	?
29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31	0	0	$\circ$	0	0	$\circ$	0	0	$\circ$	0	0	$\circ$	$\circ$	0	$\circ$	$\circ$	0	0	0
32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	CAR	TRK	SUV	VAN	М	F	?	Υ	N	?	М	F	?	Υ	N	?	ME	Oth	?
33	0	$\circ$	$\circ$	0	0	$\circ$	0	0	$\circ$	0	0	$\circ$	$\circ$	0	$\circ$	0	0	$\circ$	0
34	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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