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Nevada State Seat Belt Use Survey 2025

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Executive Summary

Introduction

The Nevada Department of Public Safety (DPS) Office of Traffic Safety (OTS) contracted the Transportation Research Center (TRC) at the University of Nevada, Las Vegas (UNLV) to design the Statewide Seatbelt Use Survey Methodology for Nevada. According to the Part 1340 - Uniform Criteria for State Observational Surveys of Seat Belt Use provided by National Highway Traffic Safety Administration (NHTSA), average fatality distribution across the counties was to be used as a parameter for the first stage sampling. This is done to remove the unintended bias in seat belt use rates introduced due to the population based criterion. Moreover, this would enable the states to focus more on areas with traffic safety concerns.

According to the Pre-CIOT Mobilization survey held in April/May 2025, the statewide average for seatbelt usage in Nevada is 93.92%, based on the weighted usage rate. The weighted seatbelt usage rate during the Post-CIOT mobilization survey, held during June 2025, was 95.31% percent. These percentages were estimated by conducting these surveys at 110 locations across the state of Nevada.

- *Observations:* Only front seat occupants were observed in both the surveys. Total vehicles observed during the two surveys are shown below.
  - *Pre-Mobilization:* 8,522 vehicles.
  - *Post-Mobilization:* 8,356 vehicles.

- *State of Registration:* In both the surveys, the majority of the vehicles were registered in Nevada. The vehicle distribution according to the state of registration is shown below.
  - *Pre-Mobilization:*
    - Nevada: 82.94% (7068)
    - California: 3.81% (325)
    - Other: 11.05% (942)
    - Unknown: 2.19% (187)
  - *Post-Mobilization:*
    - Nevada: 83.76% (6999)
    - California: 3.37% (282)
    - Other: 10.32% (862)
    - Unknown: 2.55% (213)
- *Occupants(General vehicle registration):* The unweighted statewide seatbelt usages for the two surveys separately are shown below.
  - *Pre-Mobilization:* Unweighted statewide estimate - 92.98% (92.98% belted drivers and 92.94% belted passengers).
  - *Post-Mobilization:* Unweighted statewide estimate - 92.75% (92.41% belted drivers and 94.32% belted passengers).
- *Occupants(Nevada vehicle registration):* The seatbelt usage for the front seat occupants in Nevada registered vehicles are shown below.
  - *Pre-Mobilization:* Unweighted statewide estimate - 92.49% (92.60% belted drivers and 91.92% belted passengers).
  - *Post-Mobilization:* Unweighted statewide estimate - 92.46% (92.16% belted drivers and 94.11% belted passengers).
- *Gender(General Vehicle Registration):* The seatbelt usage rates distributed over the gender category for all the vehicles without considering their state of registration is shown below.

  - *Pre-Mobilization:*
    - Occupants: Male- 91.39%, Female - 94.03%
    - Drivers: Male- 91.43%, Female - 94.04%
    - Passengers: Male- 91.08%, Female - 94.01%
  - *Post-Mobilization:*
    - Occupants: Male- 90.44%, Female - 94.38%
    - Drivers: Male- 89.99%, Female - 94.11%
    - Passengers: Male- 93.49%, Female - 94.90%

- *Age:* Occupants were divided into three age categories (<20, 20-60 and >60). Seatbelt usage rates for the different age groups are shown below.
  - *Pre-Mobilization:*
    - <20: 91.07%
    - 20-60: 92.13%
    - >60: 95.04%
  - *Post-Mobilization:*
    - <20: 93.51%
    - 20-60: 91.77%
    - >60: 96.06%

- *Vehicle type (no consideration of the State of registration):* The least seatbelt usage was observed in Pickup trucks. Vans/SUVs showed the highest seatbelt usage.
  - *Pre-Mobilization:*
    - Sedans: 94.62%
    - Vans/SUVs: 95.23%
    - Trucks: 86.67%
  - *Post-Mobilization:*

    * Sedans: 94.41%
    * Vans/SUVs: 95.14%
    * Trucks: 86.31%

- *Ethnicity:* Ethnic groups by seat belt usage rate are shown below.
  - *Pre-Mobilization:*
    * Caucasian: 91.61%
    * Hispanic: 91.05%
    * African American: 89.67%
    * Other: 97.03%
  - *Post-Mobilization:*
    * Caucasian: 90.97%
    * Hispanic: 91.02%
    * African American: 88.83%
    * Other: 93.23%

- *Functional Classification over roadway categories:* The roadway categories were divided into three major groups which are:-
  - S1100 (Primary Roads):
  - S1200 (Secondary Roads):
  - S1400 (Local Neighborhood roads, rural roads and city street):
  - *Pre-Mobilization:*
    * S1100: 93.54%
    * S1200: 91.64%
    * S1400: 94.32%
  - *Post-Mobilization:*
    * S1100: 92.77%
    * S1200: 90.73%

    - S1400: 95.13%

- *County:* The seat belt usage rate observed for each county is shown below.
    - *Pre-Mobilization:*
        - Clark: 95.34%
        - Nye: 93.09%
        - Washoe: 94.07%
        - Lyon: 91.89%
        - Elko: 88.53%
    - *Post-Mobilization:*
        - Clark: 95.12%
        - Nye: 90.18%
        - Washoe: 94.85%
        - Lyon: 91.85%
        - Elko: 89.21%

Introduction

The Nevada Department of Public Safety (DPS), Office of Traffic Safety (OTS) contracted the Transportation Research Center (TRC) at the University of Nevada, Las Vegas (UNLV) to conduct the Statewide Seatbelt Usage Surveys for the year 2025. These surveys were done to estimate the seatbelt usage rate during 2025. Additionally, the observed results might also help in assessing the effectiveness of the Click It or Ticket mobilization (CIOT held during May 19-June 1, 2025) throughout the State of Nevada.

The survey was conducted in five counties in Nevada. The counties are Clark, Washoe, Lyon, Nye, and Elko. 110 observation locations are spread across these counties. As mentioned, in order to estimate the effect of CIOT mobilization campaign, the survey was conducted in two stages, i.e. the pre-mobilization stage, and the post-mobilization stage. To have the maximum correlation between both the stages, the observation schedule, time and duration was kept the same during pre-mobilization and post-mobilization surveys. This report documents the comparative results of the Pre-CIOT mobilization and Post-CIOT Mobilization seatbelt usage surveys conducted in April/May 2025 and June 2025, respectively.

The detailed sampling strategy followed to select the locations for the survey is described in Sampling Design. Locations were resampled, and approved by NHTSA for the year 2022. These locations could be used for five years starting in 2022. Data collection was done using software on iPhones, and the observers were given a

thorough training before starting the data collection. From the data collected, over both the stages, basic statistics involving the percentage seatbelt usage with respect to various categories is reported. Moreover, a detailed weighted statistical analysis has also been performed on the data to calculate the weighted seatbelt usage across Nevada.

Sampling Design

The Nevada Department of Public Safety (DPS) Office of Traffic Safety (OTS) contracted the Transportation Research Center (TRC) at the University of Nevada, Las Vegas (UNLV) to design the Statewide Seat Belt Use Survey Methodology for Nevada. According to the Part 1340 - Uniform Criteria for State Observational Surveys of Seat Belt Use provided by National Highway Traffic Safety Administration (NHTSA), average fatality distribution across the counties is used as a parameter for the first stage sampling. This is done to remove the unintended bias in seat belt use rates introduced due to the population based criterion. Moreover, this enables the states to focus more on areas with traffic safety concerns.

This document explains in detail various steps taken, following the guidelines from NHTSA for selecting the suitable observation sites for the Seat Belt Use Survey. Since the same observation sites were used for five years (2017-2021), the state of Nevada had to reselect observation sites for 2022 and onward. The survey design remained the same. Only observation sites were to be reselected. The following is an explanation of the reselected observation sites for the survey design that was submitted and approved for 2022.

Sample Design

A stratified multistage design, in which counties are PSUs, road segments are SSUs, followed by time segment, road direction, lane, and vehicles selection are used to select the observation site. All passenger vehicles with a gross vehicle weight up to

10,000 pounds are included in the survey. This includes small commercial vehicles. The target population of this methodology includes all drivers and right-front passengers of all passenger vehicles that travel on all roads within the state boundary from 7 a.m. to 6 p.m. in all days of the calendar year.

County Sampling Frame

According to the Uniform Criterion 1340 [2], average fatality index in the state is considered as a factor for inclusion or exclusion of counties. States have the option to use either the last 3, 4, or 5 years of the average fatality data provided by NHTSA. This Fatality Analysis Reporting System (FARS) data is available through the State Seat Belt Use Surveys Site [1]. Table 1 lists the 3-year average fatality counts available in 2021 based on FARS data for the counties in Nevada.

Table 1: List of Counties in Nevada by Fatality (Source: NHTSA [3])

County	Average Fatality Count	Fatality %	Cumulative %
Clark	93.3	59.1%	**59.1%**
Washoe	18.3	11.6%	**70.7%**
Lyon	8.7	5.5%	**76.2%**
Nye	8.3	5.3%	**81.4%**
Elko	7	4.4%	**85.9%**
Douglas	4.3	2.7%	88.6%
Churchill	3	1.9%	90.5%
Humboldt	3	1.9%	92.4%
Lincoln	2.3	1.5%	93.9%
Pershing	2	1.3%	95.1%
Esmeralda	1.7	1.1%	96.2%
Carson City	1.7	1.1%	97.3%

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County	Average Fatality Count	Fatality %	Cumulative %
Eureka	1.3	0.8%	98.1%
Lander	1	0.6%	98.7%
Mineral	1	0.6%	99.4%
White Pine	0.7	0.4%	99.8%
Storey	0.3	0.2%	100.0%

Under Criterion 1340.5.a.1, a state may exclude counties comprising up to 15 percent of their passenger vehicle occupant fatalities. A state may select any combination of counties while employing this exclusion. Thus, the state of Nevada chooses the top five counties in table 1 accounting for more than 85 percent of total passenger motor vehicle fatality to form the county sampling frame. The counties included in the sampling frame are Clark, Washoe, Lyon, Nye, and Elko counties.

In Table 2, the Annual Vehicle Miles Travelled (AVMT) data for the year 2020 obtained from Nevada DOT for the five selected counties is shown. Table 2 shows that Clark, Washoe, Lyon, Nye, and Elko counties account for more than 88 percent of annual vehicle miles of travel in Nevada.

Table 2: List of Counties in Nevada with AVMT in 2020 [5]

County	AVMT(millions)	AVMT %	Cumulative %
Clark	16,105,996,249	65.72%	**65.72%**
Washoe	3,672,258,481	14.99%	**80.71%**
Lyon	520,232,474	2.12%	**82.83%**
Nye	618,287,195	2.52%	**85.35%**
Elko	800,775,383	3.27%	**88.62%**

PSU Sample Selection

In the previous subsection, a sampling frame of counties has been prepared accounting for 85 percent of the total passenger motor vehicle fatalities. Now after the

exclusion, based on historical fatality counts only five counties are retained in the sampling frame. In such a scenario, NHTSA has provided with an alternative design where all the sampled counties are selected with certainty. The procedure to calculate the sample size for the number of roadway segments in each selected county is shown in the next subsection.

Sample Size Determination

The sample size at all the stages of the sampling is dependent on the seat belt use rate estimator and the variance constraint from criterion 1340.5.d. To optimally allocate sample sizes at all stages and all strata we will need the total variance formula of the seat-belt use rate estimator. The current sample design has six stages of sample selection: county, road segment, time segment, direction, lane and vehicle. The sample size at time segment, road direction and lane stages are determined by operation constraints. So we will only consider sample allocation at county, road segment and vehicle stages. Firstly, we will use a simplified variance model to allocate an average sample size to each stage and then allocate sample sizes to strata at each stage.

We first assume the population has $\boldsymbol{N}$ PSUs (counties), each PSU has $\boldsymbol{M}$ secondary sampling units (SSUs, road segments), and each SSU has $\boldsymbol{K}$ third-stage units (TSUs, vehicles). A sample is selected in three stages: selecting n counties out of total $\boldsymbol{N}$ counties at first stage, selecting $\boldsymbol{m}$ road segments out of total $\boldsymbol{M}$ road segments at second stage, and selecting $\boldsymbol{k}$ vehicles out of total $\boldsymbol{K}$ vehicles at third stage.

The only difference to the above described strategy is that we have already selected all the PSUs at the first stage in the frame, i.e.,

$$\mathrm{n} = \mathrm{N}$$

Now under this model, if y_{ijk} is the driver's seat belt status, the belt use rate can be estimated by the sample mean $\bar{\bar{\bar{y}}} = \sum_{i=1}^{n} \sum_{j=1}^{m} \sum_{u=1}^{k} y_{iju}/nmk$ and the variance

model is:

$$V(\bar{\bar{\bar{y}}}) = \frac{1-f_1}{n}S_1^2 + \frac{1-f_2}{nm}S_2^2 + \frac{1-f_3}{nmk}S_3^2 \tag{1}$$

Here $f_1 = n/N, f_2 = m/M, f_3 = k/K$ are sampling fractions at each stage. And because n=N, therefore 1 - $f_1 = 0$. So the total variance reduces to

$$V(\bar{\bar{\bar{y}}}) = \frac{1-f_2}{nm}S_2^2 + \frac{1-f_3}{nmk}S_3^2 \tag{2}$$

Notice the actual second-stage sample is stratified by road type - both considered to be correlated with belt use rate. Therefore we believe at the second stage, the actual design is more efficient than this simplified model. But at the third stage, this model may underestimate the actual variance because of the dropped stages. To make this model more conservative, we notice $1 - f_i < 1 (i = 2, 3)$, therefore

$$V(\bar{\bar{\bar{y}}}) < \frac{1-f_2}{nm}S_2^2 + \frac{1-f_3}{nmk}S_3^2 \tag{3}$$

With this simplified variance model, the sample allocation becomes the following optimization problem:

$$Min : c_1 n + c_2 nm + c_3 nmk$$

$$st : \frac{1}{nm}S_2^2 + \frac{1}{nmk}S_3^2 = (2.5\%)^2 \tag{4}$$

Here c_1 is the cost for adding one PSU to the sample such as travel to the selected county; c_2 is the cost for adding one road segment to the sample such as travel among the selected road segments and set up time at each site; c_3 is the cost for adding one vehicle to the sample, i.e. the time to wait, observe and record a vehicle. All costs are measured by or converted to the same unit such as time so they are comparable.

Now as we have $n = N$, so minimizing $c_1 n + c_2 nm + c_3 nmk$ is the same as minimizing $c_2 m + c_3 mk$. Therefore the above optimization problem reduces to:

$$Min : c_2 m + c_3 mk$$

$$st : \frac{1}{m} S_2^2 + \frac{1}{mk} S_3^2 = n * (2.5\%)^2 \tag{5}$$

In the variance model, S_3^2 is the population variance of the driver's belt use status y_{iju} around the road segment and is estimated by historical data:

$$s_3^2 = \frac{1}{n'm'(k'-1)} \sum_{i=1}^{n'} \sum_{j=1}^{m'} \sum_{u=1}^{k'} (y_{iju} - \hat{p}_{ij})^2 \tag{6}$$

Here n', m', k' are historical data sample sizes. $\hat{p}_{ij}$ are road segment driver's belt use rates estimated from historical data. S_2^2 is the population variance of the road segment belt use rates around county belt use rate. Ignoring the finite population correction f_i, S_2^2 can be estimated by:

$$\hat{S}_2^2 = s_2^2 - \frac{s_3^2}{k'} \tag{7}$$

here

$$s_2^2 = \frac{1}{n'(m'-1)} \sum_{i=1}^{n'} \sum_{j=1}^{m'} (\hat{p}_{ij} - \hat{p}_i)^2$$

$\hat{p}_i$ is county i driver's belt use rate estimated from historical data.
Using this notation, the solution to the optimization problem is:

$$k = \sqrt{\frac{c_2}{c_3} \frac{S_3^2}{S_2^2}}$$

$$m = \frac{S_2^2 + \frac{1}{k} S_3^2}{n * (2.5\%)^2}$$

Here $n = N$ is the known number of all counties remain in the county frame after the county exclusion based on fatality counts.

According to the historical data, the estimated variance $S_2^2 = 0.0447$ and $S_3^2 = 2.0995$. Using the above formulas the value for m, i.e., the number of road segments

in each county was found out to be 22. The calculated value for k was found out to be 88, i.e., the total number of vehicles to be observed at a site is 88. However, the observation time at each site has been decided as 45 minutes at each site.

The number of vehicles expected to be observed per site (k) is 88 and the total expected sample size (n*m*k) is 9680.

Roadway Sampling Frame

For each selected county, we shall form a sampling frame of roadways by applying the restriction allowed in Criterion 1340.5.a to the roads in Nevada. A comprehensive and up-to-date database of the roadways in the above mentioned sampled counties was obtained from State Seat Belt Use Surveys Site [1]. The roadway database strictly comprises only of the road segments as allowed in Criterion 1340.5.a. The rural local roads in counties that are not included in U.S. Census Metropolitan Statistical Area (MSA) are excluded from the design. According to Criterion 1340.5 (a)(2)(iii), non-public roads; unnamed roads; unpaved roads; vehicular trails; access ramps; cul-de-sacs; traffic circles; or service drives could be excluded. The Nevada's roadway database is divided into three divisions of roadway segments, namely S1100, S1200 and S1400. These three road types are described below:

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 would be included in this feature class, as would (depending on the region of the country) some unpaved roads.

The sampled counties are further subdivided in the above discussed categories of road types, where the length of the road types is the measure of size (MOS).

Also, functional classification maps [4] are provided by Nevada DOT for roadway segments for Clark, Washoe, Lyon, Nye, and Elko counties. This can be seen in Figures 1, 2, 3, 4, and 5.

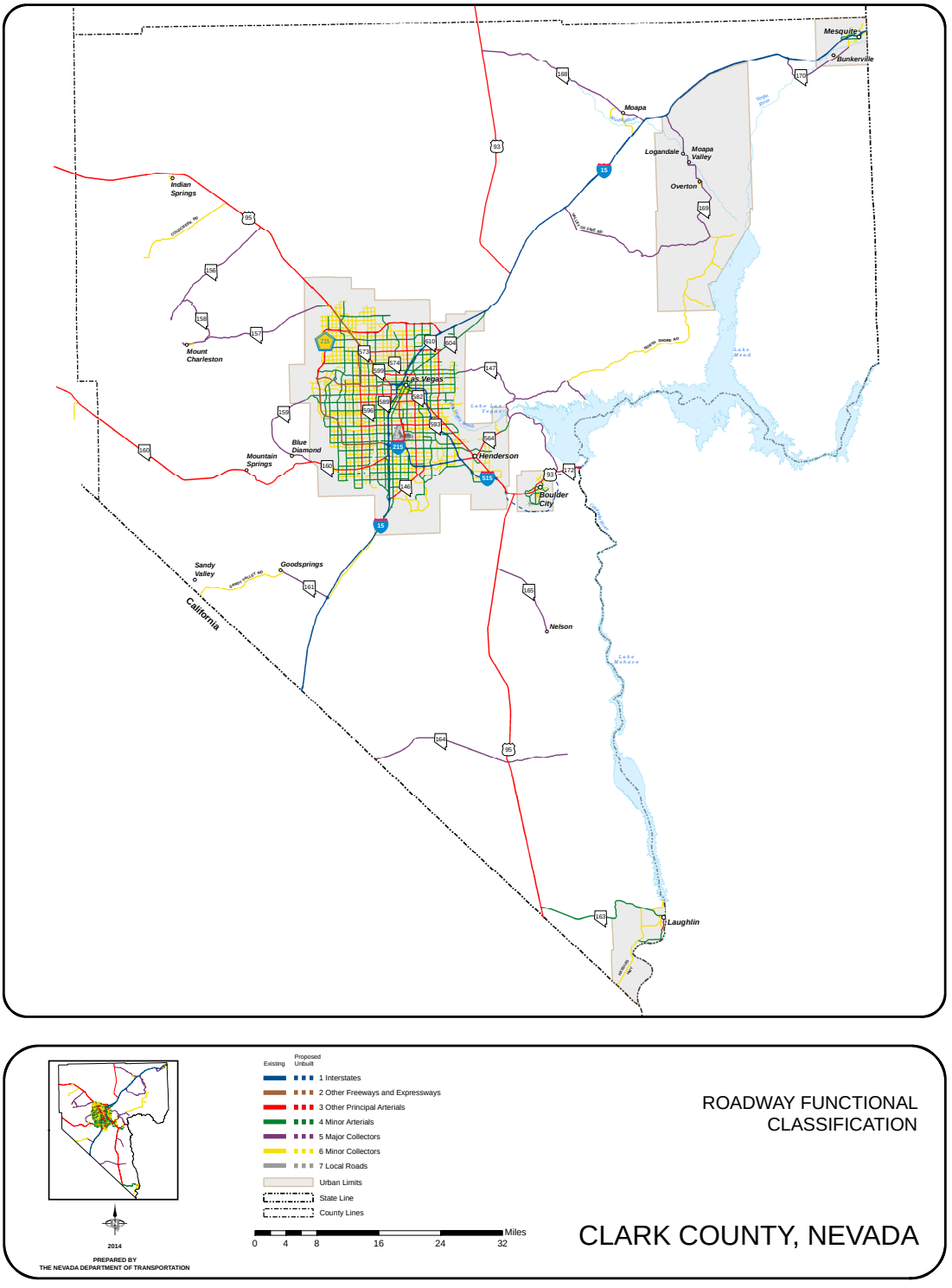

Figure 1: Roadway Functional Classification - Clark County

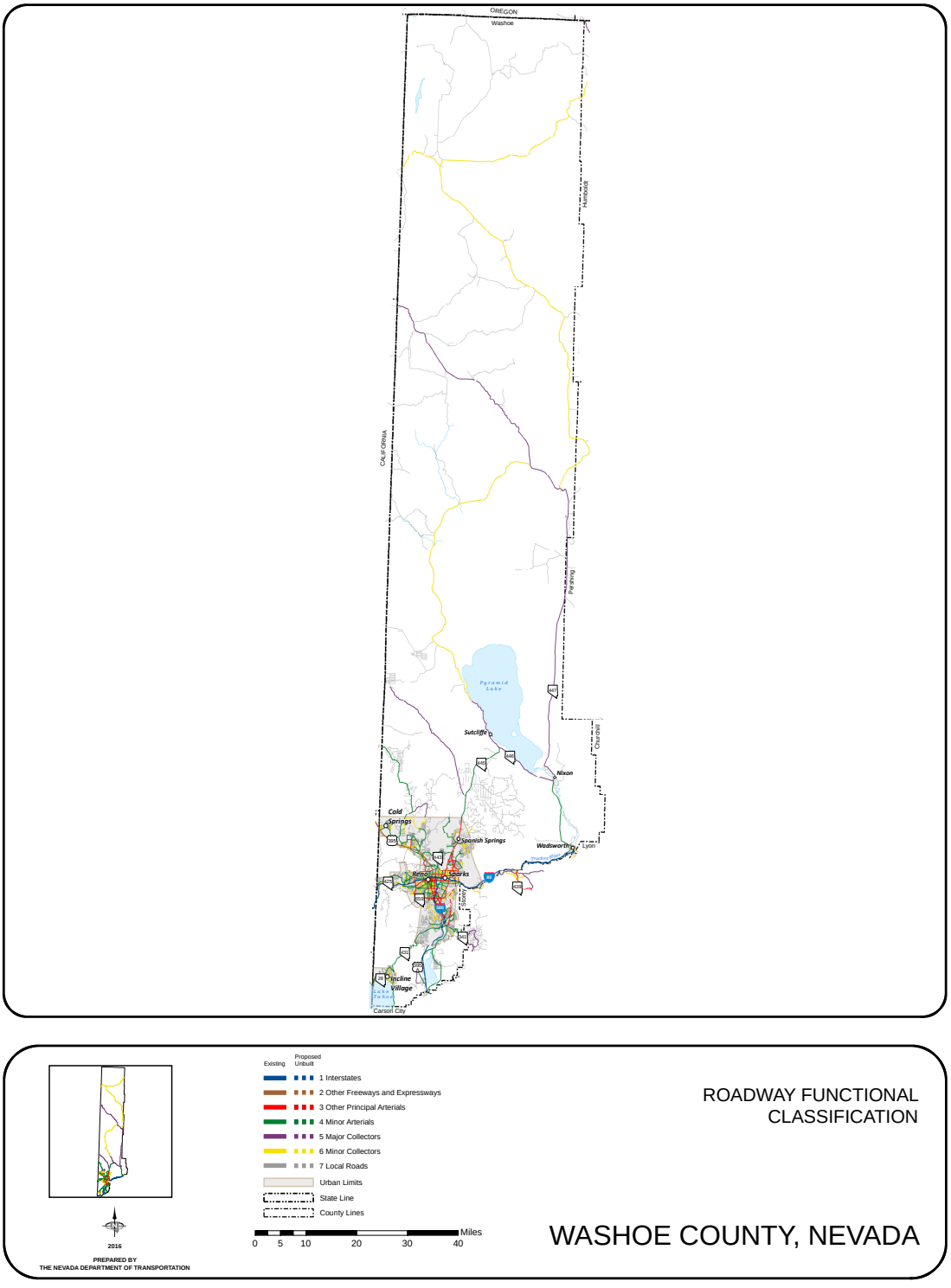

Figure 2: Roadway Functional Classification - Washoe County

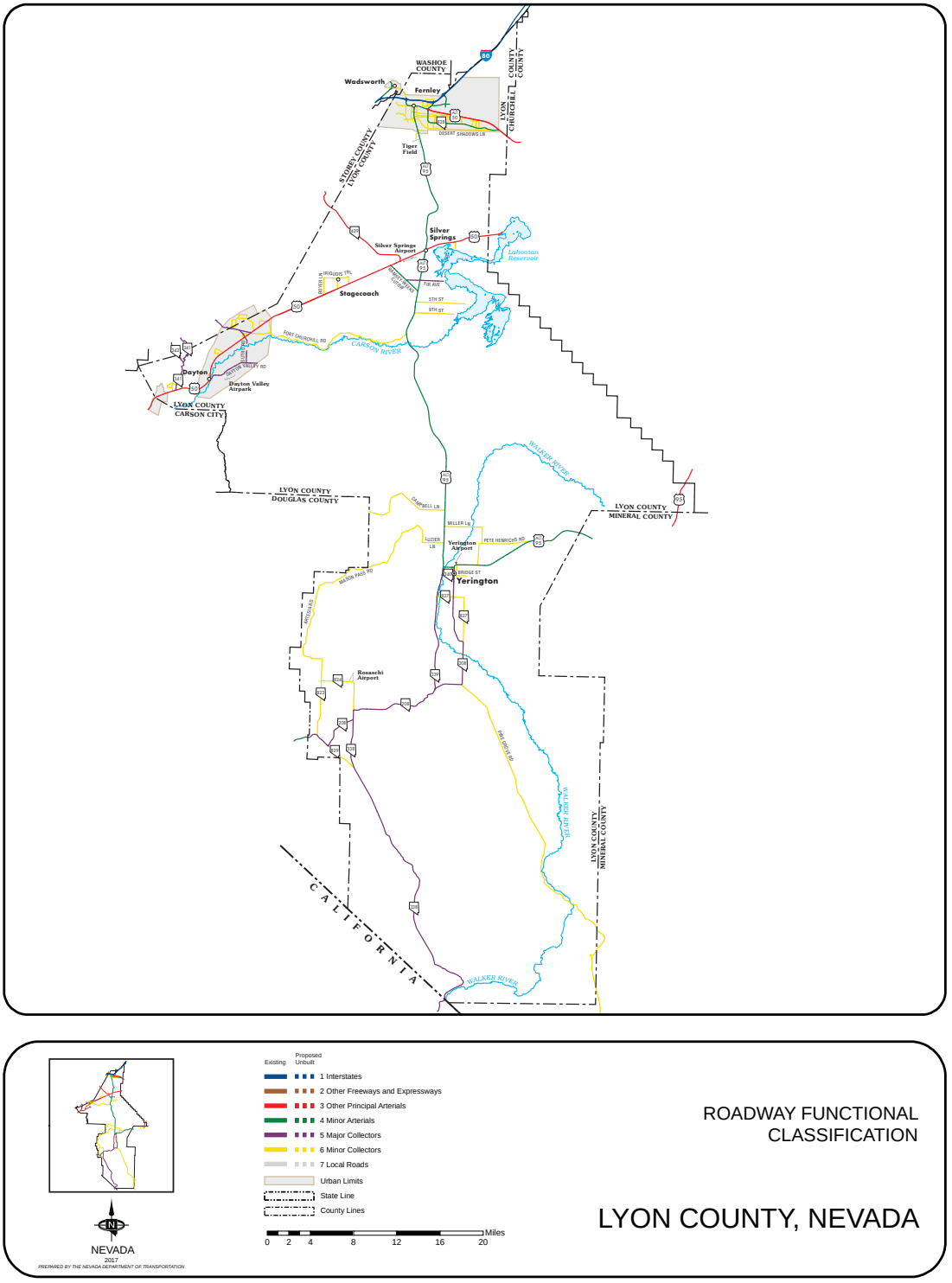

Figure 3: Roadway Functional Classification - Lyon County

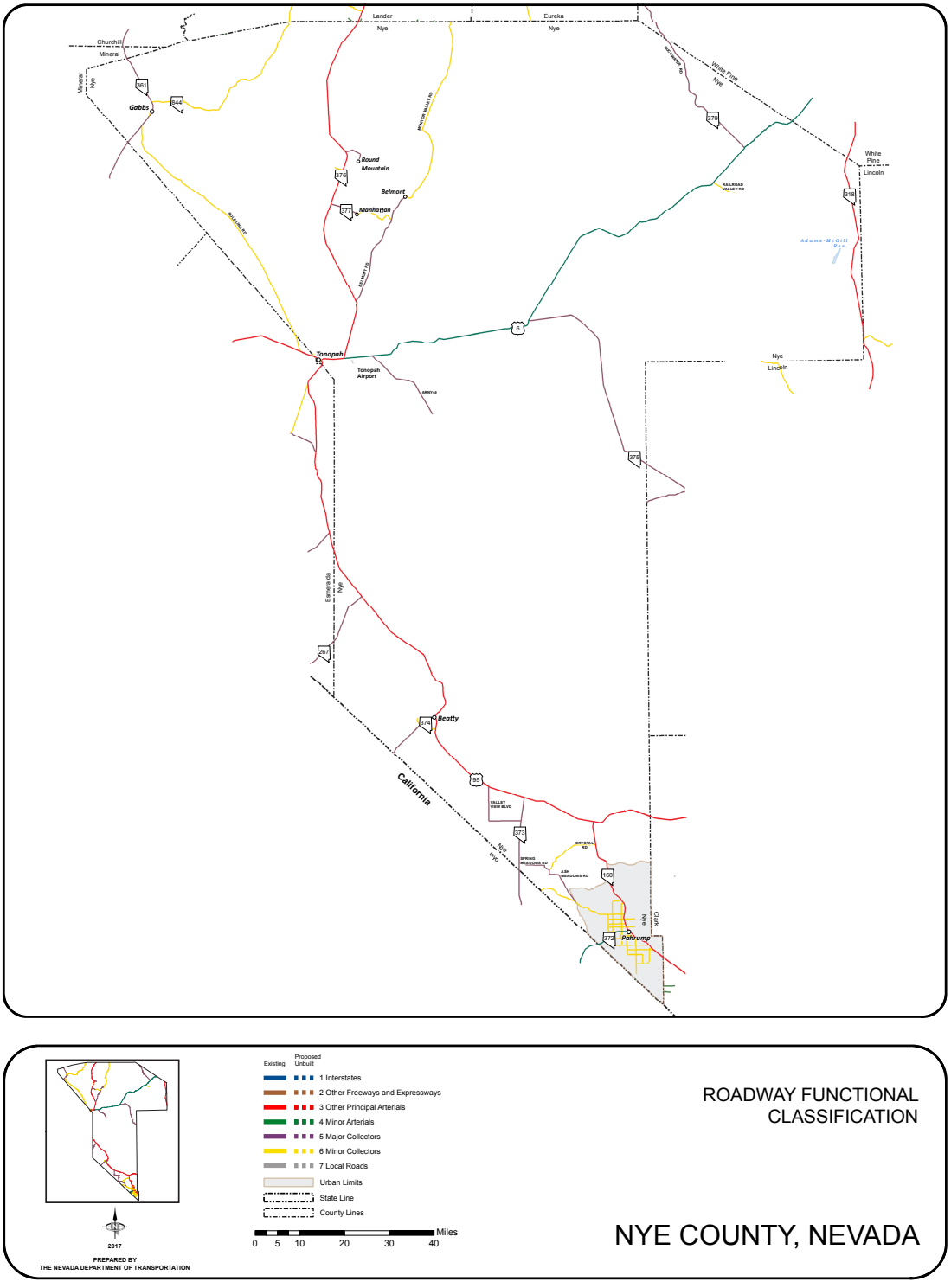

Figure 4: Roadway Functional Classification - Nye County

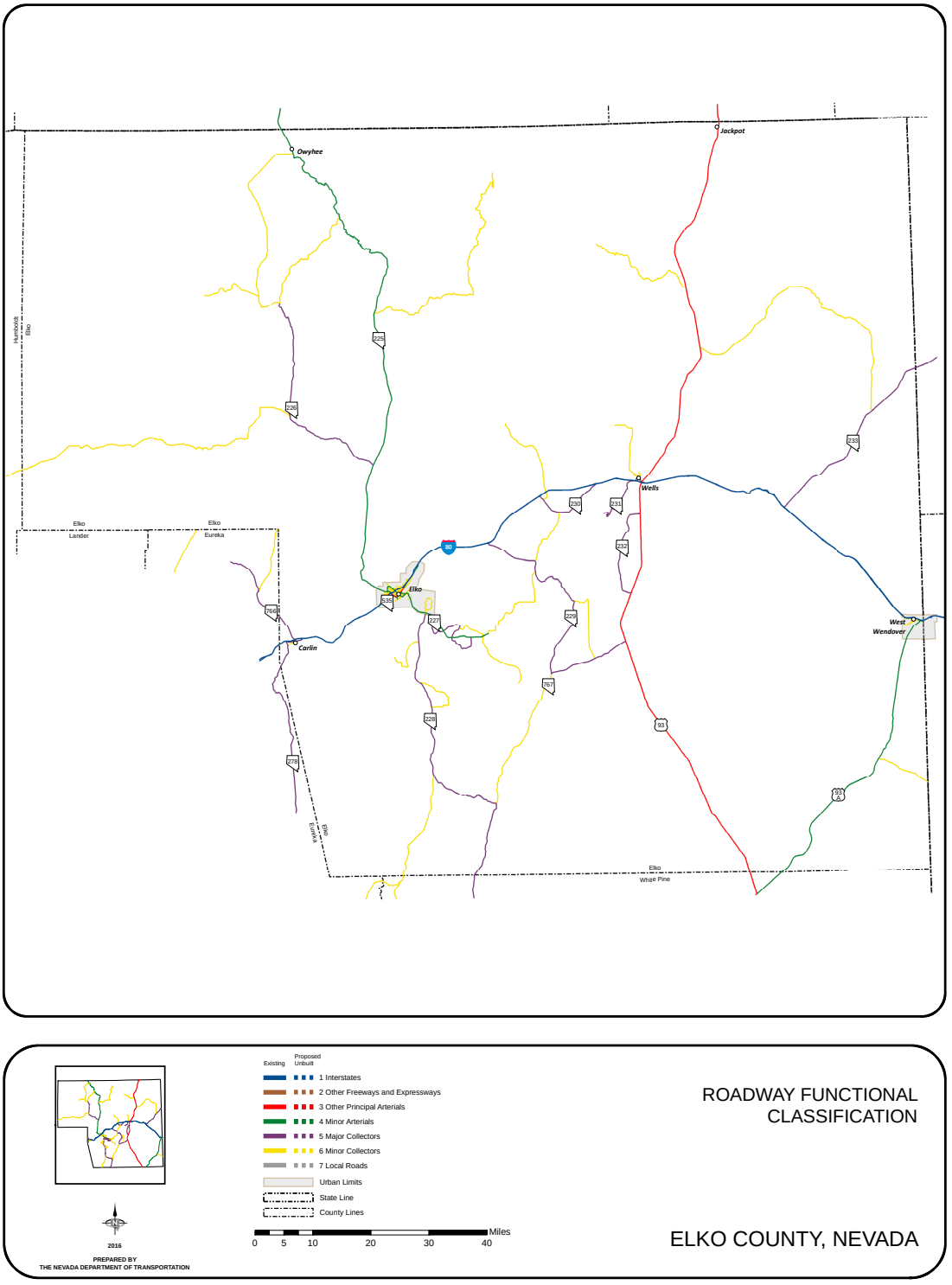

Figure 5: Roadway Functional Classification - Elko County

Selection of Road Segments

Now the number of roadway segments to be selected from each stratum in a county is known, the roadway segment can be selected from the roadway segment database provided by NHTSA. The sampling method being used to select the roadway segment is based on selecting segments with probability proportional to size (PPS) where the length of roadway segment (in miles) is the measure of size (MOS).

Suppose r represents total number of roadway segments to be selected in a county c, r_{ch} represents total roadway segments to be selected from a stratum h in a given county c and M_{ch} is the total length of roadway segments in a stratum h of a county c. Then:

$$r_{ch} = r\frac{M_{ch}}{\sum M_{ch}} \tag{8}$$

Table 3 shows the number of roadway segments after applying the above division criteria from Stage 2. As shown in the table that the calculated values are fractions, rounding off the fraction to the nearest integer gives the number of roadway segments in each stratum.

Within each road-type stratum h, each selected road segment receives a selection probability given by $\pi_{hi|c}$ as:

$$\pi_{hi|c} = r_{ch}\frac{M_{chi}}{\sum M_{chi}} \tag{9}$$

Here M_{chi} is the measure of size (length) for roadway segment i.

Table 3: Number of roadway segments after Stage 2

County	Road-type	M_{ch}	r_{ch}
Clark	S1100	728603	1.21
	S1200	1160715	1.92
	S1400	11401496	18.87
Washoe	S1100	276551	1.51
	S1200	435005	2.38
	S1400	3313943	18.11
Lyon	S1100	45592	2.19
	S1200	412664	19.81
	S1400	0	0
Nye	S1100	0	0
	S1200	832618	22
	S1400	0	0
Elko	S1100	425826	7.39
	S1200	841568	14.61
	S1400	0	0

Table 4: Distribution of sites

Strata	Clark	Washoe	Lyon	Nye	Elko
S1100	1	2	2	0	7
S1200	2	2	20	22	15
S1400	19	18	0	0	0
Total Sites	**22**	**22**	**22**	**22**	**22**

The locations of 110 selected road segments for the survey is shown in the Table 5, 6, 8, 9 and 7 along with their latitudes and longitudes. The table also displays the length of the road segment and the probability for its selection. These roadway segments are selected from the database obtained by NHTSA. Length of the roadway segments (in miles) was used a measure of size, due to the unavailability of VMT

data of the roadway segments in Nevada.

The roadway segments were sorted by segment length in ascending order and cumulative of the length was also generated for each county. After all certainty road segments were identified, a sampling interval (I) was calculated as the total length across all remaining road segments within the county divided by the number of road segments to select within each county. A random start (RS) was selected (using Microsoft Excel function RANDBETWEEN) between 0 and the calculated I, which determined the first road segment selected. Subsequent road segments selected were determined by adding multiples of I to the RS until the desired number of road segments was selected and/or the end of the sorted list was reached.

Table 5: Selected Road Segments: Clark County

Type	Location	Latitude	Longitude	Length	$\pi_{hi\|c}$
S1100	I-15	-114.4165962	36.7455518	3397.487	4.66E-03
S1200	State Rte 168	-114.7952014	36.77265051	864.584	1.49E-03
	E Lake Mead Blvd	-115.090976	36.1957036	92.792	1.60E-04
S1400	Valley of Fire Hwy	-114.731261	36.45862938	557.956	9.30E-04
	Farm Rd	-115.23998	36.29781454	404.470	6.74E-04
	W Harmon Ave	-115.1747973	36.10916765	344.821	5.75E-04
	S Eastern Ave	-115.1185336	36.1321065	291.514	4.86E-04
	W Four Seasons Dr	-115.264452	36.23444588	249.876	4.16E-04
	Via Firenze	-115.1235953	35.94228889	217.070	3.62E-04
	S Pueblo Blvd	-114.9591271	36.0280795	203.170	3.39E-04
	E Wigwam Ave	-115.157794	36.03509661	196.286	3.27E-04
	Eagle Canyon Ave	-115.3117519	36.31046927	176.747	2.95E-04
	W Tropicana Ave	-115.2463485	36.0997821	155.966	2.60E-04
	S Martin L King Blvd	-115.1607914	36.15955139	139.150	2.32E-04
	N Sterling Silver St	-115.2370647	36.21154348	121.040	2.02E-04
	N Valle Verde Dr	-115.070778	36.06277835	104.280	1.74E-04
	Bella Legato Ave	-115.093297	36.2592875	91.279	1.52E-04
	Clydesdale St	-115.1206536	36.08952	80.783	1.35E-04
	Concord Village Dr	-115.202359	36.19406809	75.615	1.26E-04
	Industrial Rd	-115.1834885	35.992617	64.134	1.07E-04
	McKenzie Dr	-114.959393	36.0308021	49.193	8.20E-05
	N Main St	-115.1439115	36.1754095	14.398	2.40E-05

Table 6: Selected Road Segments: Washoe County

Type	Location	Latitude	Longitude	Length	$\pi_{hi\|c}$
S1100	I-580	-119.7870502	39.46524277	558.276	4.04E-03
	I-80	-119.826078	39.531276	66.800	4.83E-04
S1200	S R 447	-119.3477838	39.77499367	1643.717	7.56E-03
	Sutcliffe Hwy	-119.4617347	39.85131423	355.487	1.63E-03
S1400	Eastlake Blvd	-119.7914328	39.32238014	1123.922	6.10E-03
	Bartmess Blvd	-119.7229725	39.63729019	624.904	3.39E-03
	Nugget Ave	-119.7630011	39.53296997	466.589	2.53E-03
	Fargo Way	-119.7189784	39.54854851	398.930	2.17E-03
	J St	-119.7462955	39.54448302	344.189	1.87E-03
	E Prater Way	-119.7054335	39.54189722	302.761	1.64E-03
	Keystone Ave	-119.8246931	39.51935588	269.480	1.46E-03
	Stardust St	-119.836272	39.52852201	241.598	1.31E-03
	Brinkby Ave	-119.8090703	39.49547252	215.662	1.17E-03
	Lakeside Dr	-119.8082849	39.49922776	195.428	1.06E-03
	Tulear St	-119.8521258	39.63722723	173.932	9.45E-04
	Andraste Way	-119.8603488	39.64223558	152.375	8.28E-04
	la Rue Ave	-119.8119395	39.515333	120.446	6.54E-04
	Albatross Way	-119.7225179	39.66425115	116.919	6.35E-04
	Stoney Brook Dr	-119.770247	39.4298755	103.511	5.62E-04
	E Emerson Way	-119.735202	39.557483	78.808	4.28E-04
	Wilbur May Pkwy	-119.7394108	39.4278126	74.586	4.05E-04
	Highland Ranch Pkwy	-119.7490324	39.6080801	53.658	2.91E-04

Table 7: Selected Road Segments: Lyon County

Type	Location	Latitude	Longitude	Length	$\pi_{hi\|c}$
S1100	I- 80	-119.1156776	39.68636748	1523.467	6.68E-02
	I- 80	-119.2095285	39.61713553	593.562	2.60E-02
S1200	State Rte 338	-119.2942816	38.68208919	3926.196	1.90E-01
	State Rte 439	-119.2838713	39.40749839	2865.485	1.39E-01
	State Rte 338	-119.2175659	38.5329856	2206.046	1.07E-01
	State Rte 208	-119.3622362	38.76508229	1828.213	8.86E-02
	US Hwy 95 Alt	-118.9889838	39.03823349	1602.693	7.77E-02
	California Emigrant Trl	-119.1918894	39.42567448	1292.816	6.27E-02
	US Hwy 50 Alt	-119.1740429	39.59532211	1116.016	5.41E-02
	State Rte 208	-119.1497467	38.89615953	1009.478	4.89E-02
	US Hwy 50 Alt	-119.1305239	39.58946918	847.425	4.11E-02
	State Rte 338	-119.1890583	38.48196661	801.146	3.88E-02
	California Emigrant Trl	-119.4295026	39.34114006	719.125	3.49E-02
	Lower Colony Rd	-119.3892116	38.7701775	602.738	2.92E-02
	US Hwy 95 Alt	-119.2346138	39.55099879	509.290	2.47E-02
	US Hwy 50	-119.5359667	39.29102019	438.100	2.12E-02
	US Hwy 50	-119.5812103	39.26296248	382.444	1.85E-02
	Main St	-119.2718812	39.62627145	316.845	1.54E-02
	US Hwy 95 Alt	-119.0733493	39.0125887	257.327	1.25E-02
	US Hwy 95 Alt	-119.2242465	39.421115	197.169	9.56E-03
	Day Ln	-119.3286168	38.823889	143.880	6.97E-03
	State Rte 339	-119.1907481	38.8313861	65.014	3.15E-03

Table 8: Selected Road Segments: Nye County

Type	Location	Latitude	Longitude	Length	$\pi_{hi\|c}$
S1200	US Hwy 95	-116.5847793	36.70219682	3602.431	9.52E-02
	US Hwy 6	-116.2574071	38.33350024	2896.099	7.65E-02
	US Hwy 95	-117.1206827	37.36516022	2554.868	6.75E-02
	State Hwy 376	-117.1530307	38.63374037	2069.541	5.47E-02
	State Hwy 374	-116.8007502	36.89421891	1775.476	4.69E-02
	State Hwy 373	-116.4071982	36.60504072	1613.316	4.26E-02
	US Hwy 6	-116.1965612	38.40967803	1448.666	3.83E-02
	State Hwy 376	-117.1918482	38.8644397	1325.193	3.50E-02
	State Hwy 376	-117.0878655	38.18691792	1207.230	3.19E-02
	State Hwy 375	-116.1728642	38.19679327	1076.683	2.84E-02
	US Hwy 6	-116.4880176	38.16138512	959.154	2.53E-02
	State Hwy 318	-115.0160387	38.23160061	868.812	2.30E-02
	State Hwy 160	-116.1250087	36.54304575	778.834	2.06E-02
	State Hwy 361	-117.9381679	38.84450379	691.539	1.83E-02
	State Hwy 318	-115.0551605	38.64147851	608.042	1.61E-02
	Grand Army Hwy	-116.9871885	38.08087466	529.424	1.40E-02
	State Hwy 160	-116.003585	36.261716	452.793	1.20E-02
	State Hwy 372	-116.0299217	36.20510759	388.226	1.03E-02
	State Hwy 372	-116.0249465	36.20511951	309.770	8.18E-03
	US Hwy 95	-116.7214419	36.97067933	239.795	6.34E-03
	US Hwy 95	-116.2034975	36.581309	163.888	4.33E-03
	State Hwy 160	-115.9953395	36.2231615	22.668	5.99E-04

Table 9: Selected Road Segments: Elko County

Type	Location	Latitude	Longitude	Length	$\pi_{hi\|c}$
S1100	I-80	-115.2117799	41.08592363	2862.053	4.70E-02
	I-80	-114.4679808	41.01484978	2058.532	3.38E-02
	I-80	-115.9083804	40.77232424	1435.516	2.36E-02
	I-80	-115.4599334	40.9605764	981.888	1.61E-02
	I-80	-115.7796747	40.83859959	664.230	1.09E-02
	I-80	-115.6413121	40.94443974	446.589	7.34E-03
	I-80	-115.5456945	40.94911694	140.001	2.30E-03
S1200	State Rte 232	-115.0382764	40.89949128	3269.176	5.83E-02
	US Hwy 93	-114.7673938	41.51086492	2484.728	4.43E-02
	State Rte 226	-115.8860236	41.17316676	1974.332	3.52E-02
	Mountain City Hwy	-115.8594673	40.86059367	1621.219	2.89E-02
	Mountain City Hwy	-115.8738155	41.70533555	1413.123	2.52E-02
	US Hwy 93 Alt	-114.4767898	40.15870805	1203.043	2.14E-02
	Mountain City Hwy	-115.8502521	41.13895441	1088.523	1.94E-02
	US Hwy 93	-114.8885776	40.47113369	977.534	1.74E-02
	State Rte 229	-115.2246078	40.72052713	833.967	1.49E-02
	Lamoille Hwy	-115.7295213	40.82704529	724.499	1.29E-02
	State Rte 228	-115.698643	40.70049	610.701	1.09E-02
	US Hwy 93	-114.9637344	41.08696439	482.080	8.59E-03
	US Hwy 93	-114.964035	41.03909249	365.707	6.52E-03
	Chestnut St	-116.1054705	40.71833201	247.301	4.41E-03
	I- 80 Bus	-114.9531821	41.10057383	108.298	1.93E-03

Selection of Time Segments

To minimize the travel time and the distance required to conduct the surveys, observation sites have been grouped into geographic clusters. After road segments are selected, all selected road segments are mapped and grouped in close geographic proximity. Within each group, road segments are connected by the shortest route of roadways for data collection. Each group of road segments should be equivalent to one day of data collection work. A day of the week to begin data collection is assigned to a cluster (using the Random Function in the software program Microsoft Excel). All days of the week (including Saturday and Sunday) are eligible for selection. For the same, a function in Microsoft Excel would be used (RANDBETWEEN) which would generate random number between 0 and 6. Here 0 corresponds to Sunday and in the same order 6 corresponds to Saturday and so on.

Moreover, within a cluster, first site is randomly selected from the cluster and the remaining follow an operational efficient route, such that the overall travel time within the sites is minimized.

Seven 90-minute blocks of daylight time are identified for observations as follows:

- 7:00 AM - 8:30 AM
- 8:30 AM - 10:00 AM
- 10:00 AM - 11:30 AM
- 12:30 PM - 2:00 PM
- 2:00 PM - 3:30 PM
- 3:30 PM - 5:00 PM
- 5:00 PM - 6:30 PM

One observation time period is 45 minutes within any of the aforementioned time blocks.

The observing time segment at road segment i denoted as t_{chij} was fixed to 45 minutes ($\frac{3}{4}$ hour). The total number of eligible hours in an year is 4,015 hours (365 days multiplied by 11 hours per day). Then the selection probability of time segment j for a roadway segment i in a stratum h of a county c is given by $\pi_{j|chi}$ as:

$$\pi_{h|chi} = \frac{t_{chij}}{4,015} \tag{10}$$

Determination of Site Location on Road Segments

According to Criterion 1340.5.b.1, the specific observation site locations on the sampled road segments may be deterministically selected. The site for road segment i shall be the first intersection or ramp encountered on the selected road segment i when travelling along the shortest route connecting all the selected road segment for the collection day. If there is no intersection or ramp on the road segment, then any point on the road can be selected for observation.

Selection of Vehicle to be Observed

After the road segment sample is selected and the observation site is determined, the subsequent sample selection may be performed by the data collector on site. At the observation site of the selected roadway segment, the data collector will first record how many roadway directions and lanes are on the selected road segment. If there are more than one roadway directions or lanes are present and data collector can observe only one, then the data collector will randomly select one direction or lane. Therefore the direction selection probability is:

$$\pi_{k|chij} = \frac{d_{chij}}{D_{chij}} \tag{11}$$

Here D_{chij} is the total number of directions, d_{chij} is the number of directions to be observed at county c, road type stratum h, road segment i and time segment j.

Then data collector will record total number lanes (L_{chijk}) in the selected directions and decide how many lanes can be observed conveniently (l_{chijk}).Then the lane

selection probability is given by:

$$\pi_{l|chijk} = \frac{l_{chijk}}{L_{chijk}} \tag{12}$$

As the total number of vehicles passing the observation site is unknown before the observation, it is impossible to randomize the selection of vehicles in advance. Therefore, the data collector will observe as many vehicles as possible during the time segment and at the same time to keep a record of total number of vehicles passing the selected lanes during the observation time. Then the vehicle selection probability is:

$$\pi_{m|chijl} = \frac{e_{chijkl}}{E_{chijkl}} \tag{13}$$

Here e_{chijkl} is the number of observed vehicles in the selected lanes and E_{chijkl} is the total number of vehicles passing the selected lanes during the observation time.

Selection of Alternate Sites

Criterion 1340.5.b requires that states propose a protocol for selecting alternate sites. These sites should have a similar characteristics as the site for which they are serving as alternate. The alternate observation sites must be in the same county and the same road classification as the observation site the state is replacing. If an observation site is temporarily available, observers can either return to the observation site on the same day of the week and at the same time of the day. If a site is permanently unavailable then the observers can select an alternate site, by travelling on the road segment until they reach an (different) intersection on the same road, and that intersection shall serve as the alternate site. The data collectors will be trained in this protocol and to exercise it in the data collector training.

For future studies, to replace permanently unworkable sites, alternate sites would be selected probabilistically. To ensure that the alternate is has the same characteristics as the original, it will be selected from the road segments immediately preceding and immediately following the original road segment actually selected, and thus are implicitly stratified by functional classification group and segment length to correspond to the original road segment actually selected. Thus, these are considered

selected with PPS using road segment length as MOS by the same approach as the original site. Thus, for the purposes of data weighting, the reserve road segment inherits all probabilities of selection and weighting components up to and including the road segment stage of selection from the original road segment actually selected. Probabilities and weights for any subsequent stages of selection will be determined by the reserve road segment itself.

Assignment of Observation Times

Criterion 1340.6 requires that all hours between sunrise and sunset be eligible for assignment in data collection. The data collection time has been fixed for 45 minutes at all sites. Table 10 presents a tentative schedule of data collection for two different teams.

Table 10: Observation Schedule

Task	Schedule A	Schedule B
Collect data at the first site	7:00-7:45 a.m.	7:45-8:30a.m.
Travel to second site	7:45-8:30a.m.	8:30-9:15a.m.
Collect data at the second site	8:30-9:15 a.m.	9:15-10:00a.m.
Travel to third site	9:15-10:00a.m.	10:00-10:45a.m.
Collect data at the third site	10:00-10:45 a.m.	10:45-11:30a.m.
Travel to fourth site	10:45-11:30a.m.	11:30a.m.-12:15p.m.
Collect data at the fourth site	11:30a.m.-12:15p.m.	12:15-1:00p.m.
Travel to fifth site	12:15-1:00p.m.	1:00-1:45p.m.
Collect data at the fifth site	1:00-1:45p.m.	1:45-2:30p.m.
Travel to sixth site	1:45-2:30p.m.	2:30-3:15p.m.
Collect data at the sixth site	2:30-3:15p.m.	3:15-4:00p.m.
Travel to seventh site	3:15-4:00p.m.	4:00-4:45p.m.

continued on next page

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Strata	Schedule A	Schedule B
Collect data at the seventh site	4:00-4:45p.m.	4:45-5:30p.m.
Travel to eighth site	4:45-5:30p.m.	5:30-6:15p.m.
Collect data at the eighth site	5:30-6:15p.m.	6:15-7:00p.m.

Observation Protocols

After deciding about the observation sites and observation time another important aspect of the survey is to record the data. The following subsection explains in detail the variables which will be recorded during the survey. The state will hire 4 data collectors. They will be paired and each team would be send to an observation site. To have the observation uniform and with minimum error, the same set of data collectors would be used in each county.

Survey Variables

The survey shall record a motorist as "belted" if the data collector recording the data can see or reasonably infer that the shoulder belt is in front of the motorist's shoulder. The survey shall record motorist as "non belted" if the data collector verbalizing the data can see or reasonably infer that the shoulder belt is not in front of the motorist's shoulder. Other cases shall be recorded as belt use "unknown". In case there is no right-front passenger in the vehicle, it will be recorded as "no passenger (NP)" by the data collectors.

Vehicle and Occupant Coverage

The data collectors will observe the driver and right-front passenger of all passenger vehicles up to 10,000 pounds. The data collector will also record the seat-belt status (Belted/Non belted/Unknown), gender (Male/Female/Unknown), age group (<

20/20-60/> 60/Unknown), ethnicity (Caucasian/African-American/Hispanic/Other/Unknown), State of registration of vehicle (NV/CA/Other/Unknown), Vehicle Type (Sedan, SUV/Van, Truck) for both the driver and the right-front passenger. The survey will include right-front passengers who appear to be in booster seats. Although children in safety seats would be excluded. Apart from the observed vehicles, the data collectors will also record the total number of vehicles crossed during the observation period, from the observed lane in the corresponding direction being observed.

Data Collection Environment

Data collectors will wear casual clothing with an orange/green safety vest. Neither police vehicles nor people on law enforcement uniforms shall be visible to motorists at the observation sites. No signage or other communication shall be perceivable to motorists approaching the observation sites that would indicate that a seat belt survey will be conducted. This is to avoid any bias in the data collected. Although to ensure safety of the data collectors, a traffic safety cone is encouraged to be kept at the front and back of the vehicle.

Data Collection Software

An iPhone application was developed at Transportation Research Center (TRC), UNLV to be used by the observers during data collection process. The software is shown in Figure 6a and 6b. The seat-belt status of the driver and right front passenger was recorded during the survey. Moreover, driver's age, right front passenger's age, driver's gender, right front passenger's gender, vehicle type, license of registration could also be recorded. The data collection software also provides the option to record the number of the observation site, total and observed directions, total and observed lanes in the observed direction, road and weather conditions, date and time of the observation as shown in Figure 6a. The abbreviations used in the data collection software, Figure 6b are as follows:

1. **Seatbelt Status:** As mentioned in PART 1340 Uniform Criteria for State Observational Surveys of Seatbelt Use, that the observer should record the driver's and right front passenger's seatbelt status as:

    - Belted (B), if the observer can clearly observe a seat-belt over the shoulder
    - Unbelted (NB), if the observer can clearly observe no seat-belt over the shoulder
    - Unknown (U), if the observer cannot clearly observe a seat-belt

2. **License of Registration:** The license of registration of the vehicles was mainly divided into four categories. The data collectors were trained to look at the license plate of the vehicle and identify the state of registration of the vehicle. Historically, the majority of the vehicles observed were registered in Nevada. This was set as a default in the entry form. Any license plate not belonging to either Nevada or California was identified as Other.

    - N - Nevada Registered
    - C - California Registered
    - O - Other State Registered (vehicles not registered in Nevada and California)
    - U - The state of the license could not be determined

3. **Type of Vehicle:** To ease the data collection process, vehicles were primarily divided into three major categories. The data collectors were thoroughly trained to identify the type of vehicle by observing the size of the vehicle. SUV/Mini Van were set as default in the data entry form to speed up the data collection process. This was done based on the historical data for Nevada.

    - S - Sedan/Station Wagon
    - SV - SUV/Mini Van
    - T - Pickup Truck

4. **Ethnicity:** This category was broadly divided into four sub categories. During the training period the data collectors were trained to identify the ethnicity of people by looking at them.

    - C - Caucasian
    - A- African American
    - H - Hispanic
    - O - Other (people not belonging to the above ethnic groups)
    - U - Ethnicity could not be determined

5. **Age - Gender:** The estimated age was recorded. The age was sub divided into following four categories, <20, 20-60, and >60 years. The observers were trained to predict the best possible estimate for a person's age group depending on the above mentioned categories.

    - R (Regular) - 20-60 years of age
    - Y (Young) - <20 years of age
    - E (Elderly) - >60 years of age
    - U - Age could not be determined

6. **Gender:** The gender was recorded as male, female, or unknown.

    - M (Male) - Male
    - W (Women) - Female
    - U - Gender could not be determined

The left half of data collection template, as shown in Figure 6b, is for collecting data related to the driver. The right half of the template is used for collecting data according to the observed passenger. The observers were well trained before the actual data collection on this software.

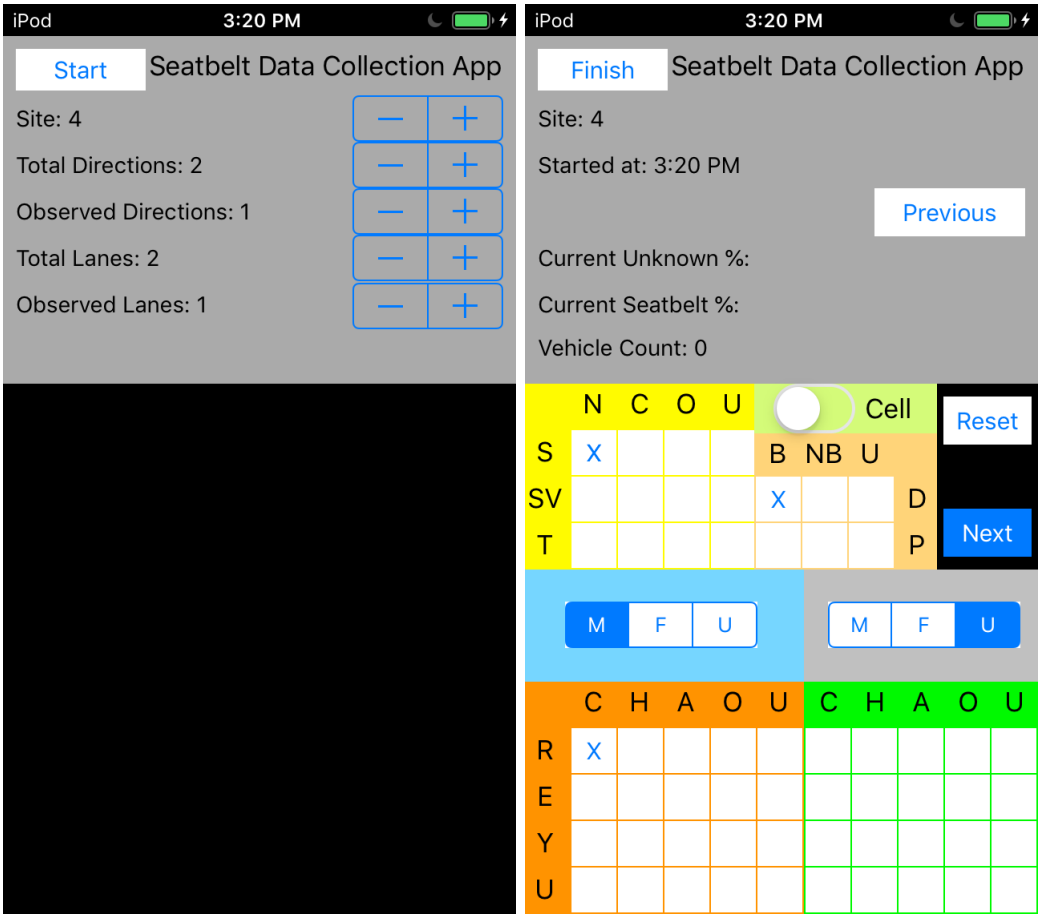


Figure 6: Data Collection Software

Observation Protocols

The exact observation sites, including specific road segments, time of day, day of week and direction of vehicle travel, were determined prior to observers conducting the survey. The observer was not authorized to make any changes to these pre-selected aspects of the survey unless authorized by a supervisor. Observed motor vehicle occupants (either driver or front seat passenger) wearing shoulder belts were only considered as belted occupants, others wearing lap belts or wearing no seat belts were not considered as 'belted'. What follows is a discussion of the methodological protocols for the observations used for this study:

- **The order of observation:** Within the clusters, the order of observation was assigned with the use of a random numbering procedure. For sites outside the clusters, the order was determined by proximity to clustered sites.

- **Traffic direction:** In those cases where the roadway moves in only one direction, no real choice was involved. If a site was situated proximate to a county line, the traffic direction toward the county was associated with the survey. In all other instances involving a decision of direction, a randomization process was employed.

- **Vehicles observed:** All passenger vehicles were observed and classified on the observation form as sedans/station wagons, vans/sport utility vehicles or pickup trucks.

- **Occupants observed:** The drivers and outboard passengers in the passenger vehicles selected were observed for seat belt usage. The gender of these occupants was recorded along with the seat belt usage information. Any occupant who appeared to be less than 20 years of age was considered as Young. We recognize that this is a subjective determination. Observers were provided training to help make consistent judgement in this regard. The observers included right-front passengers who appeared to be in booster seats, although children in safety seats were excluded from the survey.

- **Traffic conditions and data collection problems** Observers were trained to cope with traffic problems. When traffic is heavy and there are too many vehicles to count visually, counting was done as long as possible and the stopped until the observers count could catch up with the observations. Some vehicles, out of necessity, were skipped under these circumstances. When this occurred, counting resumed after no more than a one-minute pause. Once an observer's eyes were locked on a vehicle, a count of that vehicle was entered on the observation form.

  - At sites with more than one lane of traffic in the predetermined direction, observations were made from the lane closest to the observer.
  - Field observers were allowed to terminate a pre-selected set of observations if any of the following circumstances arose: 1) extreme weather conditions that would hinder the accuracy of the observations; 2) traffic flow that is heavy enough to endanger the safety of the observer; 3) traffic crashes, traffic conditions, or road construction that would render the observations unfeasible, especially when a detour is involved. If observations at a pre-selected site were to be terminated, the observer was to note the reason and mark the time of termination on the form. The observer was instructed to notify the supervisor about the termination as soon as possible.

- **Site accessibility problems:** If a pre-selected site was not available on the survey date or time, the observer made the following modifications:

  - On mile-posted roads, observations were to be made at a location with a mile point that was one mile higher on the same roadway in the same direction as the assigned traffic flow. If this point was not accessible, more miles were added in one-mile increments, up to three miles. Such changes were noted on the observation form.
  - On non-mile point streets and local roadways, the observer was to proceed in the same direction as the assigned traffic flow in one-quarter mile

increments, not to exceed three-quarters of a mile, until an appropriate observation site was found and so noted on the observation form.

  - In cases of road construction or other road obstruction where traffic was detoured, the observer was required to select a site on the detour as close to the original site as possible, no more than two miles away on mile-pointed roadways and no more than one-half mile on non-mile-pointed roadways. The change in site location and the reason for the change was be noted on the observation form.

- **Observations** Safety belt usage and gender characteristics were recorded for drivers and outboard passengers in the front seat of four identified vehicle types. In addition to observing and documenting this data, observers recorded other data from which additional information could be acquired. Driver and passenger gender were noted to determine usage rates by gender. In-state and out-of state registered vehicles were noted to identify the usage rate of Nevada registered vehicle occupants vs. those from out-of-state. Observations occurred from the observers vehicle whenever possible. If an observer was unable to observe from his vehicle, the observer was allowed to stand off the roadway and was required to wear a safety vest for visibility.

Quality Control Procedures

According to the criteria 1340.8.a, to monitor the surveys a Quality Control (QC) Monitor will be employed. The state plans to employ one QC Monitor who will make unannounced random visits to 5 percent of the observation sites. During these visits, the QC Monitor will first evaluate the Data Collectors performance from a distance (if possible), and then work alongside the Data Collectors. The schedule for the data collection would be given beforehand to the QC monitor with the observation time at each observation site. The QC Monitor will ensure that the data collector is following all survey protocol including: being on time at assigned sites, completing the cover sheet and observation forms, and making accurate observations of seat belt

use. The QC Monitor will prepare a site visit report highlighting any problems with data collection site locations and Data Collector performance. The quality control monitor also serve as a point of contact during the data collection should the data collectors have a question arising during this time.

The QC Monitor will review the data. If the rate of unknowns exceeds 10% for any site (potentially leading to an overall nonresponse rate of 10% or more), then the data collector will be sent back to that site for an additional observation period.

The state plans to send to two data collectors at each site. Thus two teams comprising of two data collectors each would be formed, to speed up the process of data collection. The data collectors will be thoroughly trained before the survey in each type of scenario, like high/medium/low volume of traffic. Also to ensure safety of the data collectors, they will also be briefed about the common safety procedures to be followed while doing the survey.

Computation of Estimates

Sampling Weights

The following is a summary of the subscripts used in the design.

- c - Subscript for county
- h - Subscript for road segment strata
- i - Subscript for road segment
- j - Subscript for time segment
- k - Subscript for road direction
- l - Subscript for lane
- m - Subscript for vehicle

Under this stratified multistage design, the inclusion probability for each observed vehicle is the product of selection probabilities at all stages: π_c for county, $\pi_{hi|c}$ for road segment, $\pi_{j|chi}$ for time segment, $\pi_{k|chij}$ for direction, $\pi_{l|chij}$ for lane and $\pi_{m|chijl}$ for vehicle. So the overall vehicle inclusion probability is:

$$\pi_{chijklm} = \pi_c \pi_{hi|c} \pi_{j|chi} \pi_{k|chij} \pi_{l|chij} \pi_{m|chijl} \tag{14}$$

The sampling weight for vehicle m is:

$$w_{chijklm} = \frac{1}{\pi_{chijklm}} \tag{15}$$

Nonresponse Adjustment

If eligible vehicles passed an eligible site or an alternate eligible site during the observation time but no usable data was collected for some reason, then this site is considered as a "non-responding site". The weight for a non-responding site should be distributed over other sites in the same road type in the same PSU. However, for PSU's having only one site in the sample, data would be collected again on the same day and same time of the week. Also, if this doesn't works out then an alternate site would be selected and data would be collected on the same day and same time of the week at that site. Let

$$\pi_{chi} = \pi_c \pi_{hi|c} \tag{16}$$

be the road segment selection probability,

$$w_{chi} = \frac{1}{\pi_{chi}} \tag{17}$$

be the road segment weight. Factor

$$f_{ch} = \frac{\sum_{alli} w_{chi}}{\sum_{resdpondingi} w_{chi}} \tag{18}$$

is multiplied to all weights of non-missing road segments in the same road type of the same county and the missing road segments are dropped from the analysis file. However, if there were no vehicle passing the site during the selected observation time (say 45 minutes) then this is simply an empty block at this site and this should not be considered as non-responding site. This site may be dropped for estimation but no adjustment is needed.

Belt Use Rate Estimator

Let the driver/passenger belt use status be:

$$y_{chijklmn} = \begin{cases} 1, & if belted \\ 0, & otherwise \end{cases} \tag{19}$$

The first belt rate estimator to be considered is a ratio estimator given by:

$$p = \frac{\sum_{allchijklm} w_{chijklm} y_{chijklmn}}{\sum_{allchijklm} w_{chijklm}} \tag{20}$$

This estimator does not require the knowledge of VMT data for a state.

Conclusions

The seat belt usage survey methodology for Nevada was designed by UNLV for the fiscal year 2012, and sites were reselected for the year 2017, and most recently for the year 2022. The instructions and guidelines mentioned in the Uniform Criterion and the Complaint example given as an aid by NHTSA were followed completely. The fatality dataset used for sampling the counties comprises of 3 years of average fatality index and has been provided by NHTSA. As after the first stage sampling, only 5 counties were left in the sampling frame, so all 5 have been retained for further sampling stage. Moreover, an updated roadway segment database was also provided by NHTSA which was used for the reselection of roadway segments in the selected counties. The length of the roadway segment has been used as a measure of size for selection of roadway segments using probability proportional to size. The name of sites along with their geographical location has been given in Table 5, 6, 8, 9, 7 . On these locations, data collector will decide for a safe spot for data collection, abiding all the rules set for the process. These sites would be grouped together depending on their locations and the schedule for data collection would be developed as given in Table 10.

It is expected there will be a sample size of approximately 88 vehicles per observation site and 9,680 vehicles overall based on historical data with the Nevada's Annual

Seat Belt Use Study. Based on this, the standard error is expected to be less than 2.5%. In the event there is a standard error greater than 2.5%, more data will be collected from existing sites.

Statewide Summary

Statewide Information

During both the surveys, only front seat occupants were observed. A total of 8,522 vehicles were observed during the Pre-Mobilization survey. Similarly, 8,356 vehicles were observed during the Post-Mobilization survey. The unweighted seatbelt usage rate for front seat occupants was 92.98% for the Pre-Mobilization survey (10,292 front seat occupants) and 92.75% for the Post-Mobilization survey (10,134 front seat occupants). The following sections breakdown the seatbelt usage rate by different classifications such as gender, age, county, etc. Figures are given for the statewide percentages, and tables for sites in detail.

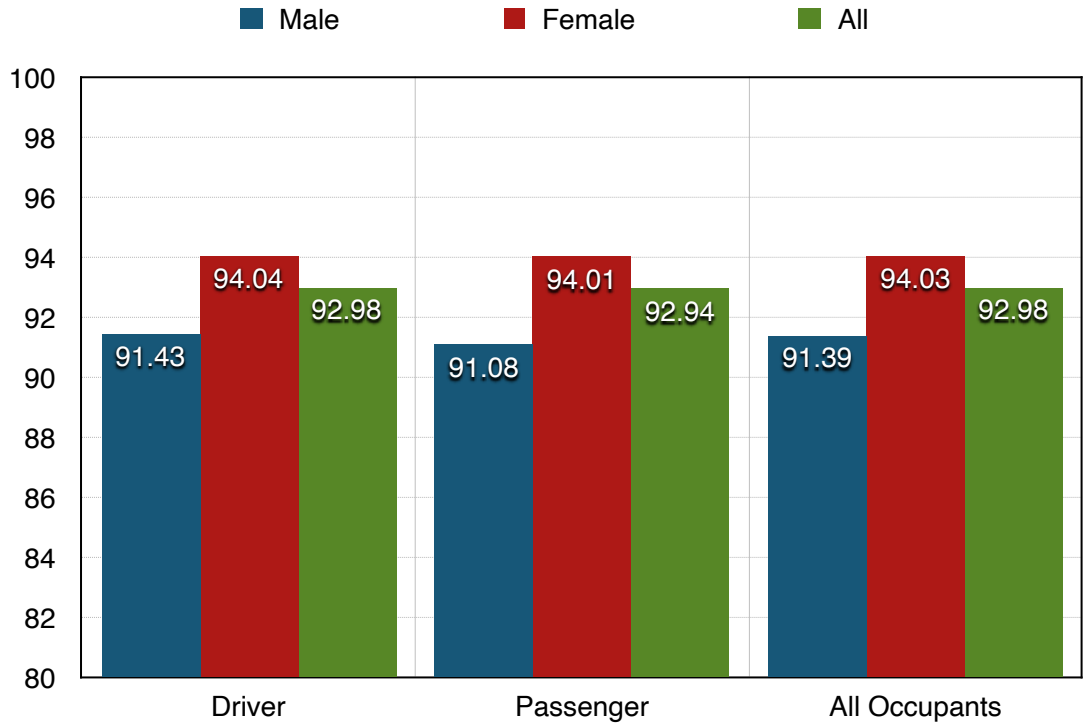
Seatbelt Usage by Driver and Passenger

Including all the sites in the calculation of the seatbelt usage rates, it was found that the seatbelt usage rates for passengers (92.94%) was about the same as of the drivers (92.98%) during the Pre-Mobilization survey. The passengers (94.32%) had a higher seat belt usage rate than the drivers (92.41%) during the Post-Mobilization survey.

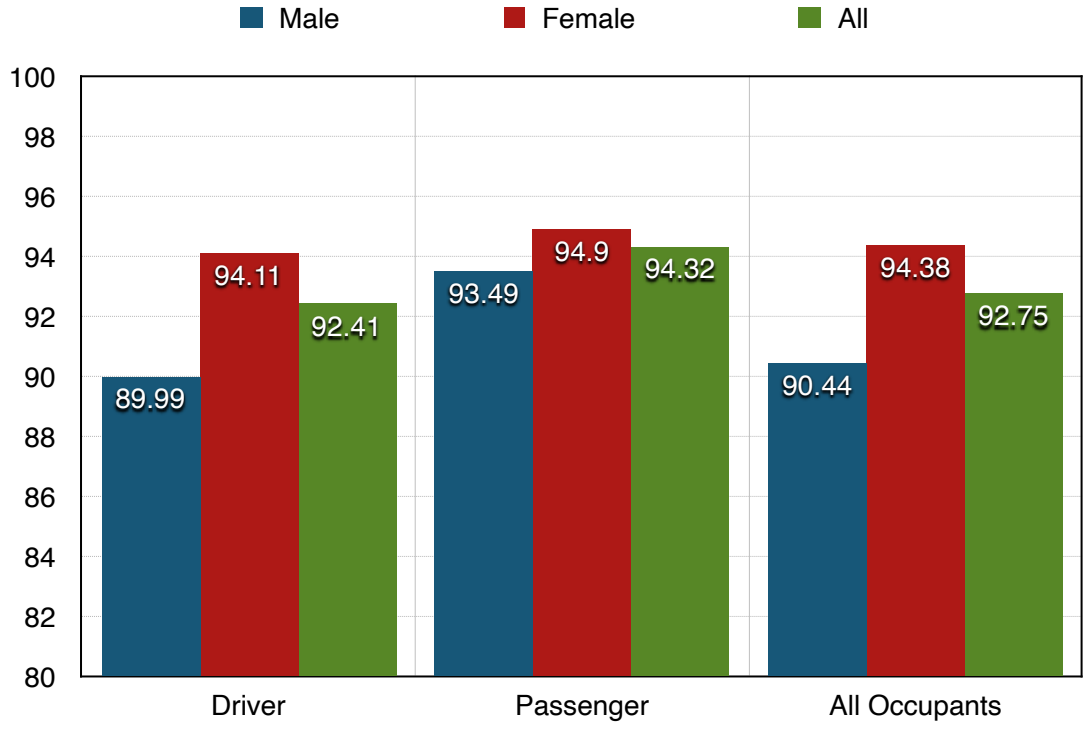
Figure 7 displays the statewide seatbelt usage for drivers, passengers, and front seat occupants combined during Pre-mobilization and Post-mobilization respectively.

Table 11 shows the seatbelt usage in percent by drivers, passengers, and overall

Figure 7: Statewide Seatbelt Usage for Drivers, Passengers, and All Occupants in Percent



(a) Pre-mobilization



(b) Post-mobilization

occupants, for the Pre-Mobilization survey. Similar information is provided in Table 12 for the Post-Mobilization survey. These tables also provide information about the gender for the drivers and passengers.

Table 11: Statewide Seatbelt Usage in Percent during Pre-Mobilization Survey

Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1	97.70	100.00	98.86	100.00	96.77	97.67	97.98	97.96	98.62
2	88.46	100.00	90.91	100.00	92.31	93.33	89.29	93.75	91.67
3	92.56	96.77	94.79	100.00	100.00	100.00	93.38	97.56	95.39
4	98.15	92.31	97.18	100.00	100.00	100.00	98.53	97.92	98.33
5	97.18	100.00	97.41	100.00	100.00	100.00	97.50	100.00	97.79
6	97.76	92.59	97.50	100.00	92.31	95.65	97.92	92.50	97.31
7	92.97	96.92	95.47	94.44	100.00	97.22	93.15	97.59	95.68
8	100.00	100.00	96.77	100.00	100.00	100.00	100.00	100.00	96.97
9	100.00	91.30	97.33	100.00	100.00	100.00	100.00	94.44	97.83
10	95.31	93.33	94.44	88.89	100.00	91.67	94.52	94.44	94.12
11	85.00	82.35	84.21	100.00	100.00	100.00	86.36	86.36	86.67
12	93.33	100.00	96.23	100.00	100.00	100.00	93.75	100.00	96.67
13	92.55	85.96	94.32	100.00	100.00	100.00	93.86	88.57	94.95
14	90.41	96.88	93.33	100.00	90.00	94.29	92.05	94.23	93.55
15	100.00	80.00	93.33	50.00	100.00	85.71	94.74	86.67	91.89
16	92.31	94.44	93.48	100.00	100.00	100.00	92.71	96.36	94.44
17	100.00	83.33	96.77	(0/0)	100.00	100.00	100.00	85.71	96.88
18	86.36	75.00	86.49	100.00	100.00	100.00	86.96	81.82	87.80
19	87.50	83.33	88.10	100.00	100.00	100.00	89.29	87.50	90.00
20	93.65	93.33	94.29	92.86	94.74	93.94	93.51	93.88	94.20
21	81.82	88.89	84.38	100.00	100.00	100.00	84.62	90.91	86.84
22	92.96	100.00	95.19	100.00	100.00	100.00	93.15	100.00	95.69
23	93.07	98.53	96.68	100.00	100.00	100.00	94.02	98.82	97.08
24	97.01	100.00	97.59	85.71	100.00	97.78	96.45	100.00	97.61
25	84.62	85.71	85.71	80.00	100.00	85.71	83.33	88.89	85.71

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Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
26	80.00	77.78	81.25	75.00	87.50	83.33	79.17	82.35	81.82
27	89.06	91.89	90.18	83.33	83.33	83.33	88.57	90.70	89.52
28	80.95	93.75	88.89	100.00	75.00	90.91	85.71	90.00	89.29
29	87.88	91.89	90.27	88.89	83.33	84.85	88.00	88.52	89.04
30	94.74	100.00	96.55	100.00	100.00	100.00	95.00	100.00	97.06
31	88.89	100.00	94.29	100.00	(0/0)	100.00	90.00	100.00	94.59
32	97.32	92.96	96.02	85.71	100.00	95.65	96.64	94.25	95.98
33	92.97	98.06	96.18	88.24	100.00	94.44	92.41	98.36	95.99
34	86.36	100.00	92.31	100.00	100.00	100.00	86.96	100.00	93.02
35	97.14	95.24	95.65	100.00	100.00	100.00	97.30	95.45	95.83
36	94.55	98.08	96.58	100.00	100.00	100.00	94.92	98.18	96.77
37	91.30	87.50	91.43	100.00	(0/0)	100.00	92.00	87.50	91.89
38	92.31	83.33	90.00	(0/0)	(0/0)	(0/0)	92.31	83.33	90.00
39	92.31	100.00	97.14	100.00	100.00	100.00	92.86	100.00	97.44
40	80.00	100.00	90.32	(0/0)	100.00	100.00	80.00	100.00	91.18
41	86.67	93.75	90.32	100.00	100.00	100.00	88.89	94.74	91.89
42	80.00	100.00	90.32	100.00	(0/0)	100.00	81.25	100.00	90.63
43	91.18	100.00	94.12	100.00	100.00	100.00	92.11	100.00	94.59
44	89.05	95.00	90.99	83.33	88.89	86.67	88.59	93.10	90.48
45	86.36	100.00	92.06	(0/0)	85.71	85.71	86.36	90.91	91.43
46	87.10	100.00	90.91	(0/0)	100.00	100.00	87.10	100.00	92.21
47	81.25	100.00	86.36	100.00	0.00	90.00	88.00	80.00	87.50
48	95.38	95.74	95.87	93.33	92.86	93.10	95.00	95.08	95.33
49	87.50	100.00	88.89	100.00	100.00	100.00	88.89	100.00	92.31
50	95.65	91.67	94.59	100.00	100.00	100.00	96.55	94.74	96.00
51	88.89	94.74	91.30	92.31	100.00	95.83	89.66	96.67	92.47

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Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
52	96.88	100.00	98.18	100.00	100.00	100.00	97.30	100.00	98.55
53	94.51	95.16	95.03	95.00	84.00	88.89	94.59	91.95	93.69
54	66.67	100.00	80.00	(0/0)	100.00	100.00	66.67	100.00	85.71
55	91.49	93.10	90.12	55.56	90.00	79.31	85.71	91.84	87.27
56	75.00	100.00	83.33	(0/0)	50.00	50.00	75.00	66.67	75.00
57	94.12	72.73	84.62	80.00	100.00	90.00	90.91	81.25	85.71
58	100.00	90.00	96.67	100.00	100.00	100.00	100.00	92.86	97.14
59	86.96	96.15	90.54	88.89	77.78	83.33	87.27	91.43	89.13
60	90.38	100.00	93.24	80.00	100.00	96.30	89.47	100.00	94.06
61	93.94	82.14	89.23	100.00	100.00	100.00	95.12	89.13	92.31
62	92.44	95.65	93.26	100.00	95.24	96.43	92.86	95.56	93.67
63	81.97	100.00	87.06	80.00	92.86	89.47	81.69	95.92	87.80
64	84.31	96.43	88.75	90.91	80.00	83.87	85.48	89.58	87.39
65	40.00	100.00	57.14	100.00	(0/0)	100.00	50.00	100.00	62.50
66	100.00	100.00	100.00	100.00	87.50	88.89	100.00	91.67	97.14
67	100.00	90.00	94.68	100.00	100.00	100.00	100.00	95.45	95.33
68	84.62	100.00	88.24	100.00	100.00	100.00	86.67	100.00	90.48
69	94.00	100.00	96.20	83.33	90.00	87.50	92.86	95.65	94.74
70	92.86	100.00	94.12	(0/0)	(0/0)	(0/0)	92.86	100.00	94.12
71	90.00	100.00	92.86	100.00	100.00	100.00	92.31	100.00	95.83
72	100.00	85.71	91.89	100.00	100.00	100.00	100.00	90.91	92.86
73	91.67	100.00	94.44	100.00	100.00	100.00	92.86	100.00	95.45
74	70.59	75.00	76.67	50.00	60.00	57.14	68.42	69.23	72.97
75	81.25	100.00	86.36	100.00	75.00	83.33	83.33	85.71	85.71
76	90.91	100.00	92.86	100.00	100.00	100.00	92.31	100.00	94.44
77	80.00	100.00	90.00	(0/0)	100.00	100.00	80.00	100.00	90.91

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Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
78	100.00	100.00	94.44	(0/0)	100.00	100.00	100.00	100.00	95.45
79	87.50	100.00	91.67	(0/0)	(0/0)	100.00	87.50	100.00	92.00
80	85.71	(0/0)	85.71	(0/0)	0.00	0.00	85.71	0.00	75.00
81	94.44	100.00	96.15	100.00	100.00	100.00	95.65	100.00	97.30
82	95.00	100.00	95.83	100.00	100.00	100.00	95.65	100.00	96.77
83	89.29	93.88	92.72	92.31	100.00	98.08	89.54	96.59	93.61
84	90.27	92.59	92.39	92.86	84.21	87.88	90.55	90.41	91.74
85	92.86	96.67	93.27	75.00	100.00	93.62	91.30	97.89	93.33
86	93.62	91.67	93.94	100.00	87.50	93.75	94.55	90.00	93.90
87	98.00	100.00	98.75	100.00	80.00	90.00	98.18	93.33	97.78
88	92.20	88.33	91.80	92.31	100.00	97.67	92.21	92.22	92.68
89	88.37	94.74	90.32	80.00	92.31	90.32	87.50	93.33	90.32
90	88.10	90.00	87.50	66.67	90.00	82.76	84.31	90.00	86.02
91	84.62	77.78	84.62	50.00	100.00	88.89	82.14	87.50	85.42
92	97.22	100.00	96.30	100.00	90.91	92.31	97.37	96.00	95.52
93	80.00	87.50	83.33	92.31	90.91	91.43	81.55	88.46	84.86
94	96.10	94.12	95.76	86.67	96.55	93.18	94.57	95.24	95.06
95	78.79	93.94	86.11	88.89	93.33	91.67	80.95	93.75	87.50
96	66.67	100.00	80.00	100.00	(0/0)	100.00	75.00	100.00	83.33
97	93.18	94.74	91.04	90.00	100.00	93.33	92.59	95.83	91.46
98	50.00	100.00	64.29	40.00	100.00	50.00	46.15	100.00	60.00
99	84.54	90.54	87.43	72.73	77.78	76.32	83.33	87.13	85.52
100	76.19	100.00	81.82	100.00	66.67	75.00	78.26	83.33	80.49
101	90.00	(0/0)	90.00	(0/0)	100.00	100.00	90.00	100.00	91.67
102	90.91	100.00	95.00	100.00	100.00	100.00	92.31	100.00	96.43
103	93.75	100.00	95.65	100.00	100.00	100.00	94.12	100.00	96.43

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Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
104	83.33	75.00	81.82	66.67	100.00	75.00	77.78	80.00	80.00
105	92.00	100.00	95.65	77.78	100.00	89.47	88.24	100.00	93.85
106	82.76	92.86	85.42	100.00	88.89	92.86	85.29	91.30	87.10
107	92.11	94.12	93.55	90.91	87.50	88.89	91.84	90.91	92.13
108	90.91	100.00	93.75	100.00	100.00	100.00	93.55	100.00	95.83
109	81.13	82.35	81.58	84.62	77.78	81.82	81.82	80.77	81.63
110	86.21	95.45	91.38	85.71	100.00	92.86	86.11	96.55	91.67
Total	91.43	94.04	92.98	91.08	94.01	92.94	91.39	94.03	92.98

Table 12: Statewide Seatbelt Usage in Percent during Post-Mobilization Survey

Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1	92.77	100.00	96.15	95.65	94.12	95.00	93.40	96.67	95.97
2	76.47	100.00	86.67	100.00	100.00	100.00	77.78	100.00	88.57
3	91.97	96.43	93.33	96.30	100.00	97.22	92.68	97.30	93.87
4	97.30	100.00	97.67	100.00	100.00	100.00	97.62	100.00	98.46
5	92.59	92.68	93.75	100.00	100.00	100.00	92.73	93.33	94.02
6	95.68	100.00	95.98	100.00	90.91	95.45	96.00	96.88	95.93
7	92.59	91.23	94.54	100.00	100.00	100.00	93.89	93.42	95.36
8	93.75	92.31	93.94	100.00	(0/0)	100.00	94.74	92.31	94.44
9	89.58	94.12	91.86	100.00	100.00	100.00	89.80	94.87	92.39
10	95.35	90.00	93.51	90.00	100.00	95.00	94.34	92.50	93.81
11	88.89	100.00	92.86	100.00	100.00	100.00	89.29	100.00	93.88
12	100.00	100.00	97.87	100.00	100.00	100.00	100.00	100.00	98.11
13	94.23	96.00	96.33	100.00	100.00	100.00	94.83	97.10	96.79
14	89.74	95.83	94.57	100.00	100.00	100.00	91.40	96.55	95.22
15	100.00	90.91	96.67	(0/0)	100.00	100.00	100.00	92.31	96.88
16	95.00	90.70	93.48	90.00	100.00	94.44	94.00	92.16	93.64
17	95.24	100.00	96.77	(0/0)	100.00	100.00	95.24	100.00	96.88
18	85.71	93.33	88.64	80.00	100.00	90.91	84.62	95.24	89.09
19	93.75	83.33	90.91	(0/0)	100.00	100.00	93.75	85.71	91.43
20	96.36	91.67	94.79	100.00	100.00	100.00	96.49	92.31	95.00
21	100.00	80.00	90.00	(0/0)	100.00	100.00	100.00	83.33	90.91
22	98.48	100.00	98.96	100.00	100.00	100.00	98.65	100.00	99.10
23	97.73	96.61	97.21	100.00	100.00	100.00	98.08	97.80	97.72
24	93.67	100.00	95.15	100.00	100.00	100.00	93.90	100.00	95.22
25	79.07	90.91	83.61	75.00	100.00	91.67	78.72	94.74	84.93

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Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
26	82.35	80.00	82.14	(0/0)	100.00	100.00	82.35	87.50	83.87
27	96.92	97.67	97.50	100.00	100.00	100.00	97.10	97.96	97.69
28	90.00	100.00	94.74	100.00	100.00	100.00	90.91	100.00	95.35
29	93.44	93.18	93.75	100.00	100.00	100.00	94.03	93.62	94.21
30	93.75	100.00	95.24	100.00	(0/0)	100.00	94.12	100.00	95.35
31	85.71	90.00	90.00	100.00	100.00	100.00	87.50	91.67	91.18
32	90.22	100.00	95.43	100.00	91.67	94.74	91.51	97.70	95.32
33	91.33	100.00	95.74	100.00	100.00	100.00	92.02	100.00	96.09
34	92.86	100.00	96.30	100.00	100.00	100.00	93.10	100.00	96.49
35	92.31	100.00	95.12	(0/0)	100.00	100.00	92.31	100.00	95.24
36	92.06	92.50	93.16	100.00	100.00	100.00	93.24	93.48	94.03
37	92.00	100.00	93.94	100.00	83.33	85.71	92.31	90.91	92.50
38	94.44	90.00	93.33	50.00	100.00	83.33	90.00	92.86	91.67
39	92.31	93.33	93.55	100.00	100.00	100.00	92.86	94.44	94.29
40	93.33	100.00	96.67	100.00	100.00	100.00	93.75	100.00	97.22
41	88.89	88.89	90.32	100.00	(0/0)	100.00	89.47	88.89	90.63
42	92.86	85.71	90.32	100.00	100.00	100.00	94.12	88.24	91.89
43	89.47	96.43	93.15	100.00	100.00	100.00	91.11	96.97	94.12
44	93.98	92.31	94.55	88.89	94.44	92.59	93.66	92.86	94.37
45	87.50	100.00	92.75	100.00	92.86	93.75	88.24	94.44	92.94
46	90.63	100.00	93.85	0.00	94.12	88.89	87.88	95.24	92.77
47	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
48	93.48	92.31	94.52	100.00	100.00	100.00	94.12	93.33	95.00
49	100.00	100.00	100.00	100.00	(0/0)	100.00	100.00	100.00	100.00
50	82.61	100.00	90.70	100.00	100.00	100.00	85.19	100.00	92.31
51	80.36	97.06	86.41	81.82	83.33	82.35	80.60	95.00	85.83

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Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
52	86.00	90.48	89.16	100.00	100.00	100.00	87.72	94.29	91.35
53	85.92	100.00	92.09	100.00	100.00	100.00	87.18	100.00	93.04
54	81.33	85.19	83.93	92.86	85.71	90.48	83.15	85.29	84.96
55	88.33	96.00	92.37	100.00	94.12	96.30	90.00	95.24	93.10
56	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
57	91.67	90.48	93.10	80.00	100.00	90.00	90.91	92.31	92.86
58	81.82	100.00	92.59	80.00	(0/0)	80.00	81.25	100.00	90.63
59	90.91	96.92	93.81	100.00	100.00	100.00	91.51	97.59	94.52
60	93.75	94.12	95.32	100.00	95.45	96.97	94.39	94.64	95.59
61	88.57	89.66	92.36	94.12	100.00	97.62	89.66	94.44	93.55
62	87.88	100.00	93.55	80.00	88.89	85.71	86.84	96.15	92.11
63	76.92	84.21	81.52	100.00	100.00	100.00	79.31	90.91	84.82
64	90.00	86.21	89.58	91.67	100.00	96.43	90.32	91.11	91.13
65	80.00	100.00	84.62	100.00	100.00	100.00	81.25	100.00	86.21
66	82.69	100.00	87.67	100.00	90.91	94.12	84.48	95.24	88.89
67	89.61	100.00	92.04	85.00	100.00	95.00	88.66	100.00	93.06
68	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	100.00	(0/0)	100.00
69	87.10	75.00	86.11	100.00	87.50	89.47	88.24	85.00	87.27
70	80.00	100.00	90.00	100.00	100.00	100.00	90.00	100.00	94.44
71	87.50	77.78	84.62	100.00	100.00	100.00	90.00	85.71	88.57
72	65.38	91.67	76.19	77.78	80.00	79.17	68.57	85.19	77.27
73	100.00	0.00	92.31	66.67	100.00	81.82	91.67	87.50	87.50
74	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
75	81.25	100.00	81.82	100.00	87.50	90.91	84.21	90.91	84.85
76	88.89	100.00	92.86	100.00	100.00	100.00	92.31	100.00	95.24
77	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

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Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
78	91.67	100.00	95.35	100.00	100.00	100.00	93.94	100.00	96.97
79	94.44	85.71	90.00	100.00	100.00	100.00	95.45	91.67	92.31
80	88.89	(0/0)	88.89	(0/0)	100.00	100.00	88.89	100.00	90.00
81	92.86	88.89	90.70	100.00	91.67	93.75	93.75	90.48	91.53
82	82.35	100.00	85.00	85.71	100.00	91.67	83.33	100.00	87.50
83	75.00	75.00	76.92	100.00	76.92	82.35	79.17	76.47	79.07
84	86.42	80.00	84.75	100.00	82.86	87.23	88.17	81.54	85.45
85	79.37	96.00	85.00	100.00	96.88	97.37	81.16	96.49	88.41
86	100.00	88.89	96.77	75.00	100.00	92.86	95.65	94.74	95.56
87	97.96	100.00	98.46	85.71	100.00	96.30	96.43	100.00	97.83
88	91.23	93.94	91.84	85.71	92.31	88.24	89.74	93.48	90.91
89	80.49	91.67	83.33	70.00	94.12	85.19	78.43	93.10	83.95
90	88.64	90.00	89.83	100.00	95.45	95.83	89.13	93.75	91.57
91	82.50	85.71	85.07	75.00	92.86	86.36	81.25	88.57	85.39
92	86.27	93.75	89.41	100.00	83.33	89.19	89.06	89.29	89.34
93	85.71	90.91	87.57	100.00	92.50	94.34	87.29	91.58	89.19
94	95.24	90.48	92.94	88.89	94.29	92.59	94.31	91.84	92.86
95	88.00	94.44	91.11	80.00	93.10	89.74	86.67	93.85	90.70
96	83.33	50.00	70.00	100.00	100.00	100.00	85.71	66.67	76.92
97	85.71	100.00	89.47	90.91	81.25	85.71	86.79	90.00	88.24
98	71.43	100.00	75.00	100.00	0.00	33.33	75.00	33.33	63.64
99	87.88	85.71	88.64	77.78	100.00	90.00	85.71	94.44	89.06
100	100.00	100.00	94.12	100.00	100.00	100.00	100.00	100.00	95.83
101	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
102	88.46	100.00	93.02	100.00	100.00	100.00	90.00	100.00	94.55
103	96.15	100.00	97.30	100.00	91.67	95.00	97.06	95.45	96.49

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Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
104	50.00	100.00	66.67	(0/0)	100.00	100.00	50.00	100.00	75.00
105	84.38	100.00	89.36	100.00	90.00	94.44	87.50	95.83	90.77
106	79.41	100.00	85.42	75.00	83.33	81.25	78.95	91.30	84.38
107	89.47	83.33	89.29	80.00	100.00	88.89	87.50	90.00	89.19
108	96.30	100.00	97.37	100.00	100.00	100.00	96.55	100.00	97.62
109	67.65	76.47	73.21	100.00	92.31	93.75	70.27	83.33	77.78
110	75.76	92.86	82.14	80.00	100.00	91.67	76.32	95.24	83.82
Total	89.99	94.11	92.41	93.49	94.90	94.32	90.44	94.38	92.75

From Tables 11 and 12, it can be concluded that the females occupants were properly restrained at a higher rate than the male occupants. During the Pre-Mobilization survey, 94.04% of female drivers were restrained in comparison with 91.43% of male drivers. Similarly, 94.01% of female passengers were restrained in comparison with the 91.08% of male passengers. Overall, 94.03% of female occupants were restrained during the Pre-Mobilization survey in comparison with 91.39% of male occupants.

The same pattern is recognized for the Post-Mobilization survey. 94.11% of female drivers were restrained in comparison with 89.99% of male drivers. Similarly, 94.90% of female passengers were restrained in comparison with the 93.49% of male passengers. Overall, 94.38% of female occupants were restrained during the Post-Mobilization survey in comparison with 90.44% of male occupants.

Seatbelt Usage by Age Groups

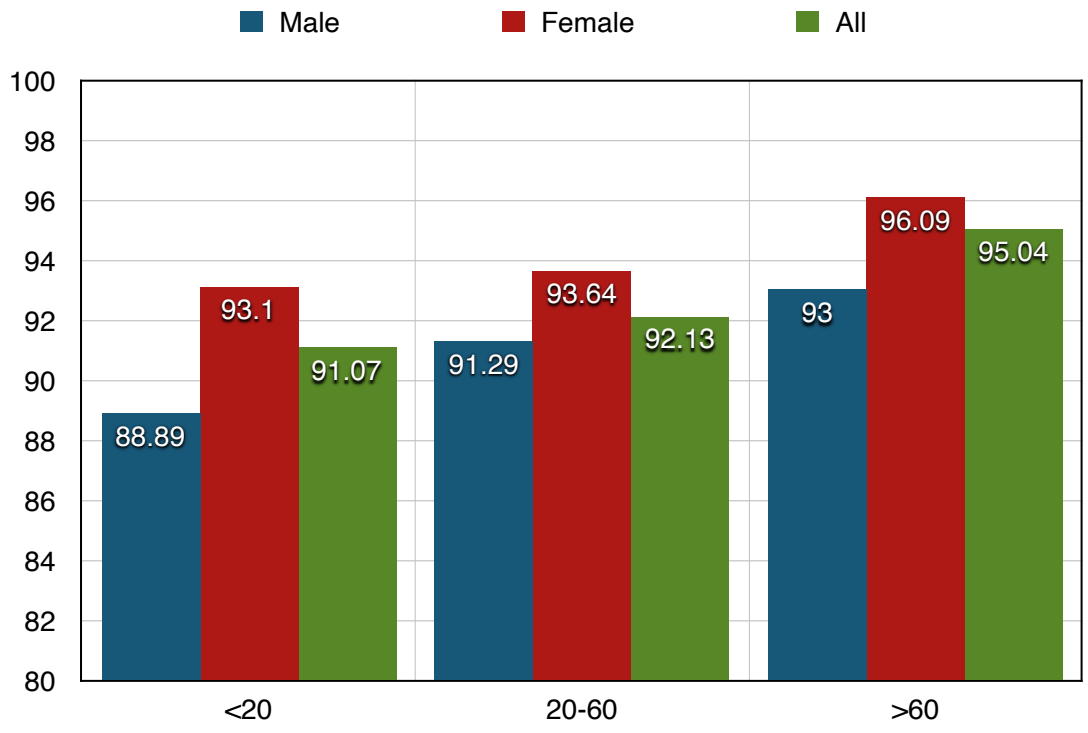
Tables 11 and 12 show the seatbelt usage distribution of the front seat occupants on all the 110 sites during Pre-Mobilization and Post-Mobilization survey when distributed on the basis of gender. Thus, the front seat occupants could be divided into two gender based categories: Male and Female. Furthermore, the front seat occupants could also be divided into three age based categories: <20, 20-60, and >60. Overall, the combination of age and gender categories is shown in Table 13.

Table 13: Age-Gender categories

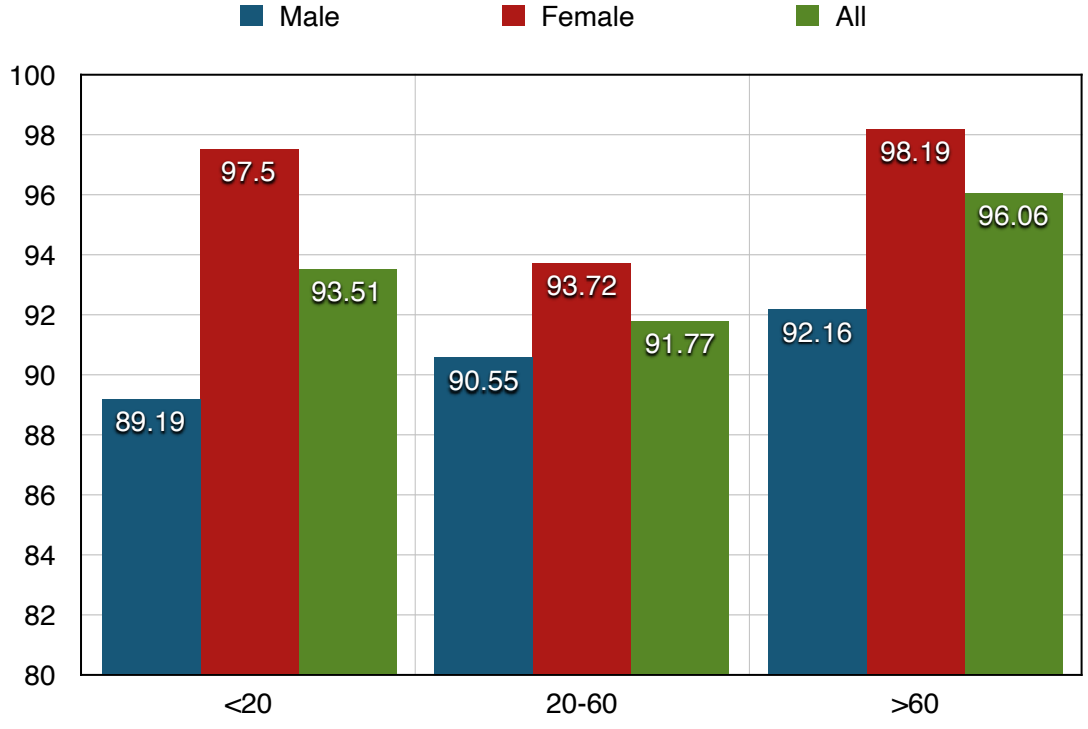
Gender	**Age**		
	<20	20-60	>60
Male	Young Man	Man	Elderly Man
Female	Young Woman	Woman	Elderly Woman

Thus, the gender and age based categories distributed the front seat occupants into 6 categories. The seatbelt usage for the front seat occupants (drivers and passengers) on the basis of the aforementioned combined distribution of age and gender is shown in Table 14 during Pre-Mobilization survey and 15 during Post-Mobilization survey. Figure 8 shows the statewide seatbelt usage of front seat occupants distributed across the age and gender of the occupants during the pre-mobilization and post-mobilization surveys, respectively.

Figure 8: Statewide Seatbelt Usage by Age Group



(a) Pre-mobilization



(b) Post-mobilization

Table 14: Seatbelt Usage by Age Group during Pre-Mobilization Survey

Site	<20			20-60			>60		
	Male	Female	All	Male	Female	All	Male	Female	All
1	(0/0)	(0/0)	(0/0)	96.00	100.00	96.88	100.00	100.00	100.00
2	(0/0)	(0/0)	(0/0)	88.89	93.75	90.91	(0/0)	(0/0)	(0/0)
3	100.00	(0/0)	100.00	94.02	96.43	94.56	100.00	100.00	100.00
4	100.00	(0/0)	100.00	98.33	97.30	97.94	100.00	100.00	100.00
5	(0/0)	(0/0)	(0/0)	96.43	100.00	97.50	100.00	100.00	100.00
6	(0/0)	(0/0)	(0/0)	97.89	93.55	97.21	100.00	100.00	100.00
7	(0/0)	(0/0)	(0/0)	91.38	100.00	94.22	100.00	(0/0)	100.00
8	(0/0)	(0/0)	(0/0)	100.00	100.00	95.65	100.00	(0/0)	100.00
9	100.00	(0/0)	100.00	100.00	93.33	97.53	100.00	(0/0)	100.00
10	(0/0)	(0/0)	(0/0)	94.03	93.75	94.19	(0/0)	100.00	100.00
11	(0/0)	100.00	100.00	86.36	85.71	86.05	(0/0)	(0/0)	(0/0)
12	(0/0)	(0/0)	(0/0)	93.10	100.00	95.56	100.00	100.00	100.00
13	(0/0)	100.00	100.00	94.44	86.54	91.78	100.00	0.00	50.00
14	100.00	(0/0)	100.00	92.96	92.68	93.04	100.00	100.00	100.00
15	(0/0)	(0/0)	(0/0)	93.75	83.33	90.00	(0/0)	(0/0)	(0/0)
16	100.00	(0/0)	100.00	92.63	95.74	93.79	(0/0)	100.00	100.00
17	(0/0)	(0/0)	(0/0)	100.00	83.33	94.44	(0/0)	100.00	100.00
18	(0/0)	(0/0)	(0/0)	86.36	77.78	84.85	(0/0)	(0/0)	(0/0)
19	(0/0)	(0/0)	(0/0)	89.29	86.67	88.89	(0/0)	(0/0)	(0/0)
20	(0/0)	(0/0)	(0/0)	92.86	93.48	93.10	(0/0)	100.00	100.00
21	(0/0)	(0/0)	(0/0)	84.62	90.91	86.49	(0/0)	(0/0)	(0/0)
22	(0/0)	(0/0)	(0/0)	93.06	100.00	94.68	(0/0)	(0/0)	(0/0)
23	(0/0)	100.00	100.00	93.94	100.00	96.41	100.00	100.00	100.00
24	(0/0)	(0/0)	(0/0)	97.73	100.00	98.44	100.00	100.00	100.00
25	100.00	(0/0)	100.00	80.00	85.71	82.61	100.00	100.00	100.00

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Site	<20			20-60			>60		
	Male	Female	All	Male	Female	All	Male	Female	All
26	(0/0)	(0/0)	(0/0)	81.82	80.00	82.50	50.00	100.00	75.00
27	(0/0)	(0/0)	(0/0)	89.39	88.89	88.68	(0/0)	(0/0)	(0/0)
28	100.00	(0/0)	100.00	81.82	92.86	86.84	(0/0)	100.00	100.00
29	100.00	100.00	100.00	87.84	88.89	89.13	(0/0)	100.00	100.00
30	(0/0)	100.00	100.00	95.00	100.00	96.88	(0/0)	(0/0)	(0/0)
31	(0/0)	(0/0)	(0/0)	94.74	100.00	97.14	0.00	(0/0)	0.00
32	100.00	(0/0)	100.00	96.43	94.67	95.81	100.00	100.00	100.00
33	100.00	100.00	100.00	94.31	99.02	96.58	100.00	100.00	100.00
34	(0/0)	(0/0)	(0/0)	85.71	100.00	92.31	(0/0)	(0/0)	(0/0)
35	(0/0)	(0/0)	(0/0)	97.22	95.45	95.52	(0/0)	(0/0)	(0/0)
36	(0/0)	(0/0)	(0/0)	94.74	98.00	96.33	100.00	100.00	100.00
37	100.00	(0/0)	100.00	91.67	87.50	91.67	(0/0)	(0/0)	(0/0)
38	(0/0)	(0/0)	(0/0)	96.00	80.00	91.18	(0/0)	100.00	100.00
39	(0/0)	100.00	100.00	91.67	100.00	96.67	100.00	100.00	100.00
40	(0/0)	100.00	100.00	78.57	100.00	88.00	100.00	100.00	100.00
41	(0/0)	(0/0)	(0/0)	88.24	93.33	90.63	100.00	100.00	100.00
42	(0/0)	(0/0)	(0/0)	81.25	100.00	89.66	(0/0)	(0/0)	(0/0)
43	(0/0)	(0/0)	(0/0)	94.44	100.00	95.59	50.00	100.00	75.00
44	(0/0)	(0/0)	(0/0)	90.14	93.75	91.50	(0/0)	100.00	100.00
45	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)
46	(0/0)	(0/0)	(0/0)	92.59	100.00	91.43	100.00	100.00	100.00
47	(0/0)	(0/0)	(0/0)	87.50	80.00	87.10	(0/0)	(0/0)	(0/0)
48	100.00	100.00	100.00	94.94	94.83	95.21	(0/0)	100.00	100.00
49	(0/0)	(0/0)	(0/0)	88.89	100.00	92.31	(0/0)	(0/0)	(0/0)
50	100.00	(0/0)	100.00	96.30	94.44	95.74	(0/0)	100.00	100.00
51	100.00	100.00	100.00	90.20	96.00	92.59	100.00	100.00	100.00

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Site	<20			20-60			>60		
	Male	Female	All	Male	Female	All	Male	Female	All
52	(0/0)	(0/0)	(0/0)	97.14	100.00	98.46	100.00	100.00	100.00
53	100.00	80.00	90.00	94.12	94.67	94.59	100.00	66.67	77.78
54	(0/0)	100.00	100.00	66.67	100.00	83.33	(0/0)	(0/0)	(0/0)
55	100.00	100.00	100.00	86.54	90.00	86.60	100.00	100.00	100.00
56	(0/0)	(0/0)	(0/0)	75.00	66.67	75.00	(0/0)	(0/0)	(0/0)
57	(0/0)	(0/0)	(0/0)	90.48	80.00	85.11	(0/0)	(0/0)	(0/0)
58	(0/0)	(0/0)	(0/0)	100.00	92.31	97.06	(0/0)	100.00	100.00
59	100.00	0.00	66.67	86.79	96.88	90.80	(0/0)	100.00	100.00
60	100.00	100.00	100.00	88.89	100.00	93.26	100.00	100.00	100.00
61	(0/0)	100.00	100.00	95.00	87.50	91.67	(0/0)	(0/0)	(0/0)
62	100.00	100.00	100.00	92.74	95.29	93.46	100.00	100.00	100.00
63	100.00	100.00	100.00	81.43	95.35	87.07	(0/0)	100.00	100.00
64	(0/0)	100.00	100.00	86.21	88.37	87.25	100.00	100.00	100.00
65	(0/0)	(0/0)	(0/0)	50.00	100.00	57.14	(0/0)	100.00	100.00
66	(0/0)	(0/0)	(0/0)	100.00	90.91	97.06	(0/0)	(0/0)	(0/0)
67	(0/0)	(0/0)	(0/0)	100.00	90.00	95.45	100.00	100.00	100.00
68	(0/0)	(0/0)	(0/0)	84.62	100.00	89.47	(0/0)	(0/0)	(0/0)
69	(0/0)	(0/0)	(0/0)	95.74	100.00	97.14	(0/0)	(0/0)	(0/0)
70	(0/0)	(0/0)	(0/0)	92.86	100.00	94.12	(0/0)	(0/0)	(0/0)
71	(0/0)	(0/0)	(0/0)	91.67	100.00	94.74	100.00	100.00	100.00
72	(0/0)	(0/0)	(0/0)	100.00	83.33	92.00	100.00	100.00	100.00
73	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)
74	(0/0)	(0/0)	(0/0)	66.67	75.00	74.29	(0/0)	0.00	0.00
75	(0/0)	100.00	100.00	82.35	100.00	86.96	(0/0)	50.00	50.00
76	(0/0)	(0/0)	(0/0)	91.67	100.00	92.86	(0/0)	(0/0)	(0/0)
77	(0/0)	(0/0)	(0/0)	75.00	100.00	87.50	(0/0)	(0/0)	(0/0)

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Site	<20			20-60			>60		
	Male	Female	All	Male	Female	All	Male	Female	All
78	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)
79	(0/0)	(0/0)	(0/0)	85.71	100.00	88.89	(0/0)	100.00	100.00
80	(0/0)	(0/0)	(0/0)	85.71	0.00	75.00	(0/0)	(0/0)	(0/0)
81	(0/0)	(0/0)	(0/0)	94.12	100.00	95.45	(0/0)	(0/0)	(0/0)
82	(0/0)	(0/0)	(0/0)	95.45	100.00	96.43	(0/0)	(0/0)	(0/0)
83	50.00	(0/0)	50.00	89.06	96.30	91.53	100.00	100.00	100.00
84	100.00	(0/0)	100.00	92.08	88.46	91.03	77.78	92.31	86.36
85	(0/0)	100.00	100.00	89.74	97.01	91.58	100.00	100.00	100.00
86	(0/0)	(0/0)	(0/0)	95.65	93.33	95.08	100.00	(0/0)	100.00
87	(0/0)	(0/0)	(0/0)	97.78	90.91	96.61	(0/0)	100.00	100.00
88	100.00	(0/0)	100.00	91.79	90.91	90.82	100.00	100.00	100.00
89	0.00	(0/0)	0.00	89.13	94.74	91.67	100.00	75.00	80.00
90	100.00	(0/0)	100.00	86.96	88.57	86.75	33.33	100.00	75.00
91	(0/0)	(0/0)	(0/0)	82.14	87.50	85.42	(0/0)	(0/0)	(0/0)
92	(0/0)	(0/0)	(0/0)	97.30	100.00	96.72	100.00	100.00	100.00
93	66.67	66.67	66.67	81.63	89.04	85.14	100.00	100.00	100.00
94	0.00	100.00	75.00	95.45	94.64	95.36	100.00	100.00	100.00
95	100.00	100.00	100.00	79.49	93.18	86.52	(0/0)	(0/0)	(0/0)
96	(0/0)	(0/0)	(0/0)	75.00	100.00	83.33	(0/0)	(0/0)	(0/0)
97	100.00	(0/0)	100.00	92.16	94.74	90.54	100.00	100.00	100.00
98	(0/0)	(0/0)	(0/0)	46.15	100.00	60.00	(0/0)	(0/0)	(0/0)
99	75.00	85.71	81.82	83.50	88.04	85.99	100.00	100.00	100.00
100	(0/0)	(0/0)	(0/0)	78.26	83.33	80.49	(0/0)	(0/0)	(0/0)
101	(0/0)	(0/0)	(0/0)	88.89	100.00	90.91	(0/0)	(0/0)	(0/0)
102	(0/0)	100.00	100.00	92.31	100.00	96.30	(0/0)	(0/0)	(0/0)
103	(0/0)	(0/0)	(0/0)	93.33	100.00	95.24	(0/0)	(0/0)	(0/0)

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Site	<20			20-60			>60		
	Male	Female	All	Male	Female	All	Male	Female	All
104	(0/0)	(0/0)	(0/0)	77.78	80.00	80.00	(0/0)	(0/0)	(0/0)
105	50.00	100.00	75.00	90.32	100.00	94.92	100.00	100.00	100.00
106	(0/0)	(0/0)	(0/0)	85.29	91.30	87.10	(0/0)	(0/0)	(0/0)
107	(0/0)	(0/0)	(0/0)	91.84	89.66	91.76	(0/0)	100.00	100.00
108	(0/0)	(0/0)	(0/0)	93.10	100.00	95.45	100.00	100.00	100.00
109	100.00	100.00	100.00	80.95	77.27	80.22	(0/0)	100.00	100.00
110	100.00	(0/0)	100.00	85.71	96.55	91.55	(0/0)	(0/0)	(0/0)
Total	88.89	93.10	91.07	91.29	93.64	92.13	93.00	96.09	95.04

Table 15: Seatbelt Usage by Age Group during Post-Mobilization Survey

Site	<20			20-60			>60		
	Male	Female	All	Male	Female	All	Male	Female	All
1	(0/0)	(0/0)	(0/0)	98.00	83.33	96.43	100.00	100.00	100.00
2	(0/0)	(0/0)	(0/0)	76.47	100.00	87.10	100.00	(0/0)	100.00
3	100.00	(0/0)	100.00	94.20	96.77	94.83	100.00	(0/0)	100.00
4	(0/0)	(0/0)	(0/0)	97.50	100.00	98.25	100.00	100.00	100.00
5	(0/0)	(0/0)	(0/0)	94.34	91.89	94.00	(0/0)	100.00	100.00
6	(0/0)	(0/0)	(0/0)	97.84	96.30	97.63	100.00	100.00	100.00
7	100.00	(0/0)	100.00	94.55	92.59	93.98	(0/0)	100.00	100.00
8	100.00	(0/0)	100.00	94.44	90.91	93.33	(0/0)	100.00	100.00
9	(0/0)	(0/0)	(0/0)	89.58	94.44	91.76	(0/0)	100.00	100.00
10	100.00	(0/0)	100.00	95.83	92.11	94.44	100.00	100.00	100.00
11	100.00	(0/0)	100.00	90.00	100.00	93.33	100.00	(0/0)	100.00
12	(0/0)	(0/0)	(0/0)	100.00	100.00	97.73	100.00	100.00	100.00
13	(0/0)	100.00	100.00	95.65	96.08	95.92	100.00	100.00	100.00
14	(0/0)	(0/0)	(0/0)	89.47	95.35	91.94	(0/0)	(0/0)	(0/0)
15	(0/0)	(0/0)	(0/0)	100.00	91.67	96.30	(0/0)	100.00	100.00
16	100.00	100.00	100.00	93.33	91.49	93.07	100.00	100.00	100.00
17	(0/0)	(0/0)	(0/0)	95.24	100.00	96.43	(0/0)	(0/0)	(0/0)
18	100.00	(0/0)	100.00	84.00	95.24	88.89	(0/0)	(0/0)	(0/0)
19	(0/0)	100.00	100.00	93.75	84.62	89.66	(0/0)	(0/0)	(0/0)
20	(0/0)	(0/0)	(0/0)	96.15	95.65	96.05	100.00	(0/0)	100.00
21	(0/0)	(0/0)	(0/0)	100.00	83.33	90.00	100.00	(0/0)	100.00
22	(0/0)	(0/0)	(0/0)	98.61	100.00	99.03	(0/0)	(0/0)	(0/0)
23	(0/0)	(0/0)	(0/0)	98.61	98.46	97.22	100.00	100.00	100.00
24	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00	100.00	100.00	100.00
25	(0/0)	(0/0)	(0/0)	76.19	92.31	80.36	100.00	100.00	100.00

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Site	<20			20-60			>60		
	Male	Female	All	Male	Female	All	Male	Female	All
26	(0/0)	(0/0)	(0/0)	81.25	83.33	83.33	100.00	(0/0)	100.00
27	(0/0)	(0/0)	(0/0)	97.01	97.73	97.37	100.00	100.00	100.00
28	(0/0)	(0/0)	(0/0)	93.75	100.00	96.43	100.00	100.00	100.00
29	(0/0)	(0/0)	(0/0)	93.33	92.31	93.27	100.00	100.00	100.00
30	(0/0)	(0/0)	(0/0)	94.12	100.00	94.87	(0/0)	100.00	100.00
31	(0/0)	(0/0)	(0/0)	85.71	90.91	88.00	(0/0)	(0/0)	(0/0)
32	(0/0)	(0/0)	(0/0)	92.77	98.36	95.24	100.00	100.00	100.00
33	100.00	(0/0)	100.00	90.85	100.00	94.96	(0/0)	100.00	100.00
34	(0/0)	(0/0)	(0/0)	90.91	100.00	95.45	100.00	100.00	100.00
35	(0/0)	(0/0)	(0/0)	96.00	100.00	97.37	(0/0)	100.00	100.00
36	100.00	(0/0)	100.00	93.22	97.22	94.79	100.00	71.43	77.78
37	(0/0)	(0/0)	(0/0)	91.67	87.50	91.18	(0/0)	100.00	100.00
38	(0/0)	(0/0)	(0/0)	88.89	90.91	89.66	(0/0)	100.00	100.00
39	(0/0)	100.00	100.00	91.67	93.33	92.59	100.00	(0/0)	100.00
40	(0/0)	(0/0)	(0/0)	92.86	100.00	96.67	100.00	100.00	100.00
41	(0/0)	(0/0)	(0/0)	94.12	87.50	92.31	50.00	100.00	66.67
42	100.00	(0/0)	100.00	100.00	87.50	93.55	100.00	100.00	100.00
43	(0/0)	(0/0)	(0/0)	89.19	96.00	92.42	100.00	100.00	100.00
44	(0/0)	(0/0)	(0/0)	93.91	91.84	93.41	(0/0)	(0/0)	(0/0)
45	(0/0)	(0/0)	(0/0)	88.46	100.00	91.18	100.00	100.00	100.00
46	(0/0)	(0/0)	(0/0)	90.48	100.00	92.86	100.00	100.00	100.00
47	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)
48	(0/0)	(0/0)	(0/0)	93.33	92.31	93.33	100.00	100.00	100.00
49	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)
50	(0/0)	(0/0)	(0/0)	85.71	100.00	90.32	100.00	100.00	100.00
51	(0/0)	(0/0)	(0/0)	79.66	93.94	84.21	100.00	100.00	100.00

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Site	<20			20-60			>60		
	Male	Female	All	Male	Female	All	Male	Female	All
52	(0/0)	(0/0)	(0/0)	85.71	92.31	88.31	100.00	100.00	100.00
53	(0/0)	(0/0)	(0/0)	93.75	100.00	95.06	100.00	100.00	100.00
54	(0/0)	(0/0)	(0/0)	83.12	84.62	84.40	66.67	75.00	70.00
55	(0/0)	(0/0)	(0/0)	90.00	96.67	92.71	100.00	100.00	100.00
56	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00	(0/0)	100.00	100.00
57	(0/0)	(0/0)	(0/0)	90.63	90.48	90.70	(0/0)	100.00	100.00
58	(0/0)	(0/0)	(0/0)	90.91	100.00	95.24	0.00	100.00	66.67
59	(0/0)	(0/0)	(0/0)	91.75	96.77	93.25	100.00	100.00	100.00
60	(0/0)	(0/0)	(0/0)	94.38	93.18	94.20	100.00	100.00	100.00
61	100.00	(0/0)	100.00	89.33	94.29	91.15	(0/0)	100.00	100.00
62	(0/0)	(0/0)	(0/0)	84.00	95.00	89.36	(0/0)	100.00	100.00
63	(0/0)	(0/0)	(0/0)	80.00	88.00	82.14	100.00	100.00	100.00
64	(0/0)	(0/0)	(0/0)	90.20	91.43	91.11	80.00	100.00	90.00
65	(0/0)	(0/0)	(0/0)	75.00	100.00	76.47	(0/0)	100.00	100.00
66	(0/0)	(0/0)	(0/0)	84.62	92.86	86.36	100.00	100.00	100.00
67	100.00	100.00	100.00	87.78	100.00	92.31	100.00	100.00	100.00
68	(0/0)	(0/0)	(0/0)	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)
69	(0/0)	(0/0)	(0/0)	88.24	87.50	88.24	(0/0)	(0/0)	(0/0)
70	(0/0)	(0/0)	(0/0)	87.50	100.00	93.33	100.00	100.00	100.00
71	(0/0)	(0/0)	(0/0)	89.47	85.71	88.24	(0/0)	(0/0)	(0/0)
72	(0/0)	(0/0)	(0/0)	67.65	84.62	76.56	(0/0)	(0/0)	(0/0)
73	(0/0)	(0/0)	(0/0)	91.67	87.50	87.50	(0/0)	(0/0)	(0/0)
74	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00	100.00	100.00	100.00
75	100.00	(0/0)	100.00	82.35	85.71	81.48	(0/0)	(0/0)	(0/0)
76	100.00	(0/0)	100.00	91.67	100.00	95.00	(0/0)	(0/0)	(0/0)
77	100.00	(0/0)	100.00	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)

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Site	<20			20-60			>60		
	Male	Female	All	Male	Female	All	Male	Female	All
78	(0/0)	(0/0)	(0/0)	93.75	100.00	96.83	(0/0)	100.00	100.00
79	(0/0)	(0/0)	(0/0)	95.45	91.67	92.31	(0/0)	(0/0)	(0/0)
80	(0/0)	(0/0)	(0/0)	88.89	100.00	90.00	(0/0)	(0/0)	(0/0)
81	100.00	(0/0)	100.00	93.33	89.47	90.91	(0/0)	100.00	100.00
82	50.00	100.00	66.67	85.00	100.00	88.46	(0/0)	(0/0)	(0/0)
83	(0/0)	(0/0)	(0/0)	79.17	76.47	79.07	(0/0)	(0/0)	(0/0)
84	100.00	50.00	75.00	87.36	81.48	85.14	100.00	100.00	100.00
85	100.00	100.00	100.00	80.88	95.74	87.40	(0/0)	100.00	100.00
86	0.00	100.00	50.00	100.00	93.33	97.50	(0/0)	(0/0)	(0/0)
87	(0/0)	(0/0)	(0/0)	96.43	100.00	97.80	(0/0)	(0/0)	(0/0)
88	100.00	100.00	100.00	91.78	93.33	92.06	0.00	(0/0)	0.00
89	(0/0)	(0/0)	(0/0)	77.08	92.31	82.67	100.00	100.00	100.00
90	(0/0)	(0/0)	(0/0)	89.13	93.55	91.46	(0/0)	100.00	100.00
91	100.00	100.00	100.00	80.43	87.10	84.34	(0/0)	(0/0)	(0/0)
92	100.00	100.00	100.00	88.52	89.58	89.19	(0/0)	(0/0)	(0/0)
93	(0/0)	100.00	100.00	87.18	91.21	88.94	(0/0)	(0/0)	(0/0)
94	100.00	100.00	100.00	94.17	91.11	92.45	100.00	100.00	100.00
95	(0/0)	100.00	100.00	86.44	92.59	89.74	100.00	100.00	100.00
96	(0/0)	(0/0)	(0/0)	85.71	60.00	75.00	(0/0)	(0/0)	(0/0)
97	(0/0)	(0/0)	(0/0)	87.50	88.89	88.31	80.00	100.00	87.50
98	(0/0)	(0/0)	(0/0)	75.00	33.33	63.64	(0/0)	(0/0)	(0/0)
99	0.00	100.00	66.67	87.80	93.33	90.00	(0/0)	(0/0)	(0/0)
100	100.00	(0/0)	100.00	100.00	100.00	95.65	(0/0)	(0/0)	(0/0)
101	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)
102	(0/0)	(0/0)	(0/0)	89.29	100.00	94.00	(0/0)	100.00	100.00
103	(0/0)	100.00	100.00	97.06	95.00	96.36	(0/0)	(0/0)	(0/0)

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Site	<20			20-60			>60		
	Male	Female	All	Male	Female	All	Male	Female	All
104	(0/0)	(0/0)	(0/0)	50.00	100.00	75.00	(0/0)	(0/0)	(0/0)
105	100.00	(0/0)	100.00	87.18	95.83	90.63	(0/0)	(0/0)	(0/0)
106	(0/0)	(0/0)	(0/0)	80.56	90.00	84.75	100.00	100.00	100.00
107	0.00	(0/0)	0.00	91.30	90.00	91.67	(0/0)	(0/0)	(0/0)
108	(0/0)	(0/0)	(0/0)	96.55	100.00	97.62	(0/0)	(0/0)	(0/0)
109	(0/0)	100.00	100.00	70.27	81.48	76.81	(0/0)	(0/0)	(0/0)
110	100.00	(0/0)	100.00	75.68	95.00	83.33	(0/0)	100.00	100.00
Total	89.19	97.50	93.51	90.55	93.72	91.77	92.16	98.19	96.06

Table 14, displaying the age-gender distribution during the Pre-Mobilization survey for both front seat occupants, shows that as an age group, Elderly occupants (>60) at 95.04% were restrained at the highest rate, Adults (20-60) were at 92.13%, followed by Young occupants (<20) at 91.07%.

Furthermore, Table 15, displaying the age-gender distribution during the Post-Mobilization survey for both front seat occupants, shows that as an age group, Elderly occupants (>60) at 96.06% were restrained at the highest rate, Young occupants (<20) were at 93.51%, followed by Adults (20-60) at 91.77%.

Seatbelt Usage for Nevada Registered Vehicles

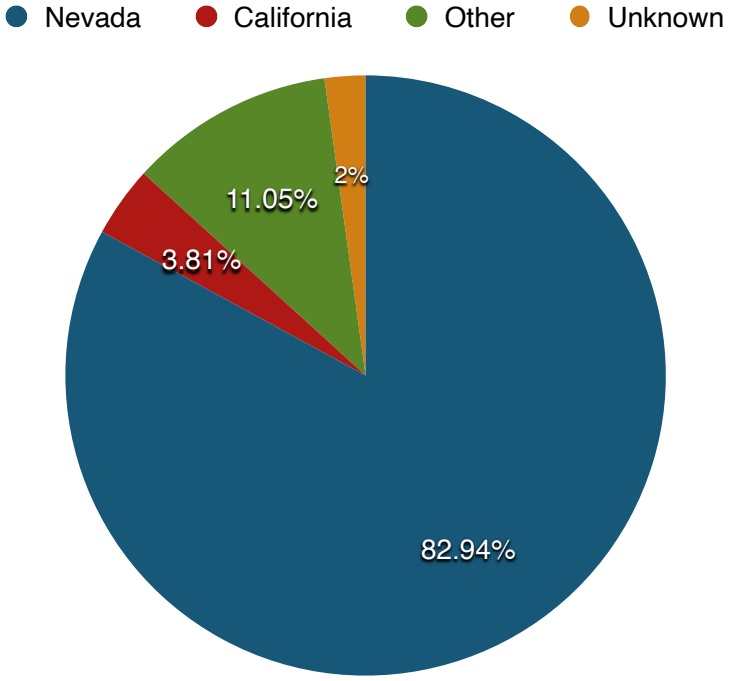
In addition to the use of seatbelt, the state registration and type of vehicle were recorded. 8,522 vehicles were observed during Pre-Mobilization survey, and 8,356 vehicles during the Post-Mobilization survey. During Pre-Mobilization, 82.94% (7,068) of the vehicles were registered in Nevada, 3.81% (325) in California, and 11.05% (942) registered in states other than Nevada and California. Similarly, during the Post-Mobilization survey, 83.76% (6,999) of the vehicles were registered in Nevada, 3.37% (282) in California, and 10.32% (862) registered in states other than Nevada and California. Thus, over 82.9% of the vehicles during both the surveys were registered in Nevada. This distribution has been shown in Figure 9.

Since vehicles registered in Nevada cover the majority of the observed vehicles, seat belt usages for these vehicles are analyzed in detail.

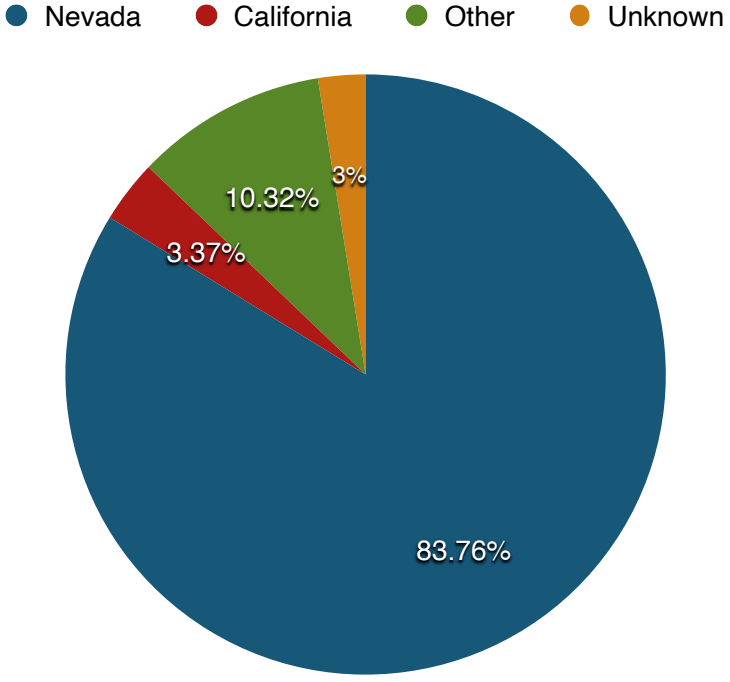
For Nevada registered vehicles, 88.39% of male drivers and 94.92% of female drivers were restrained during Pre-Mobilization survey. Similarly, 92.96% of male passengers and 96.70% of female passengers were belted. However, during the Post-Mobilization, these percentages were 90.86% for male drivers and 94.53% for female drivers. Furthermore, 91.59% of male passengers and 94.93% of female passengers were restrained during Post-Mobilization survey process. These seatbelt use percentages are lower than all the vehicles considered together (with California and other states other than Nevada). Thus, the vehicles from California and states other than Nevada helped increase the seatbelt usage rate of all vehicles in the state of Nevada.

Tables 16 and 17 show the number and percent of belted drivers during Pre-Mobilization and Post-Mobilization respectively, who drove Nevada registered vehicles based on gender.

Figure 9: States of Registration



(a) Pre-mobilization



(b) Post-mobilization

Table 16: Seatbelt Usage among Nevada Registered Vehicles during Pre-Mobilization Survey

Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1	93.94	100.00	96.97	100.00	90.00	93.75	94.87	94.12	96.34
2	83.33	100.00	87.50	100.00	87.50	88.89	84.21	90.00	87.88
3	91.35	100.00	94.30	100.00	100.00	100.00	92.37	100.00	95.00
4	92.31	88.89	92.31	100.00	100.00	100.00	95.00	94.44	95.24
5	96.88	100.00	97.03	100.00	100.00	100.00	97.14	100.00	97.44
6	99.15	95.00	98.81	100.00	87.50	93.75	99.20	92.86	98.37
7	92.00	96.23	95.00	92.86	100.00	96.55	92.11	97.06	95.18
8	100.00	100.00	96.55	100.00	100.00	100.00	100.00	100.00	96.77
9	100.00	95.45	98.55	100.00	100.00	100.00	100.00	97.06	98.81
10	95.08	92.31	94.12	100.00	100.00	100.00	95.65	93.75	94.79
11	84.21	85.71	84.85	100.00	100.00	100.00	85.71	88.89	87.18
12	92.86	100.00	96.08	100.00	100.00	100.00	93.33	100.00	96.49
13	92.41	85.71	94.40	100.00	100.00	100.00	93.88	87.50	94.96
14	91.67	96.67	94.12	100.00	87.50	92.31	92.86	93.48	93.75
15	100.00	88.89	96.15	50.00	100.00	80.00	93.75	91.67	93.55
16	92.21	96.77	94.12	100.00	100.00	100.00	92.50	97.83	94.89
17	100.00	83.33	96.43	(0/0)	100.00	100.00	100.00	85.71	96.55
18	95.00	66.67	90.63	(0/0)	100.00	100.00	95.00	77.78	91.43
19	86.96	81.82	87.50	100.00	100.00	100.00	88.89	86.67	89.58
20	92.86	92.00	93.41	91.67	93.75	92.86	92.65	92.68	93.28
21	80.95	88.89	83.87	100.00	100.00	100.00	84.00	90.91	86.49
22	91.38	100.00	94.32	100.00	100.00	100.00	91.53	100.00	94.62
23	92.47	98.48	96.43	100.00	100.00	100.00	93.58	98.75	96.85
24	97.30	100.00	97.87	100.00	100.00	100.00	97.41	100.00	98.16

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Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
25	83.33	85.71	85.00	80.00	100.00	85.71	82.35	88.89	85.19
26	78.95	75.00	80.00	75.00	87.50	83.33	78.26	81.25	80.95
27	88.71	91.43	89.81	83.33	83.33	83.33	88.24	90.24	89.17
28	85.00	93.75	90.91	100.00	75.00	90.91	88.89	90.00	90.91
29	85.71	92.31	89.16	83.33	83.33	83.33	85.45	88.64	87.85
30	94.74	100.00	96.55	100.00	100.00	100.00	95.00	100.00	97.06
31	88.89	100.00	94.12	100.00	(0/0)	100.00	90.00	100.00	94.44
32	97.12	92.96	95.81	85.71	100.00	95.45	96.40	94.19	95.77
33	93.50	97.98	96.39	87.50	100.00	93.75	92.81	98.26	96.12
34	86.36	100.00	91.89	100.00	100.00	100.00	86.96	100.00	92.68
35	96.97	94.12	95.16	100.00	100.00	100.00	97.06	94.44	95.31
36	94.23	97.87	96.30	100.00	100.00	100.00	94.55	97.96	96.46
37	90.48	85.71	90.63	100.00	(0/0)	100.00	90.91	85.71	90.91
38	95.65	83.33	91.89	(0/0)	(0/0)	(0/0)	95.65	83.33	91.89
39	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
40	80.00	100.00	90.32	(0/0)	100.00	100.00	80.00	100.00	91.18
41	86.67	93.75	90.32	100.00	100.00	100.00	88.89	94.74	91.89
42	85.71	100.00	93.10	100.00	(0/0)	100.00	86.67	100.00	93.33
43	90.63	100.00	93.75	100.00	100.00	100.00	91.43	100.00	94.20
44	88.55	94.87	90.95	80.00	88.24	85.19	87.94	92.86	90.30
45	82.35	100.00	90.00	(0/0)	100.00	100.00	82.35	100.00	90.63
46	80.00	100.00	88.00	(0/0)	100.00	100.00	80.00	100.00	90.00
47	72.73	100.00	81.25	100.00	0.00	85.71	82.35	75.00	82.61
48	94.83	95.35	95.45	92.86	91.67	92.31	94.44	94.55	94.85
49	87.50	100.00	88.89	100.00	100.00	100.00	88.89	100.00	92.31
50	94.74	90.91	93.75	100.00	100.00	100.00	95.83	93.75	95.24

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Site	**Driver**			**Passenger**			**All Occupants**		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
51	87.18	94.74	90.48	90.91	100.00	95.24	88.00	96.55	91.67
52	96.77	100.00	98.08	100.00	100.00	100.00	97.22	100.00	98.48
53	95.35	95.00	95.45	94.44	83.33	88.10	95.19	91.67	93.88
54	50.00	(0/0)	50.00	(0/0)	(0/0)	(0/0)	50.00	(0/0)	50.00
55	90.91	93.10	89.74	55.56	88.89	77.78	84.91	91.49	86.67
56	75.00	100.00	80.00	(0/0)	0.00	0.00	75.00	50.00	66.67
57	92.86	66.67	82.35	75.00	100.00	85.71	88.89	75.00	82.93
58	100.00	88.89	96.30	100.00	100.00	100.00	100.00	92.31	96.88
59	86.67	96.15	90.41	88.89	77.78	83.33	87.04	91.43	89.01
60	90.00	100.00	92.75	80.00	100.00	96.15	89.09	100.00	93.68
61	93.94	82.14	89.23	100.00	100.00	100.00	95.12	89.13	92.31
62	92.86	95.45	93.96	100.00	95.24	96.43	93.28	95.40	94.29
63	82.14	100.00	87.34	77.78	92.59	88.89	81.54	95.74	87.83
64	84.00	96.30	88.46	90.00	80.00	83.33	85.00	89.36	87.04
65	40.00	100.00	57.14	100.00	(0/0)	100.00	50.00	100.00	62.50
66	100.00	100.00	100.00	100.00	80.00	83.33	100.00	87.50	96.00
67	100.00	83.33	92.16	(0/0)	100.00	100.00	100.00	91.67	92.98
68	85.71	100.00	90.91	100.00	100.00	100.00	87.50	100.00	92.31
69	95.24	100.00	96.88	100.00	80.00	85.71	95.65	88.89	94.87
70	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	100.00	(0/0)	100.00
71	100.00	(0/0)	100.00	100.00	100.00	100.00	100.00	100.00	100.00
72	100.00	80.00	88.89	(0/0)	100.00	100.00	100.00	83.33	89.47
73	100.00	100.00	100.00	100.00	(0/0)	100.00	100.00	100.00	100.00
74	66.67	71.43	74.07	50.00	60.00	57.14	64.71	66.67	70.59
75	78.57	100.00	83.33	100.00	66.67	80.00	81.25	75.00	82.61
76	100.00	100.00	100.00	100.00	(0/0)	100.00	100.00	100.00	100.00

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Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
77	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	100.00	(0/0)	100.00
78	100.00	100.00	92.86	(0/0)	100.00	100.00	100.00	100.00	94.12
79	86.67	100.00	90.48	(0/0)	(0/0)	(0/0)	86.67	100.00	90.48
80	80.00	(0/0)	80.00	(0/0)	0.00	0.00	80.00	0.00	66.67
81	91.67	(0/0)	94.74	100.00	100.00	100.00	94.12	100.00	96.55
82	92.86	100.00	94.44	100.00	100.00	100.00	94.12	100.00	95.45
83	87.90	95.56	92.31	91.67	100.00	97.62	88.24	97.33	93.12
84	89.80	92.16	92.13	92.86	88.24	90.32	90.18	91.18	91.87
85	92.92	96.36	93.17	80.00	100.00	95.12	91.87	97.67	93.50
86	89.29	83.33	89.74	100.00	66.67	83.33	90.32	77.78	88.89
87	96.30	100.00	97.78	100.00	50.00	75.00	96.55	87.50	95.92
88	91.20	86.79	90.87	90.91	100.00	97.30	91.18	91.14	91.80
89	81.82	100.00	90.48	100.00	75.00	80.00	83.33	92.86	88.46
90	88.24	88.89	85.71	100.00	71.43	77.78	89.47	81.25	83.78
91	83.33	85.71	85.29	50.00	100.00	85.71	80.77	91.67	85.37
92	93.33	100.00	91.30	(0/0)	100.00	100.00	93.33	100.00	92.31
93	79.78	87.27	83.11	92.31	90.48	91.18	81.37	88.16	84.62
94	95.16	96.67	95.88	83.33	95.45	91.18	93.24	96.15	94.66
95	72.73	96.67	87.50	87.50	87.50	87.50	76.67	94.74	87.50
96	50.00	(0/0)	50.00	(0/0)	(0/0)	(0/0)	50.00	(0/0)	50.00
97	89.66	100.00	87.18	100.00	100.00	100.00	90.91	100.00	88.64
98	33.33	100.00	50.00	0.00	100.00	25.00	22.22	100.00	42.86
99	84.04	89.71	86.78	70.00	75.00	73.53	82.69	85.87	84.62
100	81.25	100.00	83.33	100.00	60.00	71.43	83.33	77.78	80.65
101	100.00	(0/0)	100.00	(0/0)	100.00	100.00	100.00	100.00	100.00
102	90.91	100.00	93.75	100.00	100.00	100.00	92.31	100.00	95.65

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Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
103	66.67	100.00	87.50	100.00	100.00	100.00	75.00	100.00	90.00
104	83.33	75.00	81.82	66.67	100.00	75.00	77.78	80.00	80.00
105	90.48	100.00	95.00	66.67	100.00	87.50	85.19	100.00	92.86
106	81.48	92.31	84.09	100.00	88.89	92.86	84.38	90.91	86.21
107	88.89	100.00	91.67	100.00	80.00	87.50	90.48	88.89	90.63
108	84.62	100.00	89.47	100.00	100.00	100.00	90.48	100.00	93.33
109	82.22	87.50	83.58	83.33	75.00	80.00	82.46	83.33	82.76
110	100.00	90.91	95.65	100.00	(0/0)	100.00	100.00	90.91	96.00
Total	90.72	93.98	92.60	90.94	92.53	91.92	90.74	93.55	92.49

Table 17: Seatbelt Usage among Nevada Registered Vehicles during Post-Mobilization Survey

Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1	90.70	100.00	95.65	92.86	100.00	95.45	91.23	100.00	95.62
2	76.47	100.00	85.71	100.00	100.00	100.00	77.78	100.00	87.50
3	92.50	96.00	94.03	96.15	100.00	96.97	93.15	96.88	94.44
4	93.33	100.00	94.44	100.00	100.00	100.00	94.44	100.00	95.83
5	91.11	91.67	92.86	100.00	100.00	100.00	91.30	92.11	93.07
6	97.41	100.00	97.01	100.00	100.00	100.00	97.56	100.00	97.22
7	91.92	91.30	94.26	100.00	100.00	100.00	93.28	93.75	95.14
8	93.33	91.67	93.55	100.00	(0/0)	100.00	94.44	91.67	94.12
9	89.13	96.88	92.68	100.00	100.00	100.00	89.36	97.30	93.18
10	95.12	88.89	93.06	88.89	100.00	94.44	94.00	91.67	93.33
11	83.33	100.00	90.63	100.00	100.00	100.00	84.21	100.00	91.43
12	100.00	100.00	97.62	100.00	100.00	100.00	100.00	100.00	97.83
13	93.26	97.67	96.20	100.00	100.00	100.00	93.88	98.31	96.65
14	88.57	95.35	93.90	100.00	100.00	100.00	90.24	96.08	94.57
15	100.00	90.91	96.67	(0/0)	100.00	100.00	100.00	92.31	96.88
16	94.59	90.70	93.18	90.00	100.00	94.44	93.62	92.16	93.40
17	94.74	100.00	96.55	(0/0)	100.00	100.00	94.74	100.00	96.67
18	85.71	93.33	88.64	80.00	100.00	90.91	84.62	95.24	89.09
19	93.75	81.82	90.63	(0/0)	100.00	100.00	93.75	84.62	91.18
20	98.00	89.47	95.24	(0/0)	100.00	100.00	98.00	90.00	95.29
21	100.00	80.00	88.89	(0/0)	100.00	100.00	100.00	83.33	90.00
22	98.25	100.00	98.82	100.00	100.00	100.00	98.39	100.00	98.96
23	97.30	96.23	96.84	100.00	100.00	100.00	97.73	97.56	97.42
24	92.75	100.00	94.38	100.00	100.00	100.00	93.06	100.00	94.46

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Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
25	76.92	88.89	81.48	50.00	100.00	90.00	75.61	94.12	82.81
26	82.35	80.00	80.77	(0/0)	100.00	100.00	82.35	85.71	82.14
27	96.72	97.67	97.41	100.00	100.00	100.00	96.92	97.87	97.58
28	89.47	100.00	94.59	100.00	100.00	100.00	90.48	100.00	95.24
29	94.34	94.59	94.85	100.00	100.00	100.00	94.64	95.00	95.15
30	93.75	100.00	95.12	100.00	(0/0)	100.00	94.12	100.00	95.24
31	84.62	88.89	89.29	100.00	100.00	100.00	86.67	90.00	90.32
32	90.48	100.00	95.56	100.00	89.47	93.75	91.75	97.47	95.28
33	91.11	100.00	95.77	100.00	100.00	100.00	91.84	100.00	96.10
34	92.31	100.00	96.08	100.00	100.00	100.00	92.59	100.00	96.30
35	96.00	100.00	97.30	(0/0)	100.00	100.00	96.00	100.00	97.37
36	92.06	92.50	93.10	100.00	100.00	100.00	93.15	93.48	93.94
37	91.67	100.00	93.75	100.00	83.33	85.71	92.00	90.91	92.31
38	93.75	100.00	96.15	50.00	100.00	83.33	88.89	100.00	93.75
39	90.91	92.31	92.59	100.00	100.00	100.00	91.67	93.75	93.55
40	92.86	100.00	96.55	100.00	100.00	100.00	93.33	100.00	97.06
41	88.89	88.89	90.00	100.00	(0/0)	100.00	89.47	88.89	90.32
42	92.86	84.62	90.00	100.00	100.00	100.00	93.75	87.50	91.43
43	89.47	96.00	92.86	100.00	100.00	100.00	90.70	96.67	93.75
44	93.94	92.16	94.49	88.89	94.44	92.59	93.62	92.75	94.31
45	85.00	100.00	92.68	100.00	80.00	85.71	86.36	88.89	91.67
46	91.67	100.00	95.12	0.00	90.00	81.82	88.00	92.86	92.31
47	100.00	100.00	100.00	(0/0)	100.00	100.00	100.00	100.00	100.00
48	92.86	92.31	94.03	100.00	100.00	100.00	93.62	93.33	94.59
49	100.00	100.00	100.00	100.00	(0/0)	100.00	100.00	100.00	100.00
50	81.82	100.00	90.48	100.00	100.00	100.00	84.62	100.00	92.00

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Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
51	79.07	100.00	86.75	75.00	100.00	88.89	78.72	100.00	86.96
52	84.44	90.00	88.31	100.00	100.00	100.00	86.27	93.75	90.53
53	86.76	100.00	92.42	100.00	100.00	100.00	87.84	100.00	93.33
54	80.00	84.62	83.02	91.67	85.71	89.47	81.71	84.85	84.00
55	89.29	95.65	92.86	100.00	93.75	96.15	90.91	94.87	93.48
56	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
57	91.30	89.47	92.66	75.00	100.00	88.89	90.41	91.67	92.37
58	81.82	100.00	92.31	80.00	(0/0)	80.00	81.25	100.00	90.32
59	91.40	96.88	94.05	100.00	100.00	100.00	92.00	97.50	94.71
60	93.62	93.94	95.18	100.00	95.45	96.67	94.12	94.55	95.41
61	89.23	92.59	93.28	93.33	100.00	97.44	90.00	96.08	94.22
62	84.62	100.00	92.59	75.00	85.71	81.82	83.33	95.65	90.77
63	70.00	84.21	77.92	100.00	100.00	100.00	73.91	89.29	81.52
64	89.13	85.19	88.37	88.89	100.00	95.24	89.09	89.74	89.72
65	75.00	100.00	80.95	100.00	100.00	100.00	76.92	100.00	82.61
66	84.44	100.00	88.89	100.00	90.00	92.86	85.71	94.74	89.61
67	92.50	100.00	93.22	90.00	100.00	96.55	92.00	100.00	94.32
68	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	100.00	(0/0)	100.00
69	88.24	50.00	84.21	100.00	87.50	90.91	90.00	80.00	86.67
70	66.67	100.00	80.00	100.00	100.00	100.00	83.33	100.00	88.89
71	88.89	66.67	81.25	100.00	100.00	100.00	90.91	75.00	85.00
72	57.14	100.00	76.92	100.00	75.00	83.33	66.67	85.71	78.95
73	100.00	(0/0)	100.00	100.00	(0/0)	50.00	100.00	(0/0)	80.00
74	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
75	83.33	100.00	86.67	100.00	83.33	85.71	84.62	85.71	86.36
76	50.00	(0/0)	50.00	(0/0)	100.00	100.00	50.00	100.00	66.67

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Site	**Driver**			**Passenger**			**All Occupants**		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
77	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
78	75.00	100.00	85.71	(0/0)	100.00	100.00	75.00	100.00	89.47
79	90.00	100.00	90.00	100.00	100.00	100.00	91.67	100.00	92.00
80	88.89	(0/0)	88.89	(0/0)	100.00	100.00	88.89	100.00	90.00
81	88.89	80.00	88.24	100.00	100.00	100.00	90.00	83.33	89.47
82	76.92	100.00	80.00	80.00	100.00	88.89	77.78	100.00	83.33
83	77.78	66.67	77.27	100.00	76.92	81.25	80.95	75.00	78.95
84	85.14	77.78	83.18	100.00	80.65	85.00	86.75	79.31	83.67
85	78.95	100.00	86.96	100.00	96.55	97.06	80.65	98.11	89.68
86	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
87	95.24	100.00	96.30	75.00	100.00	92.86	92.00	100.00	95.12
88	89.80	93.33	90.80	82.35	87.50	84.00	87.88	92.11	89.29
89	83.33	100.00	85.71	100.00	85.71	90.91	86.36	90.00	87.50
90	88.24	66.67	86.36	100.00	90.00	90.91	88.89	84.62	87.88
91	77.42	83.33	81.48	66.67	90.00	81.25	75.68	85.71	81.43
92	83.33	95.83	88.24	100.00	84.21	89.29	86.27	90.70	88.54
93	84.54	90.20	86.62	100.00	91.67	93.62	86.11	90.80	88.24
94	95.15	91.23	93.21	86.67	93.94	91.84	94.07	92.22	92.89
95	89.74	96.55	92.96	85.71	95.45	93.10	89.13	96.08	93.00
96	66.67	50.00	60.00	(0/0)	100.00	100.00	66.67	66.67	66.67
97	77.27	100.00	83.87	100.00	75.00	84.62	80.77	88.24	84.09
98	60.00	100.00	66.67	100.00	0.00	33.33	66.67	33.33	55.56
99	85.71	85.71	86.84	71.43	100.00	88.24	82.86	94.12	87.27
100	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
101	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
102	87.50	100.00	92.11	100.00	100.00	100.00	89.29	100.00	93.75

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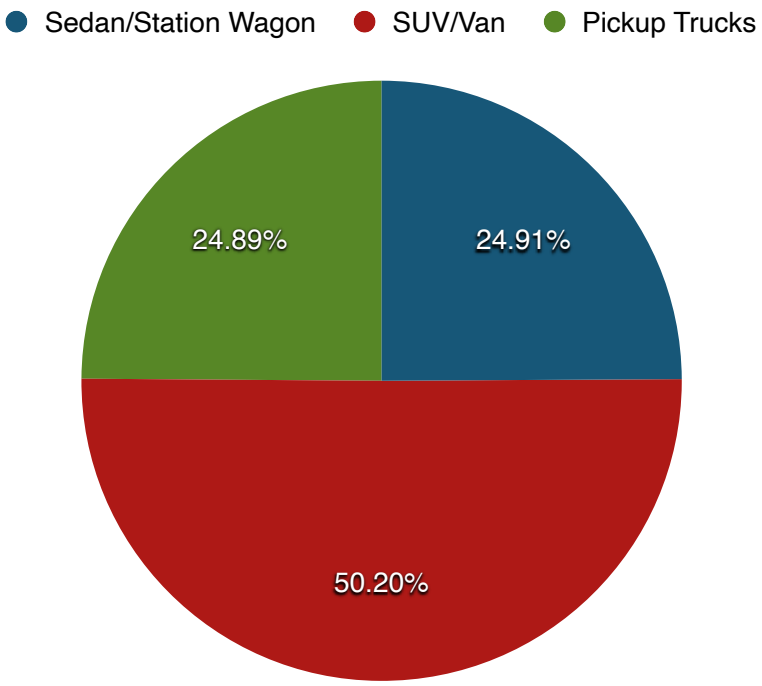
Site	Driver			Passenger			All Occupants		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
103	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
104	50.00	(0/0)	50.00	(0/0)	100.00	100.00	50.00	100.00	66.67
105	85.71	100.00	89.74	100.00	87.50	92.31	87.88	94.44	90.38
106	75.86	100.00	83.72	75.00	80.00	78.57	75.76	90.48	82.46
107	83.33	50.00	75.00	100.00	(0/0)	100.00	85.71	50.00	77.78
108	100.00	(0/0)	100.00	(0/0)	100.00	100.00	100.00	100.00	100.00
109	64.52	69.23	68.09	100.00	90.00	92.31	67.65	78.26	73.33
110	72.22	88.89	81.25	100.00	100.00	100.00	75.00	90.91	83.33
Total	89.42	94.09	92.16	93.94	94.32	94.11	89.94	94.16	92.46

Seatbelt Usage Rates Based on Vehicle Type

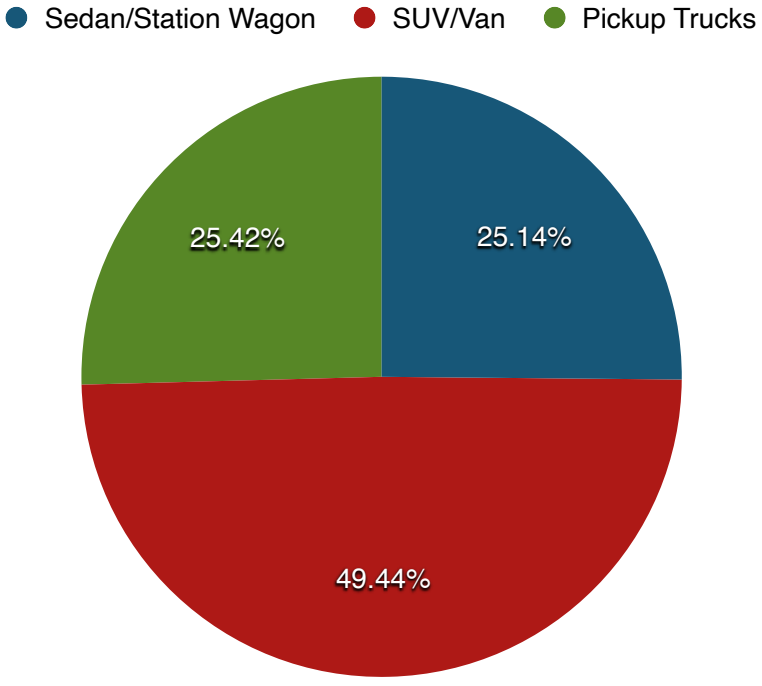
Three major categories of vehicles were observed for this study. They were: Sedans/Station Wagons, Vans/Sport Utility Vehicles (SUVs), and Pickups. Figure 10 shows the distribution of these vehicle types observed during this data collection effort. The overall seatbelt usage for the front seat occupants (both drivers and passengers) in different vehicle categories can be found in Tables 18 and 19.

From Tables 18 and 19, it can be concluded that the overall seatbelt usage for occupants in pickups was found to be the lowest (86.67% during Pre-Mobilization and 86.31% during Post-Mobilization), with sedans/station wagons (94.62% during Pre-Mobilization and 94.41% during Post-Mobilization) in the middle, and Vans/SUVS (95.23% during Pre-Mobilization and 95.14% during Post-Mobilization) with the highest seatbelt usage.

Figure 10: Distribution of Vehicles



(a) Pre-mobilization



(b) Post-mobilization

Table 18: Seatbelt Usage based on Vehicle Type during Pre-Mobilization Survey

Site	Sedan/SW(%)			Van/SUV(%)			Pickup(%)		
	Male	Female	**All**	Male	Female	**All**	Male	Female	**All**
1	100.00	100.00	100.00	98.25	100.00	99.31	94.12	66.67	91.30
2	100.00	100.00	100.00	100.00	90.91	95.65	70.00	100.00	76.92
3	93.48	100.00	95.65	97.96	96.15	97.96	87.80	100.00	90.00
4	100.00	100.00	100.00	97.96	96.97	97.62	100.00	100.00	100.00
5	96.30	100.00	97.78	100.00	100.00	98.51	94.74	100.00	95.83
6	96.08	88.89	95.24	98.68	95.45	98.35	100.00	(0/0)	100.00
7	95.83	100.00	97.32	98.57	97.92	98.73	75.00	50.00	75.00
8	100.00	100.00	100.00	100.00	100.00	94.44	100.00	100.00	100.00
9	100.00	100.00	100.00	100.00	93.33	97.01	100.00	(0/0)	100.00
10	95.83	100.00	94.29	100.00	91.67	97.96	82.35	(0/0)	83.33
11	77.78	88.89	83.33	100.00	81.82	91.67	0.00	100.00	66.67
12	100.00	100.00	100.00	95.24	100.00	97.44	83.33	100.00	87.50
13	93.18	91.30	95.28	97.87	85.37	95.21	86.96	100.00	93.33
14	92.00	100.00	95.83	93.75	97.14	95.56	86.67	0.00	76.47
15	100.00	80.00	92.31	88.89	88.89	89.47	100.00	100.00	100.00
16	100.00	95.45	98.25	91.84	96.88	94.25	81.25	100.00	83.33
17	100.00	100.00	100.00	100.00	80.00	94.12	100.00	(0/0)	100.00
18	90.00	66.67	87.50	88.89	87.50	90.00	75.00	(0/0)	80.00
19	100.00	66.67	90.00	92.31	100.00	96.55	77.78	0.00	72.73
20	100.00	100.00	100.00	91.30	94.87	93.62	90.00	66.67	85.71
21	83.33	100.00	87.50	83.33	100.00	88.89	87.50	66.67	83.33
22	95.45	100.00	96.77	100.00	100.00	100.00	66.67	100.00	69.23
23	96.67	100.00	98.25	98.11	98.57	98.81	85.29	100.00	89.80
24	96.88	100.00	96.97	95.38	100.00	97.51	97.73	100.00	98.53
25	100.00	100.00	100.00	100.00	83.33	90.00	72.73	(0/0)	72.73

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Site	**Sedan/SW(%)**			**Van/SUV(%)**			**Pickup(%)**		
	Male	Female	**All**	Male	Female	**All**	Male	Female	**All**
26	57.14	100.00	72.73	85.71	80.00	82.35	90.00	75.00	87.50
27	90.91	88.89	90.00	100.00	96.30	98.25	81.08	71.43	78.72
28	85.71	66.67	80.00	86.67	100.00	93.75	83.33	100.00	88.89
29	90.48	81.25	87.80	89.19	92.11	91.25	82.35	85.71	84.00
30	100.00	100.00	100.00	100.00	100.00	100.00	50.00	100.00	66.67
31	100.00	100.00	100.00	81.82	100.00	90.48	100.00	(0/0)	100.00
32	100.00	88.89	96.61	97.83	96.72	97.41	92.11	87.50	91.84
33	90.91	100.00	95.38	95.89	97.96	97.62	87.18	100.00	89.80
34	83.33	100.00	92.31	90.00	100.00	95.65	85.71	(0/0)	85.71
35	100.00	83.33	95.83	93.33	100.00	94.59	100.00	100.00	100.00
36	95.00	100.00	96.97	91.67	100.00	97.26	100.00	50.00	94.44
37	66.67	100.00	85.71	100.00	80.00	94.74	90.91	(0/0)	90.91
38	83.33	66.67	76.92	100.00	100.00	100.00	88.89	(0/0)	88.89
39	(0/0)	100.00	100.00	100.00	100.00	100.00	83.33	100.00	85.71
40	50.00	100.00	80.00	88.89	100.00	95.65	75.00	(0/0)	83.33
41	100.00	100.00	100.00	100.00	94.12	96.30	71.43	(0/0)	71.43
42	100.00	100.00	100.00	77.78	100.00	90.00	50.00	(0/0)	50.00
43	100.00	100.00	100.00	95.00	100.00	95.65	85.71	100.00	88.24
44	97.50	100.00	95.89	90.32	94.87	92.62	78.72	33.33	78.95
45	100.00	100.00	92.31	85.71	90.00	94.29	84.62	(0/0)	86.36
46	100.00	100.00	93.33	87.50	100.00	94.87	83.33	100.00	86.96
47	66.67	0.00	50.00	100.00	100.00	100.00	83.33	100.00	86.67
48	93.10	95.83	94.83	96.77	92.31	94.83	95.00	100.00	97.06
49	100.00	(0/0)	100.00	(0/0)	100.00	100.00	87.50	100.00	90.91
50	100.00	100.00	100.00	100.00	100.00	100.00	93.75	75.00	90.48
51	72.73	100.00	82.35	100.00	100.00	100.00	88.89	80.00	87.50

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Site	**Sedan/SW(%)**			**Van/SUV(%)**			**Pickup(%)**		
	Male	Female	**All**	Male	Female	**All**	Male	Female	**All**
52	100.00	100.00	100.00	93.75	100.00	96.97	100.00	100.00	100.00
53	96.88	100.00	98.36	88.57	93.18	91.67	97.73	76.47	91.80
54	100.00	100.00	100.00	(0/0)	100.00	100.00	50.00	100.00	66.67
55	90.00	85.71	88.00	84.62	96.43	89.29	85.00	85.71	82.76
56	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	66.67	66.67	71.43
57	100.00	83.33	88.24	100.00	100.00	95.83	66.67	0.00	50.00
58	(0/0)	100.00	100.00	100.00	87.50	94.44	100.00	100.00	100.00
59	90.00	100.00	95.24	95.24	94.44	95.00	79.17	71.43	77.42
60	92.31	100.00	95.83	92.86	100.00	96.49	81.25	100.00	85.00
61	100.00	92.31	95.65	100.00	83.33	90.91	85.71	100.00	91.67
62	87.10	95.83	91.23	95.12	96.23	95.74	94.44	92.31	92.86
63	92.31	100.00	95.45	89.29	96.55	93.10	70.00	91.67	76.74
64	100.00	94.12	96.30	92.31	91.30	91.84	74.07	75.00	74.29
65	(0/0)	(0/0)	(0/0)	(0/0)	100.00	100.00	50.00	100.00	57.14
66	100.00	100.00	100.00	100.00	80.00	90.91	100.00	100.00	100.00
67	100.00	100.00	100.00	100.00	94.12	95.08	100.00	100.00	93.55
68	33.33	(0/0)	33.33	100.00	100.00	100.00	100.00	100.00	100.00
69	100.00	100.00	100.00	93.33	94.74	94.92	89.47	100.00	92.31
70	100.00	(0/0)	100.00	85.71	100.00	90.00	100.00	(0/0)	100.00
71	75.00	100.00	85.71	100.00	100.00	100.00	100.00	100.00	100.00
72	100.00	100.00	100.00	100.00	85.71	92.00	100.00	100.00	90.91
73	100.00	100.00	100.00	83.33	100.00	90.91	100.00	(0/0)	100.00
74	100.00	100.00	100.00	66.67	75.00	75.00	64.29	33.33	61.11
75	100.00	(0/0)	100.00	75.00	85.71	82.35	83.33	(0/0)	83.33
76	100.00	100.00	100.00	83.33	100.00	88.89	100.00	(0/0)	100.00
77	(0/0)	100.00	100.00	100.00	100.00	100.00	50.00	100.00	66.67

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Site	**Sedan/SW(%)**			**Van/SUV(%)**			**Pickup(%)**		
	Male	Female	**All**	Male	Female	**All**	Male	Female	**All**
78	100.00	100.00	100.00	100.00	100.00	95.00	100.00	100.00	93.75
79	100.00	100.00	100.00	100.00	100.00	100.00	75.00	100.00	80.00
80	100.00	(0/0)	100.00	50.00	0.00	33.33	100.00	(0/0)	100.00
81	(0/0)	(0/0)	100.00	100.00	100.00	100.00	90.91	100.00	92.31
82	100.00	100.00	100.00	100.00	100.00	100.00	93.75	100.00	94.44
83	87.50	90.00	92.11	91.04	98.18	95.48	88.89	100.00	91.46
84	96.67	93.33	96.08	96.43	93.88	95.97	78.05	66.67	78.18
85	91.89	100.00	94.67	94.44	96.15	94.49	87.23	100.00	89.71
86	100.00	100.00	100.00	95.45	100.00	97.22	92.59	60.00	88.57
87	100.00	100.00	100.00	100.00	88.89	97.73	96.00	100.00	97.06
88	93.94	80.00	89.33	98.61	96.36	97.99	81.63	100.00	84.13
89	100.00	100.00	100.00	72.22	89.66	82.98	95.65	100.00	97.14
90	100.00	100.00	100.00	88.24	95.45	92.31	77.78	70.00	73.68
91	100.00	100.00	100.00	78.57	85.71	83.87	83.33	100.00	84.62
92	100.00	100.00	100.00	100.00	94.44	94.12	94.74	100.00	95.45
93	88.89	87.50	88.57	87.50	89.80	89.02	75.47	84.62	77.94
94	92.31	93.75	93.10	96.55	96.88	96.97	94.00	93.33	94.03
95	77.78	100.00	90.91	100.00	96.55	96.08	62.50	71.43	65.22
96	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00	50.00	(0/0)	50.00
97	86.67	83.33	86.36	95.00	100.00	96.88	94.74	100.00	89.29
98	0.00	(0/0)	0.00	100.00	(0/0)	100.00	45.45	100.00	64.71
99	80.00	89.47	86.49	86.21	86.44	85.87	82.81	86.96	84.78
100	66.67	(0/0)	75.00	62.50	88.89	75.00	91.67	66.67	88.24
101	100.00	(0/0)	100.00	100.00	100.00	100.00	66.67	(0/0)	66.67
102	(0/0)	100.00	100.00	100.00	100.00	100.00	88.89	100.00	90.91
103	100.00	100.00	100.00	100.00	100.00	100.00	85.71	100.00	88.89

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Site	**Sedan/SW(%)**			**Van/SUV(%)**			**Pickup(%)**		
	Male	Female	**All**	Male	Female	**All**	Male	Female	**All**
104	100.00	100.00	100.00	100.00	100.00	100.00	66.67	0.00	57.14
105	100.00	100.00	100.00	83.33	100.00	95.00	86.36	100.00	89.66
106	100.00	100.00	100.00	85.71	92.31	89.66	83.33	87.50	82.76
107	100.00	100.00	100.00	89.47	94.74	93.02	88.89	80.00	86.67
108	100.00	100.00	100.00	100.00	100.00	100.00	84.62	100.00	89.47
109	88.89	80.00	86.67	85.71	91.67	88.57	77.78	66.67	75.00
110	85.71	100.00	93.33	84.62	94.74	91.43	87.50	100.00	90.91
Total	93.88	94.67	94.62	94.42	95.24	95.23	85.90	86.96	86.67

Table 19: Seatbelt Usage based on Vehicle Type during Post-Mobilization Survey

	Sedan/SW(%)			**Van/SUV(%)**			**Pickup(%)**		
	Male	Female	**All**	Male	Female	**All**	Male	Female	**All**
1	100.00	100.00	98.18	92.59	95.65	96.30	90.00	100.00	93.10
2	33.33	100.00	80.00	100.00	100.00	100.00	77.78	100.00	81.82
3	98.04	100.00	97.73	93.22	95.45	94.39	87.04	100.00	87.88
4	100.00	100.00	100.00	100.00	100.00	100.00	85.71	100.00	88.89
5	100.00	100.00	100.00	95.65	100.00	98.31	86.36	40.00	78.57
6	96.36	100.00	97.40	96.63	95.83	95.56	83.33	(0/0)	88.89
7	93.18	96.15	96.04	96.61	95.35	97.06	89.29	71.43	88.37
8	100.00	100.00	100.00	90.00	85.71	88.89	100.00	100.00	100.00
9	100.00	81.82	92.59	92.00	100.00	96.43	66.67	(0/0)	66.67
10	95.45	100.00	97.30	94.44	90.48	92.68	92.31	83.33	89.47
11	91.67	100.00	94.12	83.33	100.00	92.59	100.00	(0/0)	100.00
12	100.00	100.00	100.00	100.00	100.00	97.06	100.00	100.00	100.00
13	92.68	100.00	96.51	95.31	96.08	96.60	100.00	(0/0)	100.00
14	93.33	100.00	97.44	92.45	94.12	94.78	80.00	100.00	87.50
15	100.00	100.00	100.00	100.00	87.50	95.00	100.00	(0/0)	100.00
16	100.00	100.00	100.00	100.00	87.50	92.45	80.00	100.00	83.33
17	100.00	100.00	100.00	100.00	100.00	100.00	80.00	(0/0)	83.33
18	90.91	92.31	93.33	85.71	100.00	87.50	75.00	100.00	77.78
19	100.00	100.00	100.00	100.00	88.89	93.75	80.00	0.00	66.67
20	100.00	100.00	100.00	100.00	90.48	95.31	75.00	100.00	81.82
21	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	66.67
22	95.45	100.00	97.14	100.00	100.00	100.00	100.00	100.00	100.00
23	100.00	91.67	91.67	96.88	98.65	98.41	100.00	100.00	100.00
24	100.00	100.00	94.03	97.30	100.00	97.37	87.50	(0/0)	91.03
25	81.82	100.00	87.50	100.00	100.00	100.00	69.23	75.00	71.88

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	Sedan/SW(%)			**Van/SUV(%)**			**Pickup(%)**		
	Male	Female	**All**	Male	Female	**All**	Male	Female	**All**
26	100.00	(0/0)	100.00	75.00	100.00	92.86	77.78	66.67	69.23
27	100.00	100.00	100.00	96.15	97.44	97.33	97.06	100.00	97.14
28	83.33	(0/0)	87.50	100.00	100.00	100.00	83.33	100.00	90.91
29	95.65	100.00	97.50	92.00	89.66	91.07	94.74	100.00	96.00
30	100.00	100.00	100.00	100.00	100.00	96.43	83.33	(0/0)	85.71
31	75.00	85.71	82.35	100.00	100.00	100.00	100.00	100.00	100.00
32	90.70	100.00	95.29	94.87	96.72	96.64	87.50	100.00	90.32
33	90.32	100.00	96.15	96.34	100.00	98.16	86.00	100.00	88.89
34	83.33	100.00	90.00	100.00	100.00	100.00	87.50	100.00	91.67
35	88.89	100.00	93.75	91.67	100.00	95.24	100.00	(0/0)	100.00
36	94.44	92.86	94.34	96.15	96.67	96.92	83.33	50.00	81.25
37	100.00	0.00	75.00	100.00	100.00	100.00	86.67	100.00	88.89
38	100.00	100.00	100.00	100.00	100.00	100.00	66.67	0.00	57.14
39	100.00	100.00	100.00	100.00	90.00	94.12	75.00	100.00	80.00
40	100.00	100.00	100.00	83.33	100.00	95.45	100.00	(0/0)	100.00
41	100.00	(0/0)	100.00	100.00	88.89	94.74	66.67	(0/0)	66.67
42	100.00	100.00	100.00	85.71	84.62	85.71	100.00	(0/0)	100.00
43	100.00	100.00	100.00	100.00	96.15	97.62	78.95	100.00	80.00
44	97.44	100.00	98.80	96.49	90.57	94.41	86.96	100.00	87.93
45	100.00	100.00	92.31	91.67	100.00	97.73	83.33	75.00	85.71
46	100.00	100.00	100.00	93.75	100.00	96.08	81.25	75.00	84.62
47	100.00	100.00	100.00	100.00	(0/0)	100.00	100.00	100.00	100.00
48	88.89	66.67	87.50	100.00	100.00	100.00	92.59	100.00	93.55
49	(0/0)	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
50	100.00	(0/0)	100.00	100.00	100.00	100.00	63.64	100.00	73.33
51	75.00	100.00	85.71	100.00	100.00	100.00	75.00	80.00	74.14

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	Sedan/SW(%)			**Van/SUV(%)**			**Pickup(%)**		
	Male	Female	**All**	Male	Female	**All**	Male	Female	**All**
52	100.00	100.00	100.00	100.00	95.00	97.87	74.07	88.89	78.95
53	93.33	100.00	94.64	88.89	100.00	95.95	76.19	100.00	82.14
54	83.33	100.00	89.47	92.31	91.67	92.59	78.43	40.00	76.67
55	88.24	100.00	94.29	92.59	95.45	95.71	88.46	90.00	87.50
56	100.00	(0/0)	100.00	100.00	100.00	100.00	100.00	100.00	100.00
57	100.00	100.00	100.00	96.43	89.47	95.16	80.00	100.00	81.25
58	(0/0)	100.00	100.00	100.00	100.00	100.00	70.00	(0/0)	75.00
59	96.88	96.43	97.06	94.87	98.04	97.20	82.86	100.00	84.09
60	96.00	100.00	98.41	100.00	96.77	98.89	85.71	75.00	86.27
61	86.67	83.33	90.70	92.11	96.97	95.65	88.24	100.00	92.16
62	100.00	100.00	100.00	94.12	100.00	97.30	69.23	80.00	75.00
63	100.00	100.00	93.75	89.47	86.36	88.68	70.59	100.00	76.74
64	90.00	90.91	91.30	100.00	90.48	94.23	82.14	92.31	87.76
65	100.00	(0/0)	100.00	100.00	100.00	100.00	57.14	100.00	60.00
66	100.00	100.00	100.00	93.33	92.31	93.94	78.38	100.00	83.33
67	100.00	100.00	100.00	91.49	100.00	95.88	74.07	100.00	80.49
68	(0/0)	(0/0)	(0/0)	100.00	(0/0)	100.00	100.00	(0/0)	100.00
69	100.00	100.00	100.00	81.25	77.78	80.00	90.91	83.33	88.89
70	100.00	100.00	100.00	87.50	100.00	92.31	(0/0)	100.00	100.00
71	100.00	100.00	100.00	90.91	81.82	86.96	87.50	100.00	90.00
72	25.00	57.14	50.00	81.82	94.44	87.80	80.00	100.00	85.71
73	100.00	100.00	100.00	88.89	83.33	88.24	100.00	(0/0)	66.67
74	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
75	80.00	100.00	71.43	77.78	88.89	84.21	100.00	100.00	100.00
76	100.00	(0/0)	100.00	87.50	100.00	92.86	100.00	100.00	100.00
77	100.00	(0/0)	100.00	100.00	100.00	100.00	100.00	100.00	100.00

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	Sedan/SW(%)			**Van/SUV(%)**			**Pickup(%)**		
	Male	Female	**All**	Male	Female	**All**	Male	Female	**All**
78	100.00	100.00	100.00	93.33	100.00	96.97	92.31	100.00	95.65
79	100.00	100.00	100.00	100.00	100.00	93.33	90.00	66.67	86.67
80	100.00	100.00	100.00	75.00	(0/0)	75.00	100.00	(0/0)	100.00
81	85.71	80.00	80.00	100.00	100.00	100.00	91.67	80.00	88.89
82	100.00	100.00	100.00	100.00	100.00	100.00	71.43	100.00	76.47
83	60.00	0.00	50.00	100.00	100.00	100.00	66.67	50.00	64.71
84	90.63	94.44	90.91	84.21	74.19	80.00	91.30	81.25	87.50
85	85.71	95.24	88.71	78.95	96.30	90.00	73.33	100.00	84.62
86	100.00	100.00	100.00	88.89	90.91	90.91	100.00	100.00	100.00
87	100.00	100.00	100.00	91.30	100.00	95.65	100.00	100.00	100.00
88	92.59	100.00	94.34	91.18	86.36	89.83	82.35	100.00	85.00
89	75.00	83.33	81.82	77.27	92.31	82.86	80.00	100.00	85.71
90	100.00	87.50	93.75	90.48	95.24	93.02	83.33	100.00	87.50
91	85.71	87.50	87.50	87.50	90.91	90.24	76.00	80.00	78.13
92	72.73	62.50	71.43	92.86	94.12	93.55	92.00	92.86	92.31
93	88.89	85.71	87.50	87.50	93.44	90.83	86.67	90.00	87.65
94	88.24	88.89	88.57	92.86	92.31	91.57	96.15	92.86	95.28
95	86.67	90.00	88.46	95.83	97.92	97.33	76.19	71.43	75.00
96	100.00	(0/0)	100.00	100.00	75.00	88.89	0.00	50.00	33.33
97	81.82	75.00	80.00	96.15	95.83	96.15	75.00	50.00	72.22
98	0.00	(0/0)	0.00	100.00	50.00	75.00	80.00	0.00	66.67
99	75.00	100.00	90.00	87.50	88.89	88.00	86.36	100.00	89.66
100	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	92.31
101	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
102	100.00	100.00	100.00	75.00	100.00	92.86	91.30	100.00	94.12
103	100.00	100.00	100.00	100.00	100.00	100.00	93.33	75.00	89.47

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	Sedan/SW(%)			**Van/SUV(%)**			**Pickup(%)**		
	Male	Female	**All**	Male	Female	**All**	Male	Female	**All**
104	(0/0)	(0/0)	(0/0)	50.00	100.00	75.00	(0/0)	(0/0)	(0/0)
105	100.00	100.00	100.00	88.89	100.00	95.65	86.67	83.33	86.49
106	50.00	100.00	66.67	87.50	90.91	90.91	78.57	90.91	82.05
107	50.00	100.00	75.00	100.00	87.50	95.65	77.78	100.00	80.00
108	50.00	(0/0)	50.00	100.00	100.00	100.00	100.00	100.00	100.00
109	100.00	75.00	87.50	64.29	85.71	79.49	70.00	80.00	72.00
110	80.00	80.00	83.33	91.67	100.00	92.31	66.67	100.00	76.67
Total	92.91	95.30	94.41	93.96	95.25	95.14	84.60	88.79	86.31

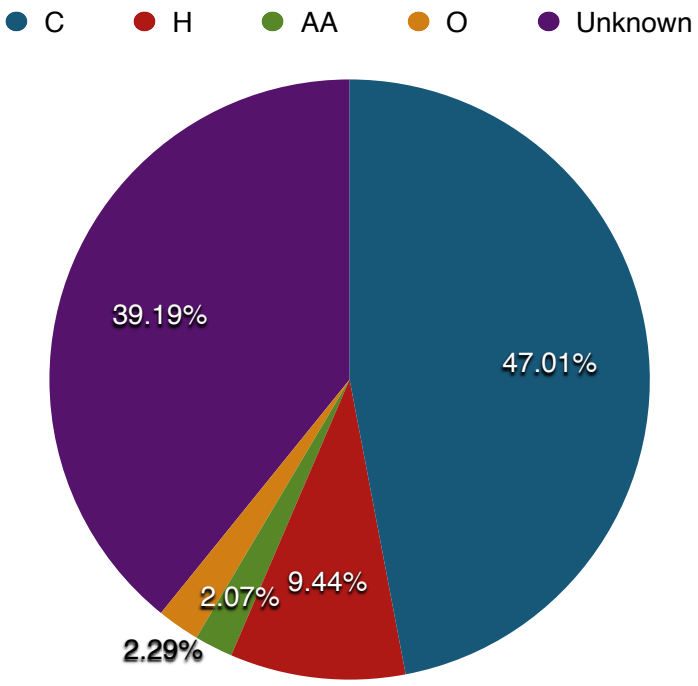
Seatbelt Usage Based on Ethnicity

The ethnicity of the occupants was also recorded during the field observations. The observers had past experience/training in performing similar observations based on ethnicity. The ethnicity was recorded as Caucasian, Hispanic, African-American, or Other. The Other category is comprised of drivers and passengers who were not Caucasian, Hispanic, or African-American. Figure 11 shows the breakdown of occupants based on ethnicity.

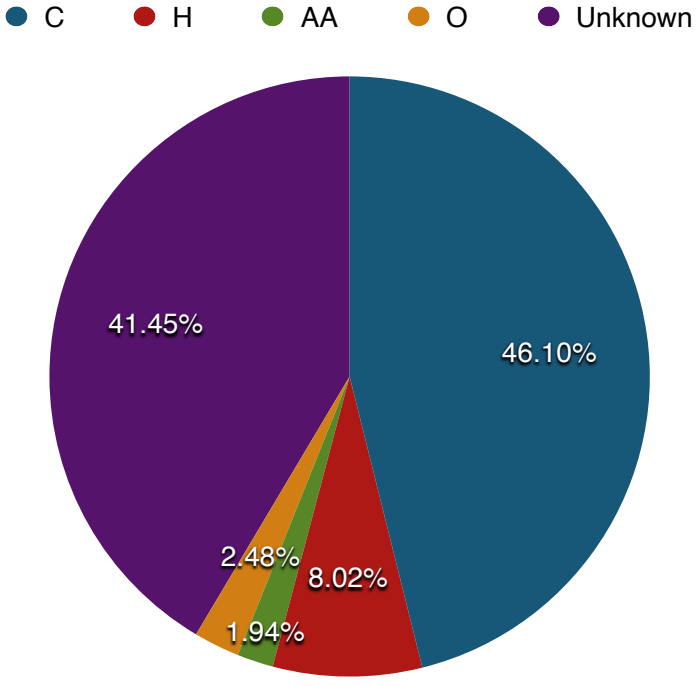
According to Table 20, based on Pre-Mobilization survey, it can be seen that the overall seatbelt usage rate was lowest among African American occupants at 89.67%. The highest overall seatbelt usage was observed among the Others category occupants (97.03%). The overall seatbelt usage rate for the Hispanic occupants was found to be 91.05%, and for the Caucasian occupants it was 91.61%.

Similarly, according to Table 21, based on Post-Mobilization survey, the lowest overall seat belt usage was observed among the African-American occupants (88.83%). The seatbelt usage rate for Hispanic occupants (91.02%) and Caucasian occupants (90.97%) were below the Other occupants (93.23%), which was the highest.

Figure 11: Seatbelt Usage Rate by Ethnicity



(a) Pre-mobilization



(b) Post-mobilization

Table 20: Seatbelt Usage based on Ethnicity during Pre-Mobilization Survey

Site	Caucasian			Hispanic			Afr-American			Other		
	Male	Female	All	Male	Female	All	Male	Female	All	Male	Female	All
1	94.74	100.00	96.15	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00
2	83.33	100.00	89.29	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
3	92.31	100.00	94.74	87.80	100.00	88.64	100.00	100.00	100.00	100.00	50.00	75.00
4	97.30	100.00	98.25	100.00	100.00	100.00	100.00	0.00	66.67	100.00	100.00	100.00
5	100.00	100.00	100.00	75.00	(0/0)	75.00	100.00	100.00	100.00	100.00	100.00	100.00
6	100.00	100.00	100.00	100.00	100.00	100.00	83.33	100.00	88.24	100.00	100.00	100.00
7	94.44	100.00	96.67	88.10	100.00	89.80	92.86	100.00	95.24	100.00	100.00	100.00
8	100.00	100.00	100.00	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)
9	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	100.00	66.67	83.33	100.00	0.00	75.00
10	91.67	100.00	93.55	77.78	100.00	80.00	100.00	(0/0)	100.00	100.00	100.00	100.00
11	87.50	90.91	89.47	100.00	100.00	100.00	75.00	33.33	57.14	(0/0)	100.00	100.00
12	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	100.00	100.00	(0/0)	(0/0)	(0/0)
13	94.74	76.47	86.11	100.00	60.00	88.89	92.86	100.00	95.24	100.00	100.00	100.00
14	83.33	100.00	90.48	100.00	75.00	93.75	100.00	66.67	90.91	100.00	100.00	100.00
15	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00	50.00	60.00	57.14	100.00	(0/0)	100.00
16	95.00	92.31	93.94	100.00	100.00	100.00	75.00	100.00	81.82	88.89	100.00	90.91
17	100.00	100.00	100.00	100.00	(0/0)	100.00	100.00	100.00	100.00	(0/0)	100.00	100.00
18	100.00	100.00	100.00	100.00	66.67	92.86	0.00	(0/0)	0.00	100.00	100.00	100.00
19	100.00	100.00	100.00	85.71	75.00	83.33	100.00	100.00	100.00	100.00	(0/0)	100.00
20	94.12	94.12	94.12	80.00	60.00	70.00	91.67	100.00	93.33	100.00	100.00	100.00
21	80.00	80.00	80.00	60.00	100.00	75.00	100.00	(0/0)	100.00	100.00	100.00	100.00
22	93.94	100.00	95.65	100.00	100.00	100.00	75.00	(0/0)	75.00	100.00	100.00	100.00
23	93.10	100.00	96.55	90.00	100.00	91.67	100.00	(0/0)	100.00	100.00	100.00	100.00
24	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00
25	90.00	100.00	92.86	71.43	75.00	72.73	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
26	100.00	100.00	100.00	61.54	66.67	63.64	(0/0)	100.00	100.00	(0/0)	100.00	100.00
27	86.49	90.48	88.33	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	100.00	100.00
28	80.00	100.00	90.00	66.67	(0/0)	75.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
29	88.46	90.24	89.25	78.57	86.67	82.76	100.00	(0/0)	100.00	100.00	(0/0)	100.00
30	100.00	100.00	100.00	100.00	100.00	100.00	100.00	(0/0)	100.00	100.00	(0/0)	100.00
31	84.62	100.00	89.47	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	100.00	100.00
32	100.00	93.02	96.55	93.33	100.00	95.83	100.00	100.00	100.00	100.00	100.00	100.00
33	90.14	100.00	94.96	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
34	80.00	100.00	90.91	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	0.00	(0/0)	0.00
35	100.00	80.00	88.89	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
36	93.55	96.88	95.31	92.31	100.00	94.74	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00
37	100.00	100.00	100.00	100.00	0.00	85.71	(0/0)	(0/0)	(0/0)	66.67	100.00	80.00
38	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	(0/0)	0.00	(0/0)	100.00	100.00
39	88.89	100.00	95.24	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00	(0/0)	100.00	100.00
40	85.71	100.00	93.33	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
41	80.00	92.31	88.89	(0/0)	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
42	100.00	100.00	100.00	66.67	100.00	85.71	(0/0)	(0/0)	(0/0)	100.00	(0/0)	100.00
43	88.89	100.00	95.00	50.00	100.00	75.00	(0/0)	(0/0)	(0/0)	(0/0)	100.00	100.00
44	100.00	83.33	91.67	88.37	91.67	89.29	100.00	100.00	100.00	100.00	100.00	100.00
45	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
46	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
47	80.00	75.00	78.95	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
48	97.96	91.18	95.18	96.00	100.00	97.92	0.00	(0/0)	0.00	(0/0)	(0/0)	(0/0)
49	100.00	100.00	100.00	66.67	(0/0)	66.67	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
50	96.15	94.44	95.56	(0/0)	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
51	88.10	95.65	90.77	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)
52	96.43	100.00	97.83	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)
53	96.25	88.71	93.01	91.67	100.00	95.74	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)
54	0.00	100.00	75.00	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
55	86.05	92.68	88.24	91.67	80.00	88.24	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
56	66.67	(0/0)	66.67	100.00	50.00	66.67	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)

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Site	Caucasian			Hispanic			Afr-American			Other		
	Male	Female	All	Male	Female	All	Male	Female	All	Male	Female	All
57	88.89	83.33	87.10	100.00	66.67	60.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
58	100.00	92.86	96.97	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
59	87.23	100.00	91.67	83.33	87.50	85.71	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
60	90.00	100.00	94.44	90.00	100.00	92.86	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
61	94.29	88.57	91.67	100.00	75.00	85.71	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
62	92.93	95.89	94.19	91.30	100.00	94.74	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
63	83.67	93.94	87.95	87.50	100.00	93.10	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
64	83.33	87.18	85.19	91.67	100.00	94.44	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)
65	60.00	100.00	71.43	0.00	(0/0)	0.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
66	100.00	88.89	95.83	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
67	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	100.00	100.00
68	83.33	100.00	87.50	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
69	96.43	100.00	97.44	100.00	(0/0)	100.00	(0/0)	(0/0)	100.00	100.00	100.00	100.00
70	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	0.00	(0/0)	0.00
71	90.00	100.00	93.75	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00
72	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	100.00	100.00
73	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
74	58.33	50.00	57.14	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	100.00	(0/0)	100.00
75	81.82	85.71	83.33	(0/0)	(0/0)	(0/0)	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)
76	88.89	100.00	90.91	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
77	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
78	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
79	77.78	100.00	84.62	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
80	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
81	100.00	100.00	100.00	50.00	(0/0)	50.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
82	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
83	86.67	95.56	90.07	100.00	(0/0)	100.00	100.00	100.00	100.00	100.00	100.00	100.00
84	88.00	88.68	88.46	100.00	100.00	100.00	50.00	(0/0)	50.00	100.00	100.00	100.00
85	91.84	96.92	92.77	100.00	100.00	100.00	66.67	100.00	83.33	(0/0)	(0/0)	(0/0)
86	96.15	100.00	97.06	100.00	(0/0)	100.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)
87	96.43	90.91	95.24	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
88	92.00	92.19	91.67	83.33	100.00	85.71	100.00	(0/0)	100.00	100.00	100.00	100.00
89	88.10	92.50	90.24	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	100.00	100.00
90	84.78	89.19	86.75	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	50.00	(0/0)	50.00
91	80.77	87.50	83.72	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
92	97.22	100.00	98.18	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
93	82.61	90.28	86.06	66.67	100.00	75.00	(0/0)	100.00	100.00	(0/0)	(0/0)	(0/0)
94	93.90	93.88	93.94	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00
95	77.78	92.11	85.53	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	100.00	(0/0)	100.00
96	66.67	100.00	80.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
97	93.75	95.24	94.20	0.00	100.00	50.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)
98	54.55	100.00	66.67	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
99	82.98	89.25	86.17	88.89	75.00	84.62	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
100	77.27	81.82	79.41	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
101	83.33	100.00	87.50	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
102	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
103	90.00	100.00	92.86	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
104	75.00	75.00	75.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
105	87.88	100.00	92.59	(0/0)	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
106	85.29	95.00	89.09	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
107	90.48	89.66	90.14	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
108	92.59	100.00	95.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
109	83.61	79.17	82.56	(0/0)	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
110	82.14	95.24	87.76	(0/0)	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
Total	90.23	93.58	91.61	90.41	92.43	91.05	90.34	88.52	89.67	96.18	97.98	97.03

Table 21: Seatbelt Usage based on Ethnicity during Post-Mobilization Survey

Site	Caucasian			Hispanic			Afr-American			Other		
	Male	Female	All	Male	Female	All	Male	Female	All	Male	Female	All
Site	CM	CF	CT	HM	HF	HT	AM	AF	AT	OM	OF	OT
1	96.30	85.71	94.12	(0/0)	100.00	100.00	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00
2	72.73	100.00	81.25	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	50.00	(0/0)	50.00
3	100.00	100.00	100.00	90.48	88.89	90.41	100.00	100.00	100.00	100.00	(0/0)	100.00
4	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00
5	100.00	92.86	96.43	75.00	100.00	84.62	100.00	100.00	100.00	100.00	100.00	100.00
6	97.37	100.00	97.78	100.00	100.00	100.00	87.50	80.00	84.62	96.30	100.00	96.88
7	100.00	100.00	100.00	91.94	88.00	90.80	80.00	100.00	90.00	100.00	100.00	100.00
8	100.00	100.00	100.00	100.00	100.00	100.00	100.00	50.00	66.67	100.00	100.00	100.00
9	95.00	95.24	95.24	100.00	0.00	50.00	0.00	(0/0)	0.00	90.00	100.00	93.33
10	96.55	95.00	96.00	100.00	80.00	88.89	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)
11	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00	(0/0)	100.00	100.00	100.00	100.00	100.00
12	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	100.00	100.00
13	100.00	100.00	100.00	87.50	100.00	90.00	77.78	100.00	85.71	93.75	100.00	96.00
14	90.00	90.91	90.63	88.89	100.00	91.67	86.36	83.33	87.50	66.67	100.00	85.71
15	(0/0)	100.00	100.00	100.00	100.00	100.00	(0/0)	100.00	100.00	100.00	(0/0)	100.00
16	96.43	90.63	93.33	100.00	100.00	100.00	60.00	100.00	77.78	(0/0)	100.00	100.00
17	80.00	100.00	83.33	(0/0)	100.00	100.00	100.00	(0/0)	100.00	100.00	(0/0)	100.00
18	66.67	100.00	77.78	100.00	92.31	95.65	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)
19	(0/0)	0.00	0.00	92.31	85.71	90.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)
20	87.50	100.00	92.31	100.00	100.00	100.00	83.33	(0/0)	83.33	100.00	100.00	100.00
21	100.00	75.00	85.71	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
22	100.00	100.00	100.00	100.00	100.00	100.00	92.86	100.00	94.74	100.00	100.00	100.00
23	100.00	96.88	96.67	80.00	(0/0)	80.00	100.00	(0/0)	100.00	100.00	100.00	100.00
24	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
25	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	33.33	100.00	52.94
26	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	50.00	50.00	50.00
27	95.83	97.22	96.51	(0/0)	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	100.00	100.00
28	100.00	100.00	100.00	50.00	(0/0)	50.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)
29	93.94	89.47	92.31	100.00	100.00	100.00	50.00	(0/0)	50.00	100.00	100.00	100.00
30	100.00	100.00	93.75	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
31	83.33	100.00	90.00	66.67	100.00	80.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
32	96.67	100.00	98.25	90.00	83.33	88.46	100.00	100.00	100.00	75.00	100.00	90.91
33	90.70	100.00	95.27	94.12	100.00	95.24	100.00	(0/0)	100.00	100.00	100.00	100.00
34	100.00	100.00	100.00	100.00	100.00	100.00	100.00	(0/0)	100.00	100.00	100.00	100.00
35	83.33	100.00	90.91	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	100.00	100.00
36	97.37	88.89	93.85	85.71	100.00	93.75	66.67	(0/0)	66.67	100.00	100.00	100.00
37	91.67	83.33	88.89	66.67	100.00	83.33	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
38	100.00	90.91	95.24	50.00	100.00	60.00	100.00	(0/0)	100.00	100.00	(0/0)	100.00
39	100.00	91.67	94.12	66.67	100.00	75.00	(0/0)	(0/0)	(0/0)	100.00	(0/0)	100.00
40	100.00	100.00	100.00	50.00	(0/0)	50.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
41	88.89	87.50	88.46	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
42	100.00	100.00	100.00	100.00	100.00	100.00	(0/0)	0.00	0.00	(0/0)	(0/0)	(0/0)
43	94.44	94.44	94.59	66.67	(0/0)	66.67	(0/0)	(0/0)	100.00	(0/0)	100.00	100.00
44	100.00	100.00	100.00	86.96	84.62	86.49	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)
45	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)
46	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
47	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
48	93.33	92.31	93.18	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
49	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
50	90.00	100.00	93.10	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
51	77.55	94.29	83.91	50.00	(0/0)	50.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
52	84.78	92.86	88.16	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00
53	92.86	100.00	94.12	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
54	79.69	79.17	80.22	87.50	100.00	92.31	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
55	77.78	100.00	87.50	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	100.00	(0/0)	100.00

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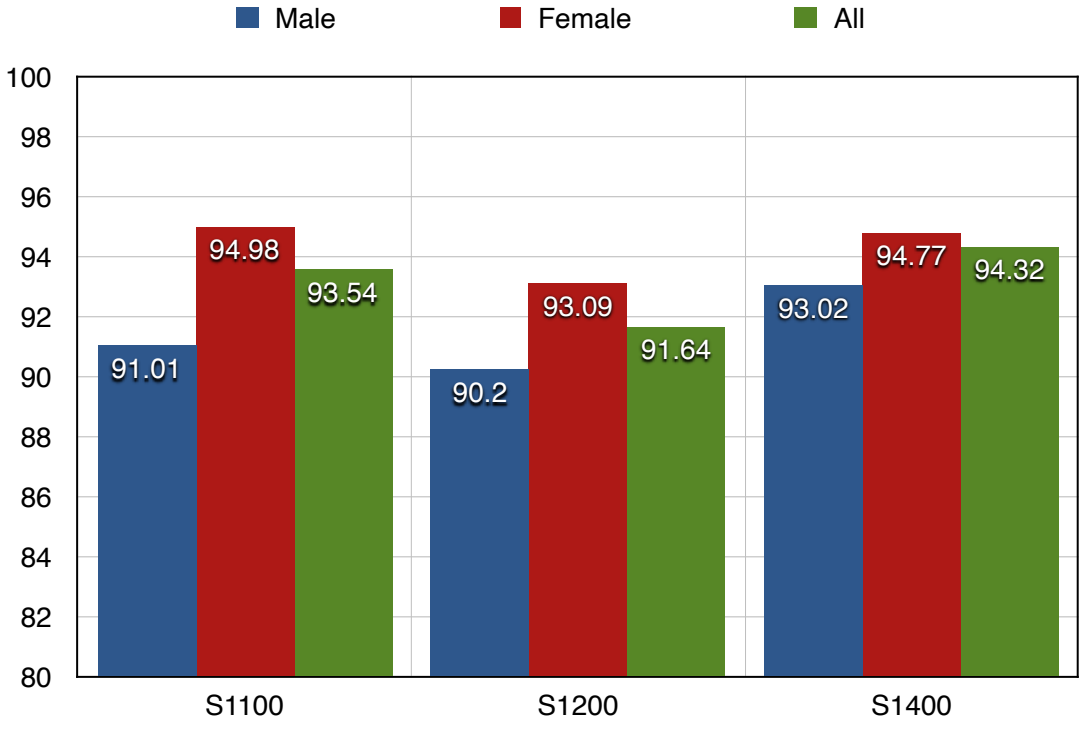
Site	Caucasian			Hispanic			Afr-American			Other		
	Male	Female	All	Male	Female	All	Male	Female	All	Male	Female	All
56	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
57	85.71	86.67	86.27	(0/0)	(0/0)	(0/0)	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)
58	70.00	100.00	85.71	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
59	92.11	96.08	92.97	100.00	100.00	100.00	(0/0)	100.00	100.00	(0/0)	100.00	100.00
60	94.81	93.33	94.49	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
61	88.00	92.86	90.00	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00
62	78.95	100.00	85.71	(0/0)	(0/0)	(0/0)	(0/0)	100.00	100.00	100.00	80.00	85.71
63	83.78	88.89	86.21	75.00	100.00	80.00	(0/0)	(0/0)	(0/0)	100.00	(0/0)	100.00
64	89.74	93.55	91.78	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
65	71.43	100.00	72.73	0.00	(0/0)	0.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
66	82.14	93.75	86.36	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
67	89.04	100.00	93.28	87.50	100.00	91.67	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
68	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
69	88.00	90.91	88.89	100.00	80.00	91.67	0.00	(0/0)	0.00	(0/0)	(0/0)	(0/0)
70	100.00	100.00	100.00	50.00	100.00	66.67	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
71	85.71	77.78	82.61	100.00	100.00	100.00	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)
72	70.97	83.33	76.36	50.00	(0/0)	50.00	(0/0)	100.00	100.00	(0/0)	(0/0)	(0/0)
73	91.67	80.00	88.24	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
74	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
75	86.67	83.33	85.71	100.00	(0/0)	66.67	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
76	92.31	100.00	95.24	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
77	100.00	100.00	100.00	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
78	92.00	100.00	96.23	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
79	90.91	85.71	88.89	100.00	(0/0)	100.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)
80	85.71	(0/0)	85.71	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
81	91.30	88.24	90.24	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)
82	78.95	100.00	84.00	(0/0)	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
83	78.95	71.43	75.76	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
84	88.73	81.82	86.21	78.57	86.67	83.33	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)
85	81.67	95.74	88.07	100.00	100.00	100.00	0.00	(0/0)	0.00	(0/0)	(0/0)	(0/0)
86	100.00	91.67	96.30	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
87	95.24	100.00	97.06	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)
88	94.23	90.63	92.94	80.00	100.00	88.89	100.00	(0/0)	100.00	100.00	100.00	100.00
89	78.05	92.00	83.33	60.00	100.00	75.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
90	89.74	96.55	92.75	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
91	79.07	88.89	82.86	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
92	88.68	92.00	90.29	75.00	(0/0)	75.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
93	87.27	91.36	89.01	83.33	85.71	84.62	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
94	94.39	91.40	92.54	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
95	86.27	94.55	90.57	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
96	85.71	60.00	75.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
97	88.10	92.00	89.55	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
98	33.33	0.00	25.00	100.00	50.00	85.71	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
99	85.00	94.12	87.93	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
100	100.00	100.00	94.74	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
101	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
102	88.46	100.00	93.33	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
103	96.30	94.74	95.65	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
104	50.00	100.00	75.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
105	87.18	95.45	90.16	(0/0)	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
106	79.41	90.91	83.93	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
107	86.96	87.50	87.10	(0/0)	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
108	100.00	100.00	100.00	100.00	(0/0)	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
109	67.65	80.00	73.77	100.00	100.00	100.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
110	75.76	100.00	83.67	100.00	66.67	80.00	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)	(0/0)
Total	89.35	93.50	90.97	90.58	92.06	91.02	86.05	92.86	88.83	90.07	97.94	93.23

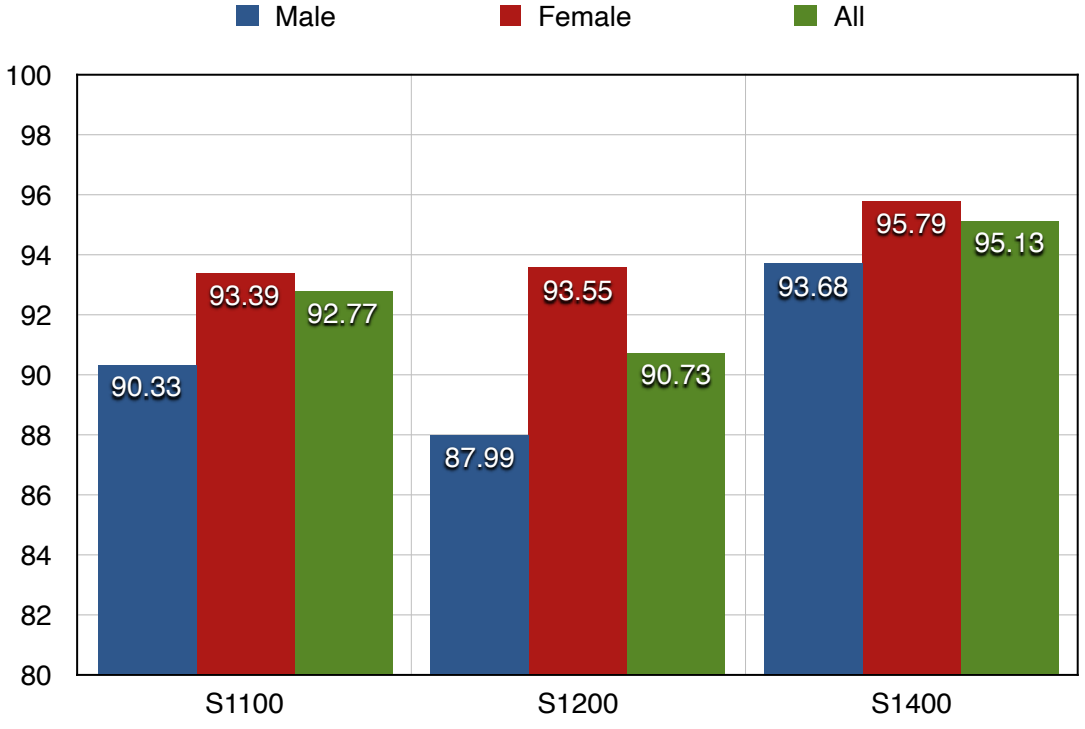
Seatbelt Usage by Functional Classification of Streets

The seatbelt observation sites are divided into three classes: S1100 (Primary roads), S1200 (Secondary roads), and S1400 (Local neighborhood roads and rural streets). Seatbelt usage on all these three categories of streets during Pre-Mobilization and Post-Mobilization are shown in Figure 12. The detailed information about the seatbelt usage by drivers and passengers according to the functional classification of streets is given in Tables 22 and 23.

Figure 12: Seatbelt Usage Rate by Functional Classification



(a) Pre-mobilization



(b) Post-mobilization

Table 22: Seatbelt Usage by Functional Classification during Pre-Mobilization Survey

Functional Classification	Male	Female	All
S1100	91.01	94.98	93.54
S1200	90.20	93.09	91.64
S1400	93.02	94.77	94.32
Overall	91.39	94.03	92.98

Table 23: Seatbelt Usage by Functional Classification during Post-Mobilization survey

Functional Classification	Male	Female	All
S1100	90.33	93.39	92.77
S1200	87.99	93.55	90.73
S1400	93.68	95.79	95.13
Overall	90.44	94.38	92.75

From Table 22 and 23, it can be noted that the S1400 category has the highest rate of seat belt usage for all front seat occupants in Pre-Mobilization (94.32%). The S1400 category has the highest rate of seat belt usage for all front seat occupants in Post-mobilization (95.13%). On the other hand, the lowest seatbelt usage was observed over the S1200 category during during Pre-Mobilization (91.64%) and Post-Mobilization (90.73%).

Seatbelt Usage Based on County

Tables 24 and 25 display the seatbelt usage rates for each county for the Pre-mobilization and Post-mobilization surveys. These tables emphasized the seatbelt usage rates for male and female occupants.

Table 24: Seatbelt Usage by County during Pre-Mobilization survey

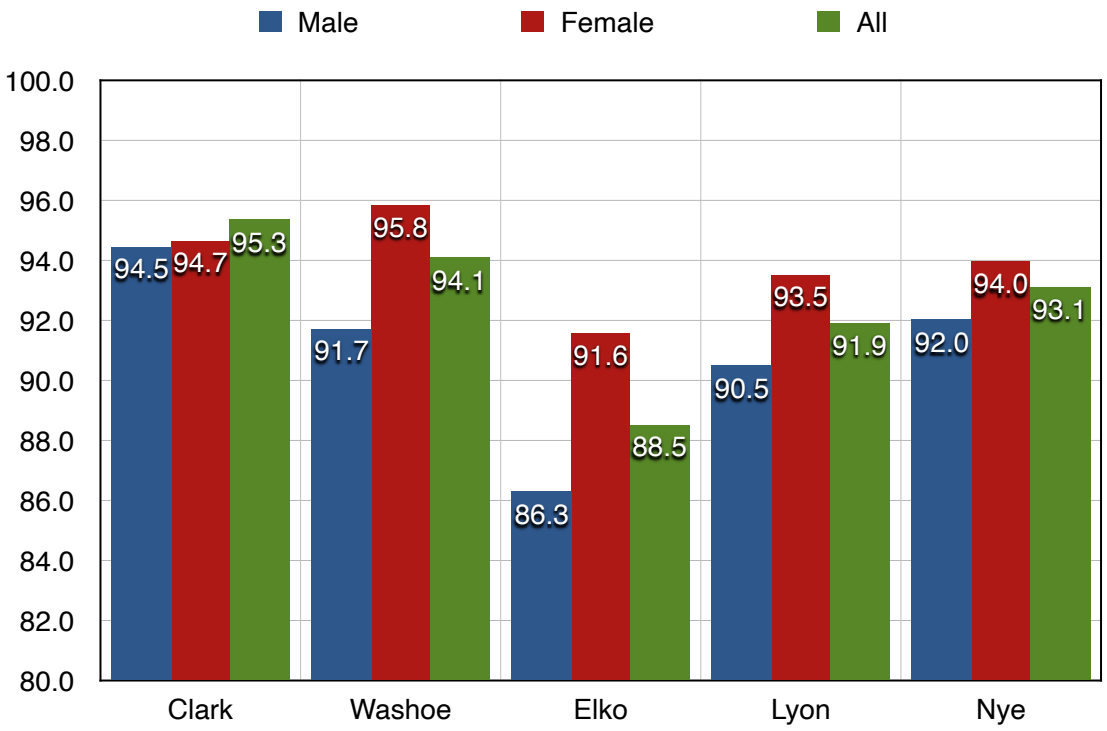
County	Male	Female	All
Clark	94.45	94.65	95.34
Washoe	91.73	95.82	94.07
Elko	86.27	91.57	88.53
Lyon	90.48	93.53	91.89
Nye	92.00	93.95	93.09
Overall	91.39	94.03	92.98

Table 25: Seatbelt Usage by County during Post-Mobilization Survey

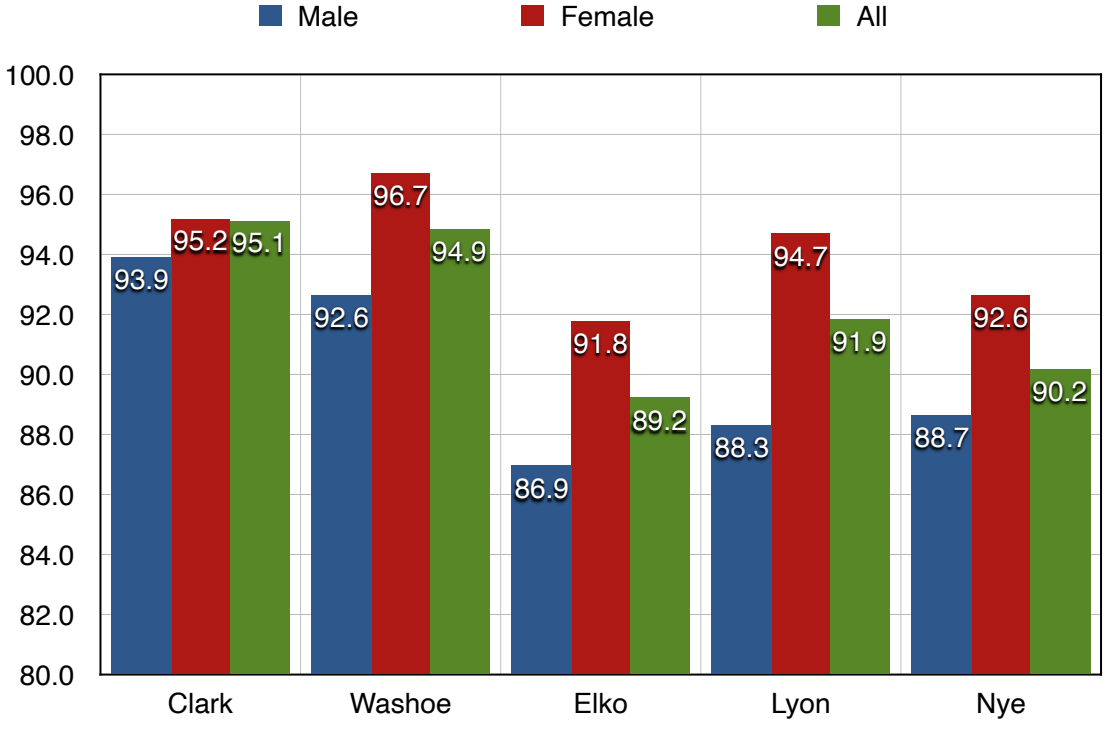
County	Male	Female	All
Clark	93.91	95.19	95.12
Washoe	92.62	96.69	94.85
Elko	86.94	91.78	89.21
Lyon	88.30	94.68	91.85
Nye	88.65	92.62	90.18
Overall	90.44	94.38	92.75

Figure 13 displays the seatbelt usage rates for each county for the Pre-mobilization and Post-mobilization surveys.

Figure 13: Seatbelt Usage Rate In Different Counties



(a) Pre-mobilization



(b) Post-mobilization

Tables 24 and 25 show that the lowest rate of seatbelt usage was observed in Elko county (88.5%) during the Pre-Mobilization survey, and Elko county (89.20%) during the Post-Mobilization survey. Additionally, the highest seatbelt usage was observed in Clark county (95.30%) during Pre-Mobilization, and Clark county (95.10%) during Post-Mobilization.

Quality Control

To monitor the survey proceedings, a quality control monitor was employed. The quality control monitor made unannounced random visits to 5 percent of the survey sites across Nevada. During the observation period, quality control monitor evaluated the performance of the data collectors and ensured that the survey protocol was strictly followed. The survey protocol included punctuality of the observers to be present on the survey time at the scheduled time, completing the cover sheet of data collection form, and making accurate observations of seatbelt usage. A day-to-day data collectors schedule along with the time of observation at respective site was given to the quality control monitor to aid in making random visits. The data was reviewed by the quality control monitor to ensure the rate of unknown does not exceed 10% for any site.

Weighted Analysis

Calculating the Weighted Data

The analysis of the safety belt usage data in Nevada has taken the form of aggregate calculations of overall county and state weighted estimates using a spreadsheet design that incorporates mathematical formulas. This is done in a three-step calculation process. The first step calculates the safety belt usage rates for the sites within each county. Those estimates are then used to derive the estimates for each of the counties. Finally, the county estimates are used to derive the overall estimate of safety belt usage for the state as a whole. Because the observation sites are selected with a probability proportional to the length of each site, the formula for estimating the safety belt usage rates for the sample sites is given in Equation 21.

$$\widehat{y}_{ij} = \frac{\sum_{k=1}^{n_{ij}} W_{ijk} l_{ijk} B_{ijk} / O_{ijk}}{\sum_{k=1}^{n_{ij}} W_{ijk} l_{ijk}} \tag{21}$$

where, $\widehat{y}_{ij}$ represents the estimate of seatbelt use for the j^{th} stratum in the i^{th} county, i represents county ranging from 1 to number of counties in sample, j represents stratum of road segments, k represents the designated sample site ranging from 1 to n_{ij}, W_{ijk} represents the sampling weight of each site within each stratum of each county, B_{ijk} represents the total number of belted drivers and passengers for the sample site in the stratum and O_{ijk} represents the total number of observed drivers and passengers for the sample site in the stratum.

For each $1 \leq i \leq 5$, $1 \leq j \leq 3$ and $1 \leq k \leq n_{ij}$, W_{ijk} can be computed by the

following equation,

$$W_{chijklm} = \frac{1}{\pi_{chijklm}} \tag{22}$$

$$\pi_{chijklm} = \pi_c \pi_{hi|c} \pi_{j|chi} \pi_{k|chij} \pi_{l|chij} \pi_{m|chijl} \tag{23}$$

where, π_c for county, $\pi_{hi|c}$ for road segment, $\pi_{j|chi}$ for time segment, $\pi_{k|chij}$ for direction, $\pi_{l|chij}$ for lane and $\pi_{m|chijl}$ for vehicle.

The estimates $\widehat{y}_{ij}$ for the sites are then used to create the estimates for the counties. Note that B_{ijk} and O_{ijk} will include all of the data collected.

$$\widehat{y} = \frac{\sum_{i=1}^{2} W_i \widehat{y}_i}{\sum_{i=1}^{2} W_i} \tag{24}$$

Finally, the statewide estimate of safety belt use will be calculated according to the Equation 24.

The whole collected data is processed in MYSQL database server and queried through scripts written in PHP programming language. PHPMyAdmin IDE is used to make the PHP queries to the MYSQL server which makes the data processing very easy and efficient. The queries produced the output in a comma separated value (CSV) format which contained the following fields: Site-name, B_{ijk}, O_{ijk}. These fields were later concatenated with the weights W_{ijk} obtained according to the Equation 22. The concatenation of the weights and further processing to calculate the weighted seatbelt usage results and the bootstrap results were done in 'R', a statistical software package. Tables 26-30 and 31-35 summarize these calculations for both the surveys.

Table 26: Clark County Weighted Seatbelt Usage Rate Analysis during Pre-Mobilization Survey

Class	**Site**	**Belted / Total**	$\pi_{hi\|c}$	$\pi_{j\|chi}$	$\pi_{k\|chij}$	$\pi_{l\|chij}$	$\frac{W_{ijk}}{\sum W_{ijk}}$	Y_{ij}	Y_i
C S1100	1	215/218	4.66E-03	1.87E-04	0.5	0.5	6.29E+02	0.9862	0.9407
C S1200	2	44/48	1.49E-03	1.87E-04	0.5	1	4.02E+02	0.9526	
	3	207/217	1.60E-04	1.87E-04	0.5	0.333	1.44E+01		
C S1400	4	118/120	9.30E-04	1.87E-04	0.5	1	2.51E+02	0.9406	
	5	133/136	6.74E-04	1.87E-04	0.5	1	1.82E+02		
	6	217/223	5.75E-04	1.87E-04	0.5	0.333	5.17E+01		
	7	288/301	4.86E-04	1.87E-04	0.5	0.333	4.37E+01		
	8	32/33	4.16E-04	1.87E-04	0.5	1	1.12E+02		
	9	90/92	3.62E-04	1.87E-04	1	1	1.95E+02		
	10	96/102	3.39E-04	1.87E-04	0.5	0.5	4.57E+01		
	11	39/45	3.27E-04	1.87E-04	0.5	0.5	4.41E+01		
	12	58/60	2.95E-04	1.87E-04	0.5	1	7.94E+01		
	13	282/297	2.60E-04	1.87E-04	0.5	0.333	2.34E+01		
	14	145/155	2.32E-04	1.87E-04	0.5	0.333	2.08E+01		
	15	34/37	2.02E-04	1.87E-04	0.5	1	5.44E+01		
	16	153/162	1.74E-04	1.87E-04	0.5	0.5	2.34E+01		
	17	31/32	1.52E-04	1.87E-04	0.5	1	4.10E+01		
	18	36/41	1.35E-04	1.87E-04	0.5	1	3.63E+01		
	19	45/50	1.26E-04	1.87E-04	0.5	1	3.40E+01		
	20	130/138	1.07E-04	1.87E-04	0.5	0.5	1.44E+01		
	21	33/38	8.20E-05	1.87E-04	0.5	1	2.21E+01		
	22	111/116	2.40E-05	1.87E-04	0.5	0.5	3.24E+00		

Table 27: Washoe County Weighted Seatbelt Usage Rate Analysis during Pre-Mobilization Survey

Class	**Site**	**Belted / Total**	$\pi_{hi\|c}$	$\pi_{j\|chi}$	$\pi_{k\|chij}$	$\pi_{l\|chij}$	$\frac{W_{ijk}}{\sum W_{ijk}}$	Y_{ij}	Y_i
W S1100	23	266/274	4.04E-03	1.87E-04	0.5	0.333	3.63E+02	0.9756	0.9349
	24	327/335	4.83E-04	1.87E-04	0.5	0.333	4.34E+01		
W S1200	25	24/28	7.56E-03	1.87E-04	0.5	1	2.04E+03	0.8251	
	26	36/44	1.63E-03	1.87E-04	0.5	1	4.41E+02		
W S1400	27	111/124	6.10E-03	1.87E-04	0.5	1	1.65E+03	0.9312	
	28	50/56	3.39E-03	1.87E-04	0.5	1	9.16E+02		
	29	130/146	2.53E-03	1.87E-04	1	1	1.37E+03		
	30	33/34	2.17E-03	1.87E-04	0.5	0.5	2.92E+02		
	31	35/37	1.87E-03	1.87E-04	0.5	1	5.04E+02		
	32	215/224	1.64E-03	1.87E-04	0.5	0.5	2.22E+02		
	33	311/324	1.46E-03	1.87E-04	0.5	0.5	1.97E+02		
	34	40/43	1.31E-03	1.87E-04	0.5	1	3.54E+02		
	35	69/72	1.17E-03	1.87E-04	0.5	1	3.16E+02		
	36	120/124	1.06E-03	1.87E-04	0.5	1	2.86E+02		
	37	34/37	9.45E-04	1.87E-04	0.5	1	2.55E+02		
	38	36/40	8.28E-04	1.87E-04	0.5	1	2.23E+02		
	39	38/39	6.54E-04	1.87E-04	0.5	1	1.76E+02		
	40	31/34	6.35E-04	1.87E-04	0.5	1	1.71E+02		
	41	34/37	5.62E-04	1.87E-04	0.5	1	1.52E+02		
	42	29/32	4.28E-04	1.87E-04	0.5	1	1.15E+02		
	43	70/74	4.05E-04	1.87E-04	0.5	1	1.09E+02		
	44	228/252	2.91E-04	1.87E-04	0.5	1	7.86E+01		

Table 28: Lyon County Weighted Seatbelt Usage Rate Analysis during Pre-Mobilization Survey

Class	**Site**	**Belted / Total**	$\pi_{hi\|c}$	$\pi_{j\|chi}$	$\pi_{k\|chij}$	$\pi_{l\|chij}$	$\frac{W_{ijk}}{\sum W_{ijk}}$	Y_{ij}	Y_i
L S1100	45	64/70	6.68E-02	1.87E-04	0.5	0.5	9.01E+03	0.9199	0.9061
	46	71/77	2.60E-02	1.87E-04	0.5	0.5	3.51E+03		
L S1200	47	28/32	1.90E-01	1.87E-04	1	1	1.03E+05	0.9059	
	48	143/150	1.39E-01	1.87E-04	0.5	0.5	1.87E+04		
	49	12/13	1.07E-01	1.87E-04	1	1	5.77E+04		
	50	48/50	8.86E-02	1.87E-04	0.5	1	2.39E+04		
	51	86/93	7.77E-02	1.87E-04	0.5	1	2.10E+04		
	52	68/69	6.27E-02	1.87E-04	0.5	1	1.69E+04		
	53	193/206	5.41E-02	1.87E-04	1	1	2.92E+04		
	54	6/7	4.89E-02	1.87E-04	0.5	1	1.32E+04		
	55	96/110	4.11E-02	1.87E-04	1	1	2.22E+04		
	56	6/8	3.88E-02	1.87E-04	1	1	2.09E+04		
	57	42/49	3.49E-02	1.87E-04	0.5	0.5	4.70E+03		
	58	34/35	2.92E-02	1.87E-04	0.5	1	7.88E+03		
	59	82/92	2.47E-02	1.87E-04	1	1	1.33E+04		
	60	95/101	2.12E-02	1.87E-04	0.5	0.5	2.86E+03		
	61	84/91	1.85E-02	1.87E-04	0.5	0.5	2.50E+03		
	62	207/221	1.54E-02	1.87E-04	1	1	8.28E+03		
	63	108/123	1.25E-02	1.87E-04	0.5	1	3.36E+03		
	64	97/111	9.56E-03	1.87E-04	0.5	1	2.58E+03		
	65	5/8	6.97E-03	1.87E-04	1	1	3.76E+03		
	66	34/35	3.15E-03	1.87E-04	0.5	1	8.50E+02		

Table 29: Nye County Weighted Seatbelt Usage Rate Analysis during Pre-Mobilization Survey

Class	**Site**	**Belted / Total**	$\pi_{hi\|c}$	$\pi_{j\|chi}$	$\pi_{k\|chij}$	$\pi_{l\|chij}$	$\frac{W_{ijk}}{\sum W_{ijk}}$	Y_{ij}	Y_i
N S1200	67	102/107	9.52E-02	1.87E-04	0.5	1	2.57E+04	0.9281	0.9281
	68	19/21	7.65E-02	1.87E-04	0.5	1	2.06E+04		
	69	90/95	6.75E-02	1.87E-04	0.5	1	1.82E+04		
	70	16/17	5.47E-02	1.87E-04	0.5	1	1.47E+04		
	71	23/24	4.69E-02	1.87E-04	0.5	1	1.27E+04		
	72	39/42	4.26E-02	1.87E-04	0.5	1	1.15E+04		
	73	21/22	3.83E-02	1.87E-04	0.5	1	1.03E+04		
	74	27/37	3.50E-02	1.87E-04	0.5	1	9.44E+03		
	75	24/28	3.19E-02	1.87E-04	0.5	1	8.60E+03		
	76	17/18	2.84E-02	1.87E-04	0.5	1	7.67E+03		
	77	10/11	2.53E-02	1.87E-04	0.5	1	6.84E+03		
	78	42/44	2.30E-02	1.87E-04	0.5	1	6.19E+03		
	79	23/25	2.06E-02	1.87E-04	0.5	1	5.55E+03		
	80	6/8	1.83E-02	1.87E-04	0.5	1	4.93E+03		
	81	36/37	1.61E-02	1.87E-04	0.5	1	4.33E+03		
	82	30/31	1.40E-02	1.87E-04	0.5	1	3.77E+03		
	83	293/313	1.20E-02	1.87E-04	0.5	0.5	1.61E+03		
	84	211/230	1.03E-02	1.87E-04	0.5	0.5	1.38E+03		
	85	252/270	8.18E-03	1.87E-04	0.5	0.5	1.10E+03		
	86	77/82	6.34E-03	1.87E-04	0.5	1	1.71E+03		
	87	88/90	4.33E-03	1.87E-04	0.5	1	1.17E+03		
	88	266/287	5.99E-04	1.87E-04	0.5	0.5	8.08E+01		

Table 30: Elko County Weighted Seatbelt Usage Rate Analysis during Pre-Mobilization Survey

Class	**Site**	**Belted / Total**	$\pi_{hi\|c}$	$\pi_{j\|chi}$	$\pi_{k\|chij}$	$\pi_{l\|chij}$	$\frac{W_{ijk}}{\sum W_{ijk}}$	Y_{ij}	Y_i
E S1100	89	84/93	4.70E-02	1.87E-04	0.5	0.5	6.35E+03	0.8898	0.8937
	90	80/93	3.38E-02	1.87E-04	0.5	0.5	4.56E+03		
	91	41/48	2.36E-02	1.87E-04	0.5	0.5	3.18E+03		
	92	64/67	1.61E-02	1.87E-04	0.5	0.5	2.18E+03		
	93	157/185	1.09E-02	1.87E-04	0.5	0.5	1.47E+03		
	94	154/162	7.34E-03	1.87E-04	0.5	0.5	9.90E+02		
	95	84/96	2.30E-03	1.87E-04	0.5	0.5	3.10E+02		
E S1200	96	5/6	5.83E-02	1.87E-04	1	1	3.14E+04	0.8978	
	97	75/82	4.43E-02	1.87E-04	0.5	1	1.19E+04		
	98	12/20	3.52E-02	1.87E-04	0.5	1	9.49E+03		
	99	189/221	2.89E-02	1.87E-04	0.5	1	7.79E+03		
	100	33/41	2.52E-02	1.87E-04	1	1	1.36E+04		
	101	11/12	2.14E-02	1.87E-04	0.5	1	5.78E+03		
	102	27/28	1.94E-02	1.87E-04	0.5	1	5.23E+03		
	103	27/28	1.74E-02	1.87E-04	0.5	1	4.70E+03		
	104	12/15	1.49E-02	1.87E-04	1	1	8.02E+03		
	105	61/65	1.29E-02	1.87E-04	0.5	0.5	1.74E+03		
	106	54/62	1.09E-02	1.87E-04	0.5	1	2.94E+03		
	107	82/89	8.59E-03	1.87E-04	0.5	1	2.32E+03		
	108	46/48	6.52E-03	1.87E-04	0.5	1	1.76E+03		
	109	80/98	4.41E-03	1.87E-04	0.5	1	1.19E+03		
	110	66/72	1.93E-03	1.87E-04	0.5	1	5.21E+02		

Table 31: Clark County Weighted Seatbelt Usage Rate Analysis during Post-Mobilization Survey

Class	**Site**	**Belted / Total**	$\pi_{hi\|c}$	$\pi_{j\|chi}$	$\pi_{k\|chij}$	$\pi_{l\|chij}$	$\frac{W_{ijk}}{\sum W_{ijk}}$	Y_{ij}	Y_i
C S1100	1	238/248	4.66E-03	1.87E-04	0.5	0.5	5.00E+02	0.9597	0.9581
C S1200	2	31/35	1.49E-03	1.87E-04	0.5	1	3.20E+02	0.9369	
	3	245/261	1.60E-04	1.87E-04	0.5	0.333	1.14E+01		
C S1400	4	64/65	9.30E-04	1.87E-04	0.5	1	1.99E+02	0.9584	
	5	110/117	6.74E-04	1.87E-04	0.5	1	1.45E+02		
	6	212/221	5.75E-04	1.87E-04	0.5	0.333	4.11E+01		
	7	267/280	4.86E-04	1.87E-04	0.5	0.333	3.47E+01		
	8	34/36	4.16E-04	1.87E-04	0.5	1	8.93E+01		
	9	85/92	3.62E-04	1.87E-04	0.5	1	7.76E+01		
	10	91/97	3.39E-04	1.87E-04	0.5	1	7.26E+01		
	11	46/49	3.27E-04	1.87E-04	0.5	1	7.02E+01		
	12	52/53	2.95E-04	1.87E-04	0.5	1	6.32E+01		
	13	241/249	2.60E-04	1.87E-04	0.5	0.333	1.86E+01		
	14	199/209	2.32E-04	1.87E-04	0.5	0.333	1.66E+01		
	15	31/32	2.02E-04	1.87E-04	0.5	1	4.33E+01		
	16	103/110	1.74E-04	1.87E-04	0.5	0.5	1.86E+01		
	17	31/32	1.52E-04	1.87E-04	0.5	1	3.26E+01		
	18	49/55	1.35E-04	1.87E-04	1	1	5.78E+01		
	19	32/35	1.26E-04	1.87E-04	0.5	1	2.70E+01		
	20	95/100	1.07E-04	1.87E-04	0.5	0.5	1.15E+01		
	21	10/11	8.20E-05	1.87E-04	1	1	3.52E+01		
	22	110/111	2.40E-05	1.87E-04	0.5	1	5.15E+00		

Table 32: Washoe County Weighted Seatbelt Usage Rate Analysis during Post-Mobilization Survey

Class	**Site**	**Belted / Total**	$\pi_{hi\|c}$	$\pi_{j\|chi}$	$\pi_{k\|chij}$	$\pi_{l\|chij}$	$\frac{W_{ijk}}{\sum W_{ijk}}$	Y_{ij}	Y_i
W S1100	23	257/263	4.04E-03	1.87E-04	0.5	0.333	2.89E+02	0.9560	0.9407
	24	319/335	4.83E-04	1.87E-04	0.5	0.5	5.18E+01		
W 1200	25	62/73	7.56E-03	1.87E-04	0.5	1	1.62E+03	0.8406	
	26	26/31	1.63E-03	1.87E-04	0.5	1	3.51E+02		
W S1400	27	127/130	6.10E-03	1.87E-04	0.5	1	1.31E+03	0.9402	
	28	41/43	3.39E-03	1.87E-04	0.5	1	7.28E+02		
	29	114/121	2.53E-03	1.87E-04	0.5	1	5.44E+02		
	30	41/43	2.17E-03	1.87E-04	0.5	1	4.65E+02		
	31	31/34	1.87E-03	1.87E-04	0.5	1	4.01E+02		
	32	224/235	1.64E-03	1.87E-04	0.5	0.5	1.76E+02		
	33	344/358	1.46E-03	1.87E-04	0.5	0.5	1.57E+02		
	34	55/57	1.31E-03	1.87E-04	0.5	1	2.82E+02		
	35	40/42	1.17E-03	1.87E-04	0.5	1	2.51E+02		
	36	126/134	1.06E-03	1.87E-04	0.5	1	2.28E+02		
	37	37/40	9.45E-04	1.87E-04	0.5	1	2.03E+02		
	38	33/36	8.28E-04	1.87E-04	0.5	1	1.78E+02		
	39	33/35	6.54E-04	1.87E-04	0.5	1	1.40E+02		
	40	35/36	6.35E-04	1.87E-04	0.5	1	1.36E+02		
	41	29/32	5.62E-04	1.87E-04	0.5	1	1.21E+02		
	42	34/37	4.28E-04	1.87E-04	0.5	1	9.18E+01		
	43	80/85	4.05E-04	1.87E-04	0.5	1	8.69E+01		
	44	268/284	2.91E-04	1.87E-04	0.5	0.5	3.13E+01		

Table 33: Lyon County Weighted Seatbelt Usage Rate Analysis during Post-Mobilization Survey

Class	**Site**	**Belted / Total**	$\pi_{hi\|c}$	$\pi_{j\|chi}$	$\pi_{k\|chij}$	$\pi_{l\|chij}$	$\frac{W_{ijk}}{\sum W_{ijk}}$	Y_{ij}	Y_i
L S1100	45	79/85	6.68E-02	1.87E-04	0.5	0.5	7.17E+03	0.9282	0.9067
	46	77/83	2.60E-02	1.87E-04	0.5	0.5	2.79E+03		
L S1200	47	16/16	1.90E-01	1.87E-04	0.5	1	4.08E+04	0.9066	
	48	76/80	1.39E-01	1.87E-04	0.5	1	2.98E+04		
	49	11/11	1.07E-01	1.87E-04	0.5	1	2.29E+04		
	50	48/52	8.86E-02	1.87E-04	0.5	1	1.90E+04		
	51	103/120	7.77E-02	1.87E-04	0.5	1	1.67E+04		
	52	95/104	6.27E-02	1.87E-04	0.5	1	1.34E+04		
	53	147/158	5.41E-02	1.87E-04	0.5	0.5	5.80E+03		
	54	113/133	4.89E-02	1.87E-04	0.5	1	1.05E+04		
	55	135/145	4.11E-02	1.87E-04	0.5	0.5	4.41E+03		
	56	23/23	3.88E-02	1.87E-04	0.5	1	8.33E+03		
	57	117/126	3.49E-02	1.87E-04	0.5	0.5	3.74E+03		
	58	29/32	2.92E-02	1.87E-04	0.5	1	6.27E+03		
	59	207/219	2.47E-02	1.87E-04	0.5	1	5.30E+03		
	60	195/204	2.12E-02	1.87E-04	0.5	0.5	2.28E+03		
	61	174/186	1.85E-02	1.87E-04	0.5	0.5	1.99E+03		
	62	70/76	1.54E-02	1.87E-04	0.5	1	3.29E+03		
	63	95/112	1.25E-02	1.87E-04	0.5	1	2.68E+03		
	64	113/124	9.56E-03	1.87E-04	0.5	1	2.05E+03		
	65	25/29	6.97E-03	1.87E-04	0.5	1	1.50E+03		
	66	80/90	3.15E-03	1.87E-04	0.5	1	6.76E+02		

Table 34: Nye County Weighted Seatbelt Usage Rate Analysis during Post-Mobilization Survey

Class	**Site**	**Belted / Total**	$\pi_{hi\|c}$	$\pi_{j\|chi}$	$\pi_{k\|chij}$	$\pi_{l\|chij}$	$\frac{W_{ijk}}{\sum W_{ijk}}$	Y_{ij}	Y_i
N S1200	67	161/173	9.52E-02	1.87E-04	0.5	1	2.04E+04	0.9115	0.9115
	68	4/4	7.65E-02	1.87E-04	0.5	1	1.64E+04		
	69	48/55	6.75E-02	1.87E-04	0.5	1	1.45E+04		
	70	17/18	5.47E-02	1.87E-04	0.5	1	1.17E+04		
	71	31/35	4.69E-02	1.87E-04	0.5	1	1.01E+04		
	72	51/66	4.26E-02	1.87E-04	1	1	1.83E+04		
	73	21/24	3.83E-02	1.87E-04	1	1	1.64E+04		
	74	24/24	3.50E-02	1.87E-04	0.5	1	7.51E+03		
	75	28/33	3.19E-02	1.87E-04	1	1	1.37E+04		
	76	20/21	2.84E-02	1.87E-04	1	1	1.22E+04		
	77	29/29	2.53E-02	1.87E-04	0.5	1	5.44E+03		
	78	64/66	2.30E-02	1.87E-04	0.5	1	4.93E+03		
	79	36/39	2.06E-02	1.87E-04	0.5	1	4.42E+03		
	80	9/10	1.83E-02	1.87E-04	0.5	1	3.92E+03		
	81	54/59	1.61E-02	1.87E-04	0.5	1	3.45E+03		
	82	28/32	1.40E-02	1.87E-04	0.5	1	3.00E+03		
	83	34/43	1.20E-02	1.87E-04	0.5	1	2.57E+03		
	84	141/165	1.03E-02	1.87E-04	0.5	1	2.20E+03		
	85	122/138	8.18E-03	1.87E-04	0.5	1	1.76E+03		
	86	43/45	6.34E-03	1.87E-04	0.5	1	1.36E+03		
	87	90/92	4.33E-03	1.87E-04	0.5	1	9.29E+02		
	88	120/132	5.99E-04	1.87E-04	0.5	0.5	6.43E+01		

Table 35: Elko County Weighted Seatbelt Usage Rate Analysis during Post-Mobilization Survey

Class	**Site**	**Belted / Total**	$\pi_{hi\|c}$	$\pi_{j\|chi}$	$\pi_{k\|chij}$	$\pi_{l\|chij}$	$\frac{W_{ijk}}{\sum W_{ijk}}$	Y_{ij}	Y_i
E S1100	89	68/81	4.70E-02	1.87E-04	0.5	0.5	5.05E+03	0.9037	0.8865
	90	76/83	3.38E-02	1.87E-04	0.5	0.5	3.63E+03		
	91	76/89	2.36E-02	1.87E-04	0.5	0.5	2.53E+03		
	92	109/122	1.61E-02	1.87E-04	1	0.5	1.73E+03		
	93	198/222	1.09E-02	1.87E-04	0.5	0.5	1.17E+03		
	94	208/224	7.34E-03	1.87E-04	0.5	0.5	7.88E+02		
	95	117/129	2.30E-03	1.87E-04	0.5	0.5	2.47E+02		
E S1200	96	10/13	5.83E-02	1.87E-04	1	1	2.50E+04	0.8678	
	97	75/85	4.43E-02	1.87E-04	0.5	1	9.50E+03		
	98	7/11	3.52E-02	1.87E-04	1	1	1.51E+04		
	99	57/64	2.89E-02	1.87E-04	0.5	1	6.20E+03		
	100	23/24	2.52E-02	1.87E-04	0.5	1	5.40E+03		
	101	30/30	2.14E-02	1.87E-04	0.5	1	4.60E+03		
	102	52/55	1.94E-02	1.87E-04	0.5	1	4.16E+03		
	103	55/57	1.74E-02	1.87E-04	0.5	1	3.74E+03		
	104	3/4	1.49E-02	1.87E-04	1	1	6.38E+03		
	105	59/65	1.29E-02	1.87E-04	0.5	0.5	1.39E+03		
	106	54/64	1.09E-02	1.87E-04	0.5	1	2.34E+03		
	107	33/37	8.59E-03	1.87E-04	0.5	1	1.84E+03		
	108	41/42	6.52E-03	1.87E-04	0.5	1	1.40E+03		
	109	56/72	4.41E-03	1.87E-04	0.5	1	9.46E+02		
	110	57/68	1.93E-03	1.87E-04	0.5	1	4.14E+02		

Sampling Error

As discussed in the previous sections, data were collected from roads falling into 11 strata:

- Clark - S1100: 1
- Clark - S1200: 2-3
- Clark - S1400: 4-22
- Washoe - S1100: 23-24
- Washoe - S1200: 25-26
- Washoe - S1400: 27-44
- Lyon - S1100: 45-46
- Lyon - S1200: 47-66
- Nye - S1200: 67-88
- Elko - S1100: 89-95
- Elko - S1200: 96-110

Since the number of sites in some of the strata are very small, and since we must use non-parametric bootstrap involving sampling with replacement, we had to classify the 110 sites into the following three strata based on the road-type:

- S1100 (12 sites)
- S1200 (61 sites)
- S1400 (37 sites)

The non-parametric bootstrap procedure used in this report is briefly described below:

1. Input data is read.

2. For each of the three strata, bootstrap sampling (sampling with replacement) was used to select the original number of sites; e.g., 12 sites were selected with replacement for S1100 stratum.

3. The statewide rate of seatbelt usage was calculated using the formula for the stratified estimate.

4. Steps 1-3 are repeated 1000 times, which will yield 1000 values of combined $\widehat{y}_{ij}$ the estimated statewide rate of seatbelt usage.

5. The standard deviation (sd) of the 1000 $\widehat{p}$ values from Step 4 is calculated. This sd is the standard deviation of the statewide rate of seatbelt usage.

6. An approximate 95% confidence interval of the statewide rate of seatbelt usage can be calculated from the following formula:

$$\widehat{p}_{combined} \pm 1.96 \times sd(\widehat{p}_{combined})$$

A program in the language R was written for the bootstrap method outlined above. As mentioned before, the input to the program contained 3 fields from Tables 26 through 35 namely Site, Belted and Total. The rest of the fields were calculated as shown in Equations 21, 22 and 24.
The code was run 3 times, with 1000 bootstrap simulations in each run. The following results were obtained:

1. Standard deviation in First Run: 0.007895 (Pre-Mobilization) and 0.008639 (Post-Mobilization)

2. Standard deviation in Second Run: 0.007690 (Pre-Mobilization) and 0.008110 (Post-Mobilization)

3. Standard deviation in Third Run: 0.007542 (Pre-Mobilization) and 0.008210 (Post-Mobilization)

An approximate 95% confidence interval from the data for statewide rate of seat-belt usage is (92.40%, 95.43%) during the Pre-Mobilization and (93.68%, 96.94%) during Post-Mobilization. The overall results, showing a comparison of weighted vs. unweighted analysis, wherever applicable, have been shown in Tables 36 and 37.

Table 36: Weighted-Unweighted Analysis during Pre-Mobilization survey

Category	Weighted Analysis	Unweighted analysis
$\widehat{p}_{combined}$	0.9392	–
$sd(\widehat{p}_{combined})$	0.007709	–
sd_{Run1}	0.007895	–
sd_{Run2}	0.007690	–
sd_{Run3}	0.007542	–
Seat-belt Usage (Statewide)	93.92%	92.98%
95% confidence interval	(92.40%, 95.43%)	–

Table 37: Weighted-Unweighted Analysis during Post-Mobilization survey

Category	Weighted Analysis	Unweighted analysis
$\widehat{p}_{combined}$	0.9531	–
$sd(\widehat{p}_{combined})$	0.008320	–
sd_{Run1}	0.008639	–
sd_{Run2}	0.008110	–
sd_{Run3}	0.008210	–
Seat-belt Usage (Statewide)	95.31%	92.75%
95% confidence interval	(93.68%,96.94%)	–

Weighted Analysis

The 95% confidence intervals for the weighted seatbelt usage percentages for the State of Nevada are given below:

- Pre-Mobilization: (92.40%, 95.43%)
- Post-Mobilization: (93.68%, 96.94%)

Comparison of Seatbelt Usage Rate for 2023, 2024, and 2025

This section is devoted to comparing the seatbelt usage rate for the years 2023, 2024, and 2025.

The following tables include the seatbelt usage rate for the following categories:

- Male Occupants- Only male occupants.
- Female Occupants- Only female occupants.
- All Occupants- This is all occupants observed. (Male and Female)

Figures 14 to 22 show the seatbelt usage rate for the years 2023, 2024, and 2025. Figures 14 to 18 show the seatbelt usage rates for the different counties where the survey was performed. Figures 19 to 21 show the seatbelt usage rates for different road classifications. Finally, Figure 22 shows the seatbelt usage rates for all of Nevada.

Specific trends for Clark County are shown in Figure 14. For both the Pre-mobilization and Post-mobilization surveys, female occupants had higher rates of seatbelt usage than male occupants. All occupants overall had higher rate than 94.5% for seatbelt usage in all 3 years for the post-campaign.

The details for Nye County are shown in Figure 15. For the Post-mobilization survey, all of the categories had lower seatbelt usage rate for the year 2025 as compared to

2024. For the Post-mobilization survey, all of the categories had lower seatbelt usage rate for the year 2024 as compared to 2023.

Specific trends for Washoe County are shown in Figure 16. For both the Pre-mobilization survey and Post-mobilization survey, all occupants overall had higher rate than 93.8% for seatbelt usage in all 3 years.

The details for Lyon County are shown in Figure 17. For the Pre-mobilization survey, all occupants were more than 89.9% belted for all 3 years. All occupants overall had higher rate than 91.9% for seatbelt usage in 2024 and 2025 for the post-campaign.

Specific trends for Elko County are shown in Figure 18. For both the Pre-mobilization survey and Post-mobilization survey, female occupants showed a higher rate of seatbelt usage than male occupants in all three years. All occupants overall had higher rate than 89.2% for seatbelt usage in all three years for the post-campaign.

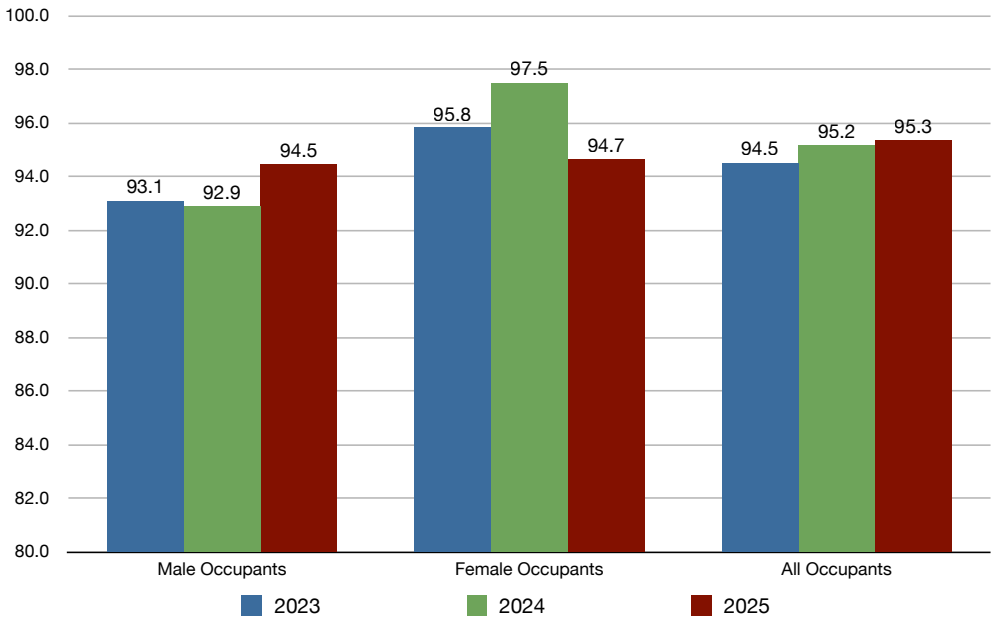
Specific trends for S1100 are shown in Figure 19. For the Pre-mobilization survey, all occupants showed a higher rate of seatbelt usage than 93% for all three years. All occupants overall had higher rate than 92.8% for seatbelt usage in all three years for the post-campaign.

The details for S1200 are shown in Figure 20. All occupants overall had higher rate than 90% for seatbelt usage in all three years for both the pre-campaign and post-campaign.

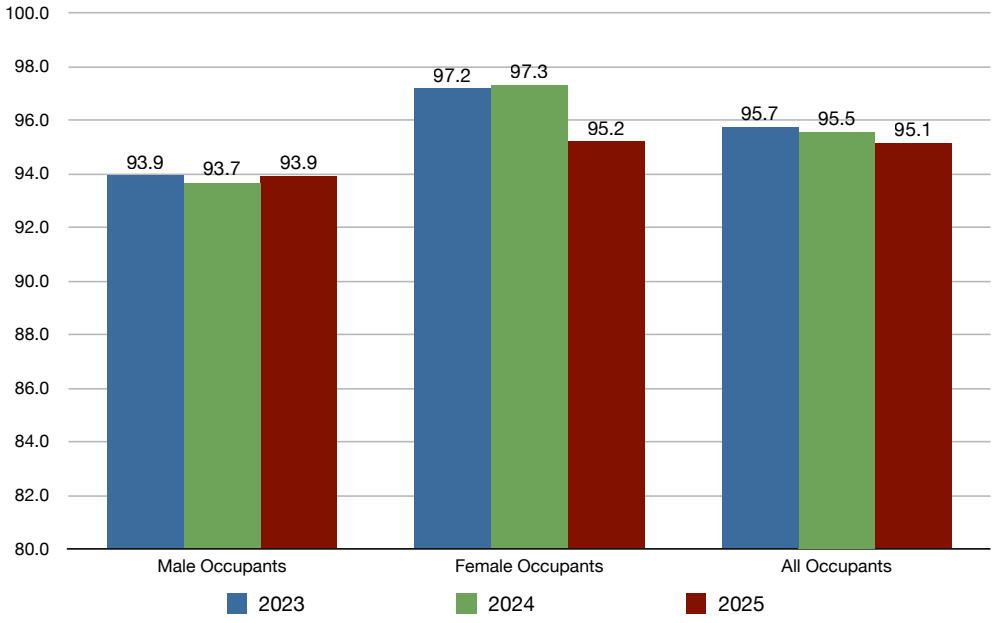
Specific trends for S1400 are shown in Figure 21. All occupants overall had higher rate than 93.1% for seatbelt usage in all three years for both the pre-campaign and post-campaign.

Statewide trends are shown in Figure 22. For the Pre-mobilization survey, female occupants showed a higher rate of seatbelt usage than male occupants each year. All occupants had a seatbelt usage rate between 92.3%-92.98% each year for the pre-campaign. For the Post-mobilization survey, female occupants showed a higher rate of seatbelt usage than male occupants each year. All occupants had a seatbelt usage rate between 92.8%-93.6% each year for the post-campaign.

Figure 14: Seatbelt Usage Comparison for Clark County 2023-2025

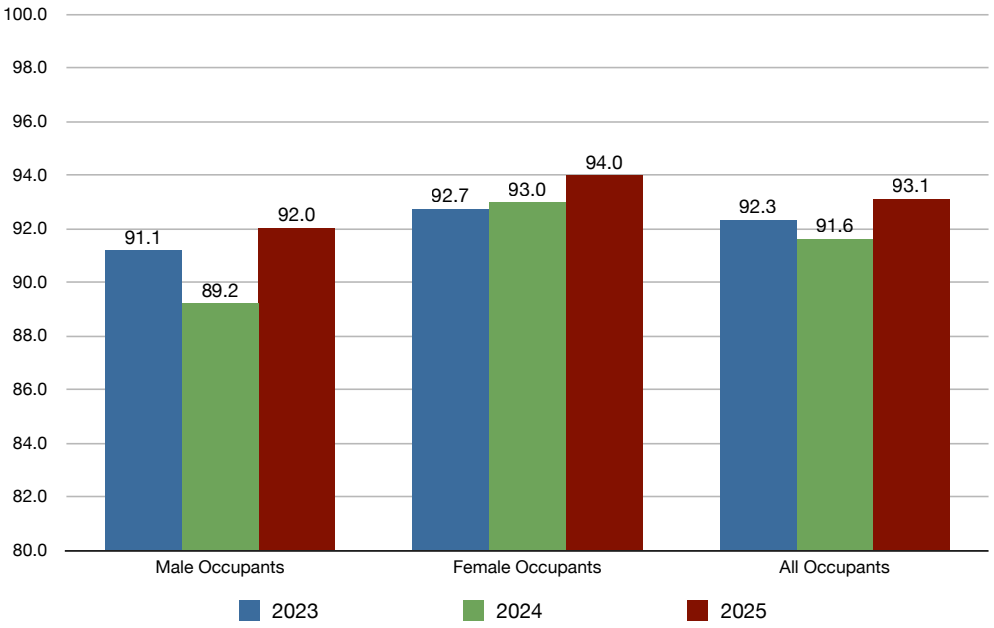


(a) Pre-mobilization

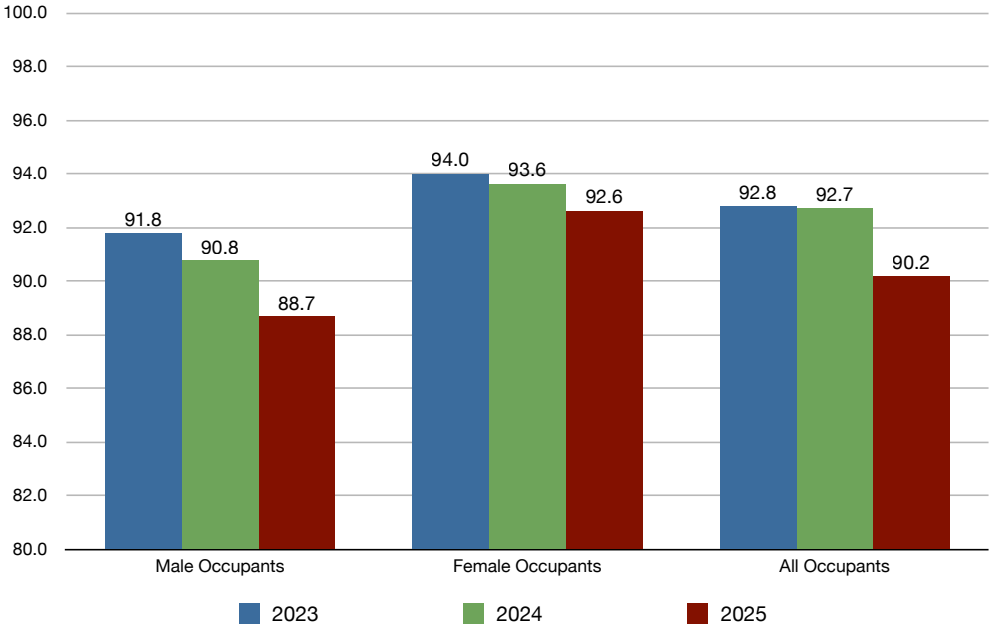


(b) Post-mobilization

Figure 15: Seatbelt Usage Comparison for Nye County 2023-2025

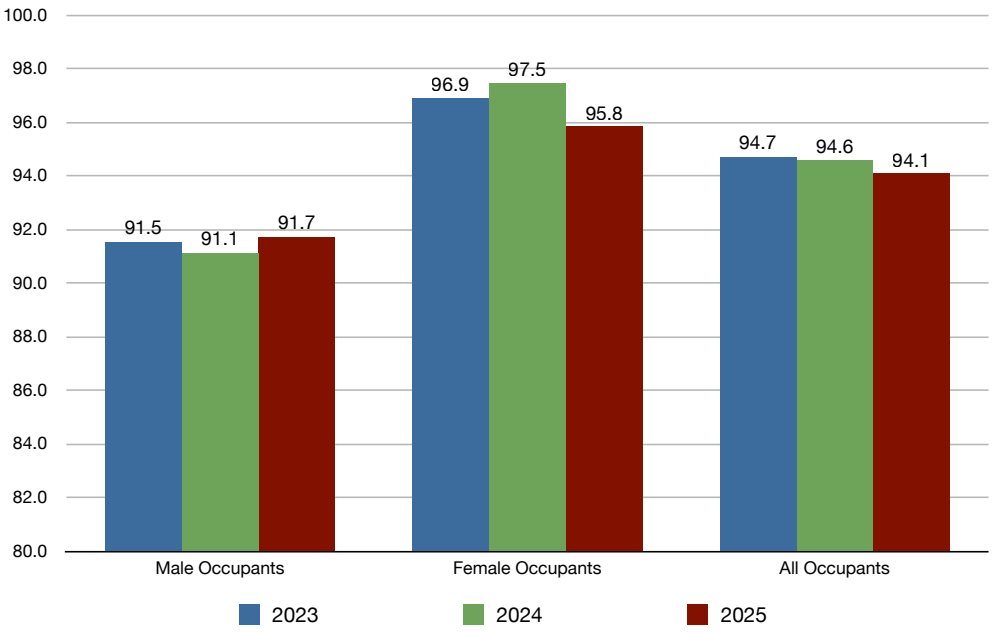


(a) Pre-mobilization

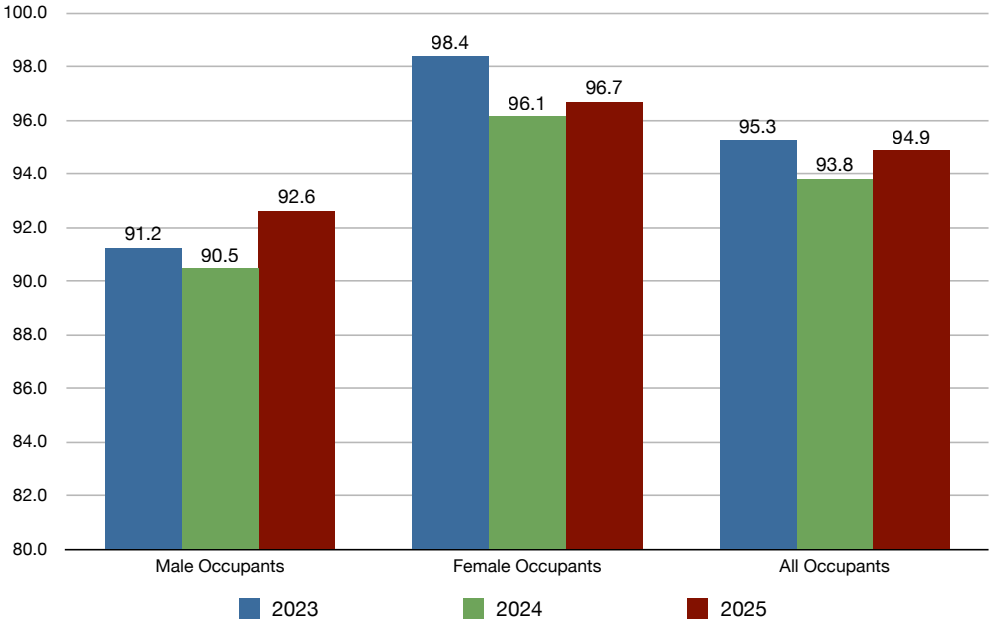


(b) Post-mobilization

Figure 16: Seatbelt Usage Comparison for Washoe County 2023-2025

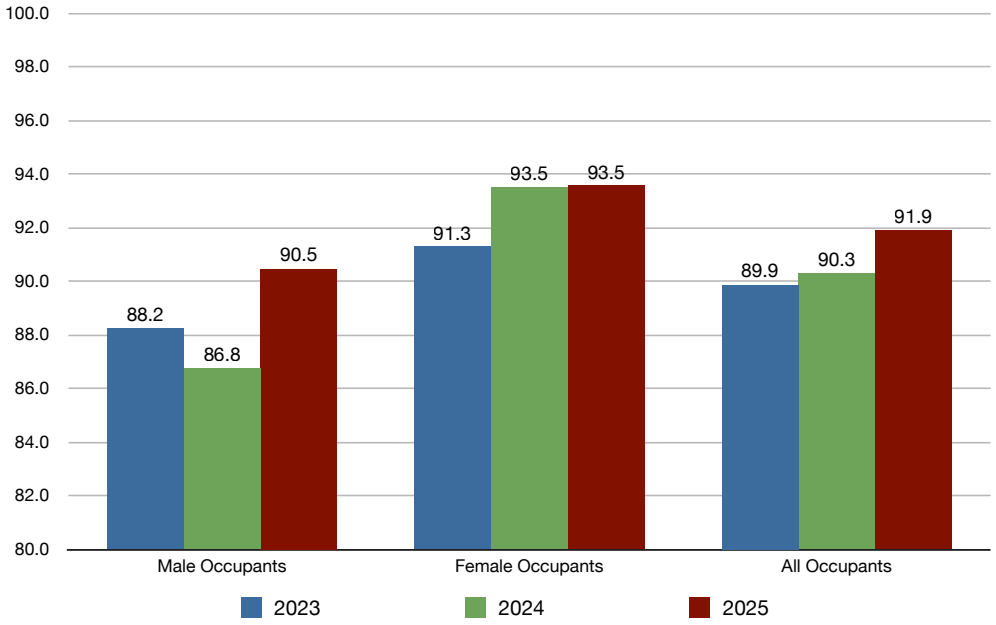


(a) Pre-mobilization

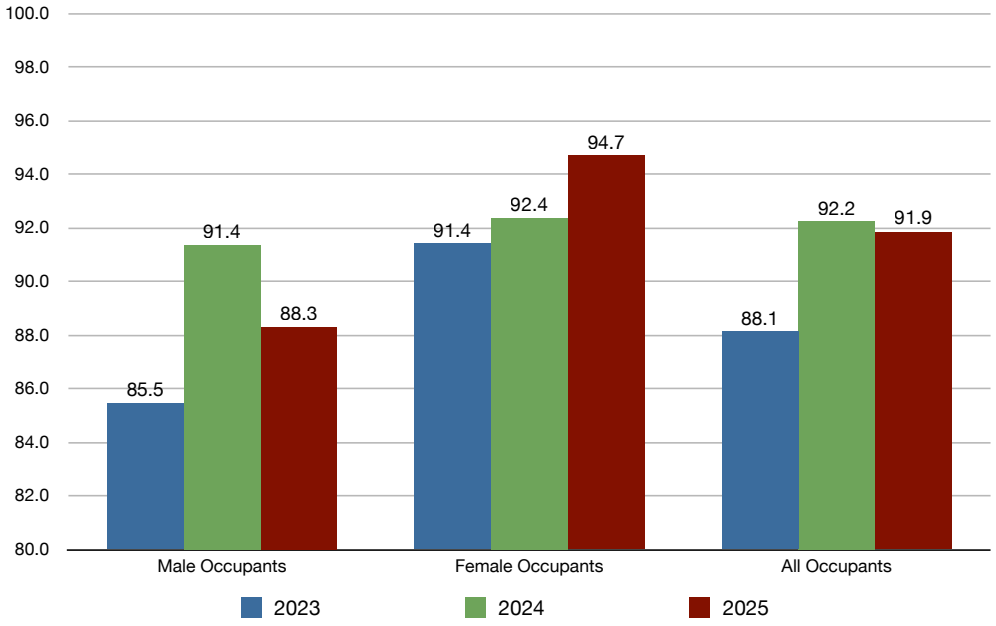


(b) Post-mobilization

Figure 17: Seatbelt Usage Comparison for Lyon County 2023-2025

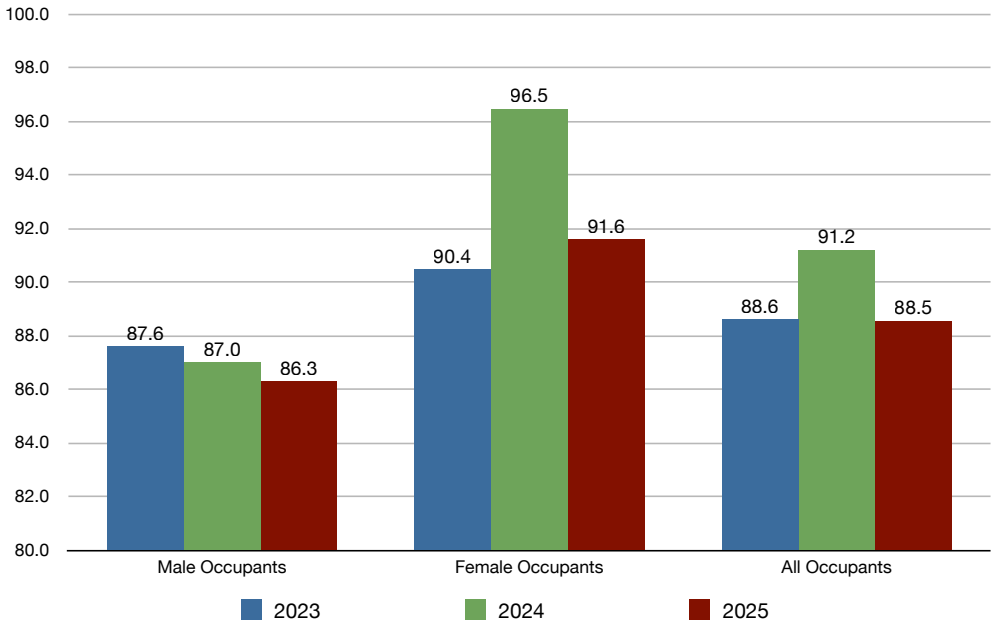


(a) Pre-mobilization

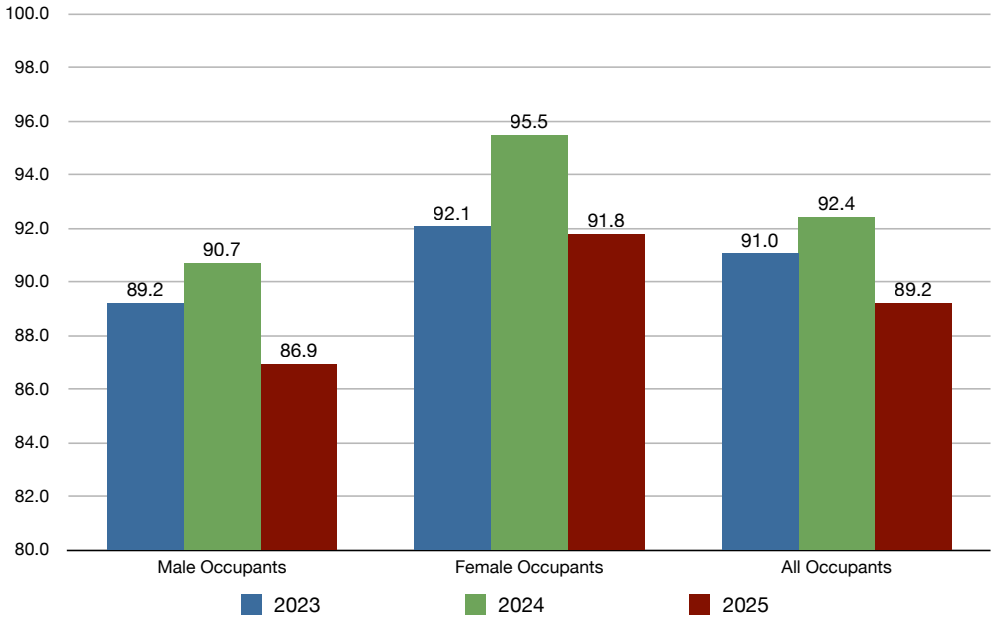


(b) Post-mobilization

Figure 18: Seatbelt Usage Comparison for Elko County 2023-2025

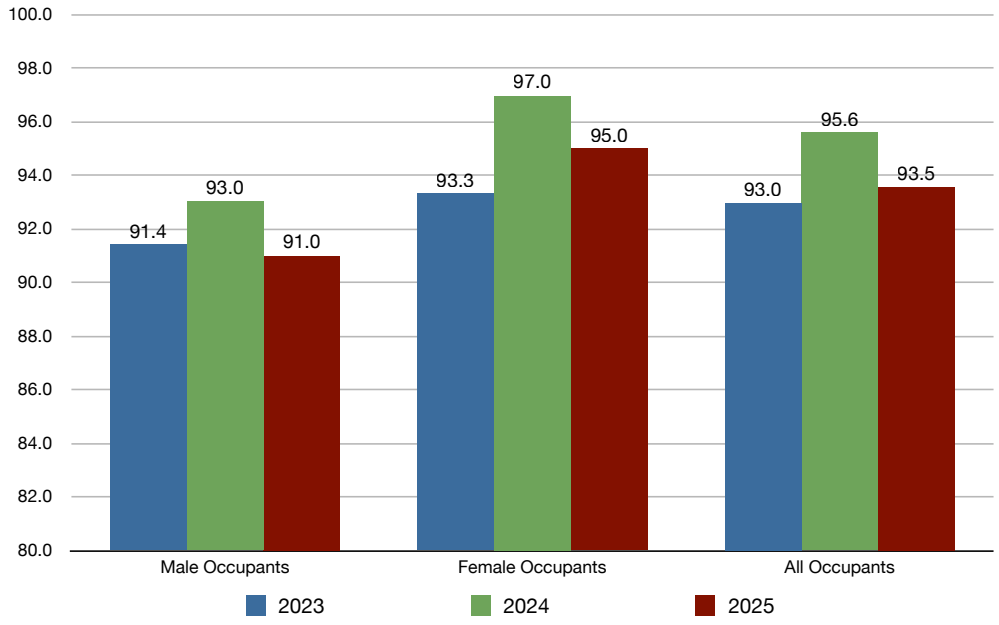


(a) Pre-mobilization

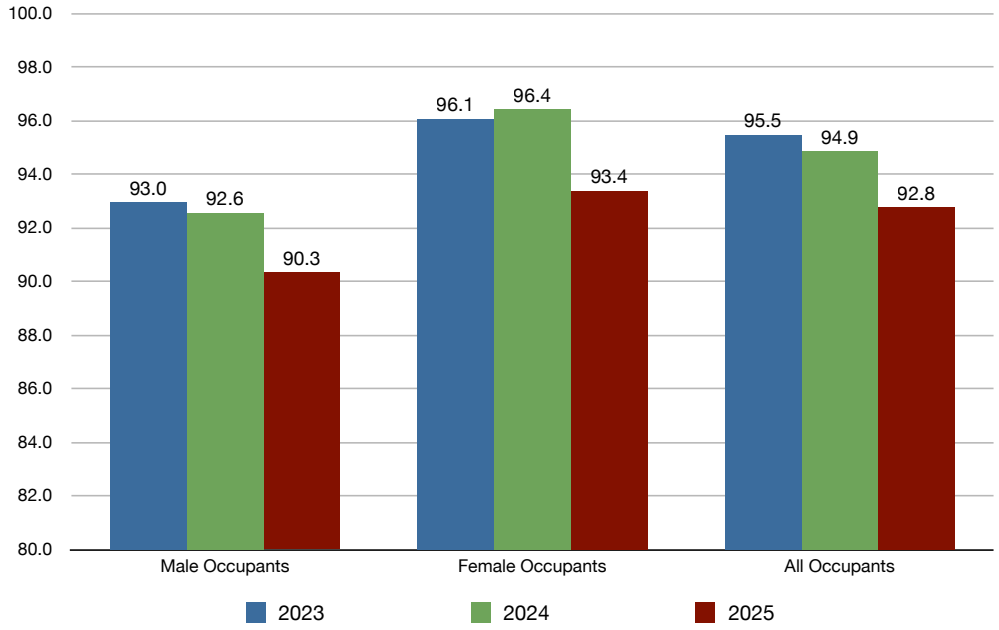


(b) Post-mobilization

Figure 19: Seatbelt Usage Comparison for S1100 2023-2025

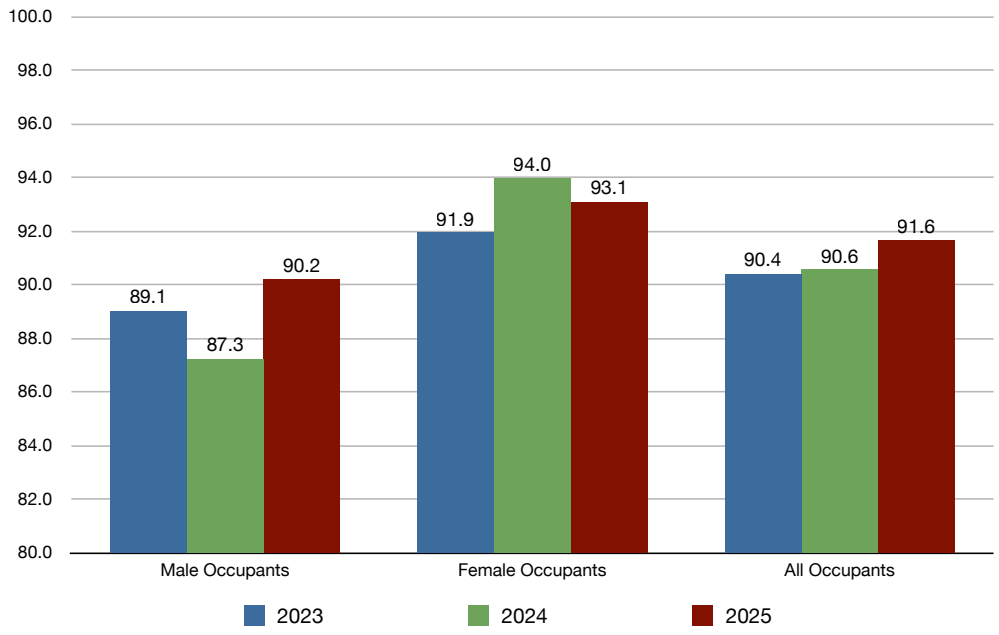


(a) Pre-mobilization

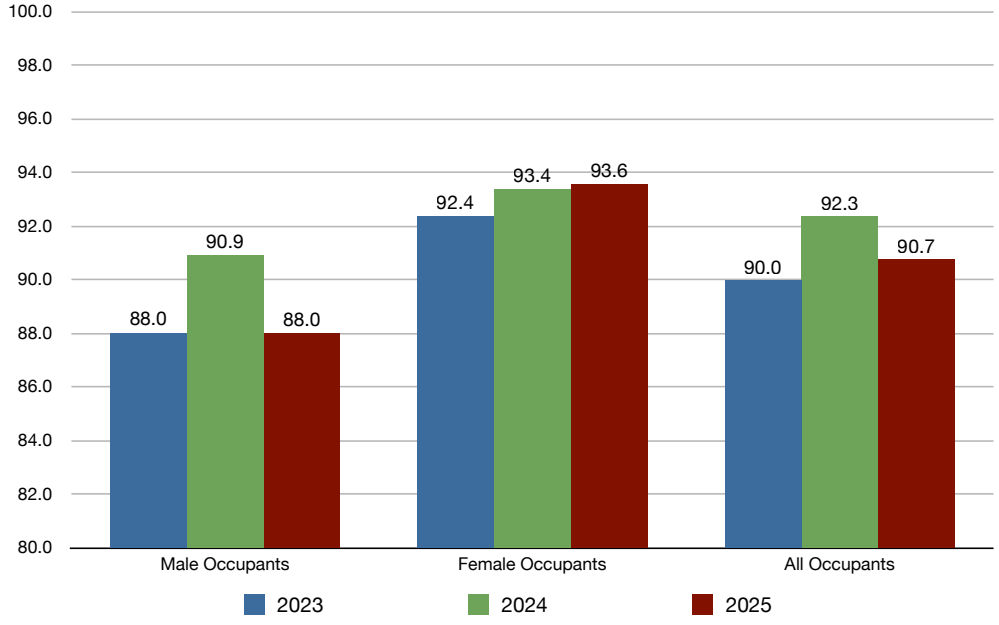


(b) Post-mobilization

Figure 20: Seatbelt Usage Comparison for S1200 2023-2025

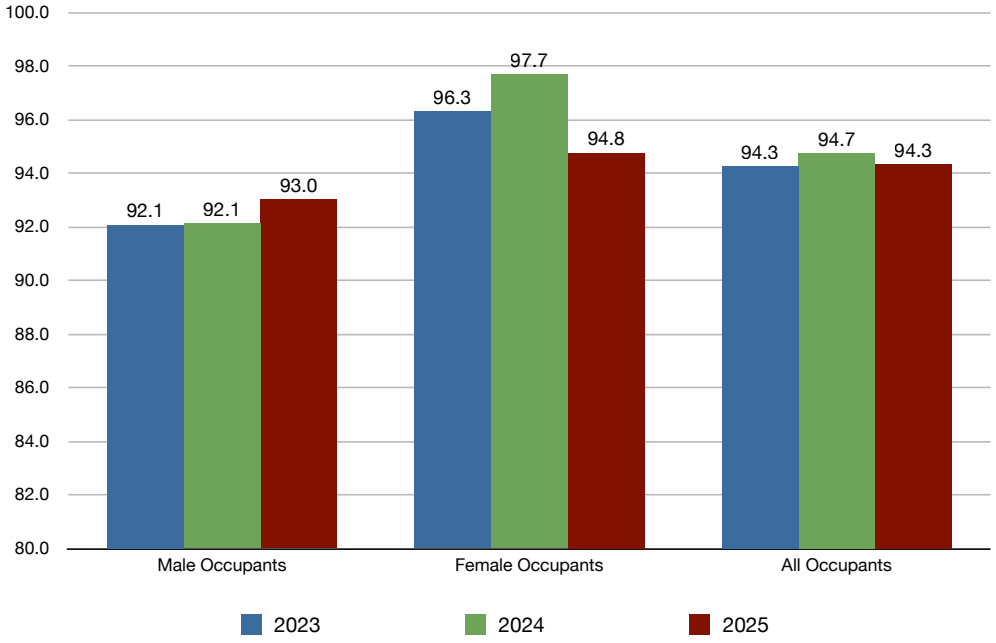


(a) Pre-mobilization

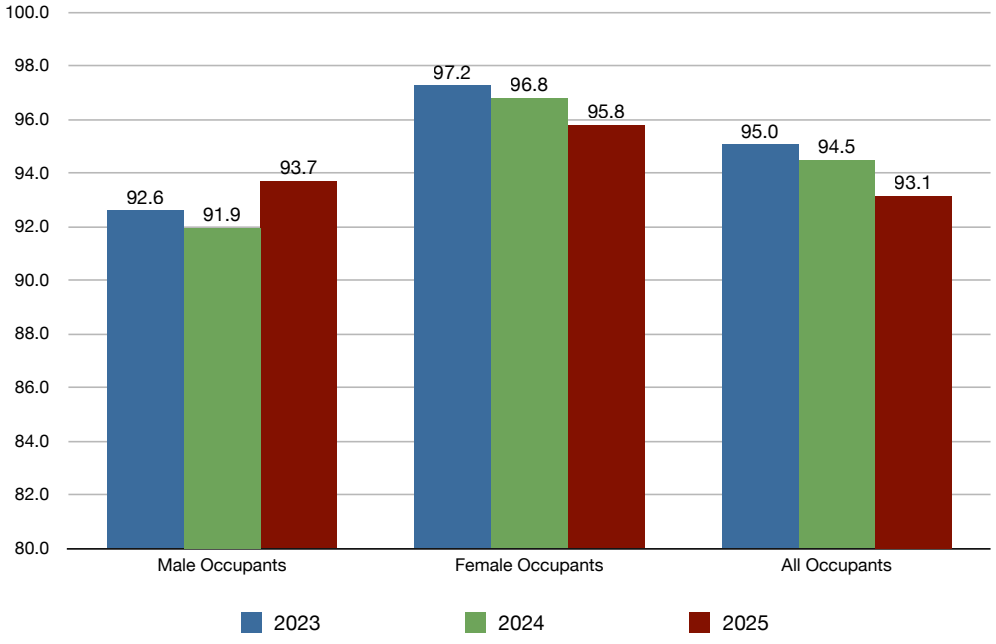


(b) Post-mobilization

Figure 21: Seatbelt Usage Comparison for S1400 2023-2025

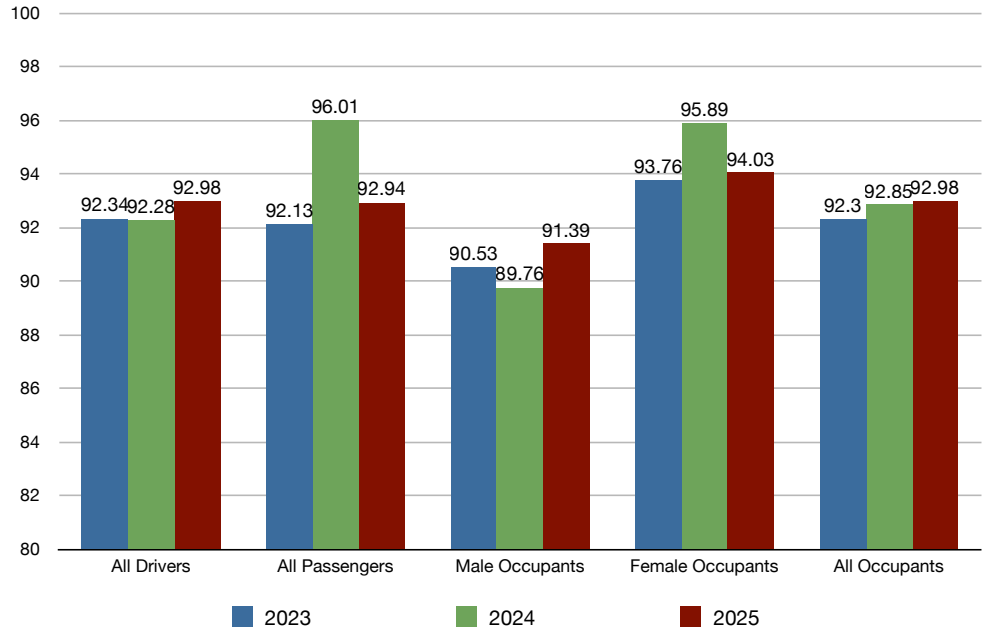


(a) Pre-mobilization

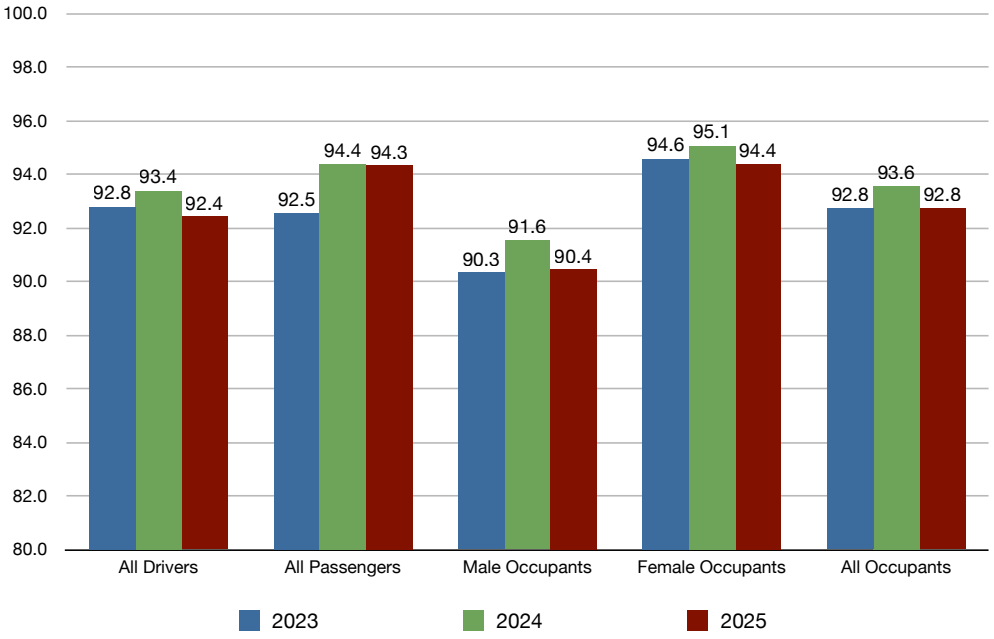


(b) Post-mobilization

Figure 22: Seatbelt Usage Comparison for Nevada 2023-2025



(a) Pre-mobilization



(b) Post-mobilization

Conclusion

Two seat belt usage surveys for 110 sites across the State of Nevada were conducted in the months of April/May and June 2025. The collected data was analyzed statewide, based on gender, ethnicity, type of vehicles, and vehicle registration. The overall weighted seatbelt usage rate of the state of Nevada is 93.92% during the Pre-Mobilization and 95.31% during the Post-Mobilization survey. The data showed that the unweighted estimate of statewide seat belt usage rate for 2025 is 92.98% during the Pre-Mobilization and 92.75% during the Post-Mobilization. Male occupants were found to have a lower rate of being restrained than the female occupants in both the surveys. Furthermore, the rate of seatbelt usage was observed to be lowest in Pickup trucks and the highest in Vans/SUVs for both surveys. The data was analyzed based on functional classification of streets. Moreover, from table 38 and 39, the number of observations for unknown seatbelt usage was less than 10% overall for both pre-mobilization and post-mobilization surveys.

APPENDIX A

STATE SEAT BELT USE SURVEY REPORTING FORM

PART A: To be completed by the Governor's Highway Safety Representative (GR) or if applicable, the Coordinator of the State Highway Safety Office.

State: Nevada Calendar Year of Survey: 2025

State Safety Belt Use Rate: 95.31 %

I hereby certify that:

- _____ has been designated by the Governor as the State's Highway Safety Representative (GR), and if applicable, the GR has delegated the authority to sign the certification in writing to _____, the Coordinator of the State Highway Safety Office.
- The reported Statewide seat belt use rate is based on a survey design that was approved by NHTSA, in writing, as conforming to the Uniform Criteria for State Observational Surveys of Seat Belt Use, 23 CFR Part 1340.
- The survey design has remain unchanged since the survey was approved by NHTSA.
- Dr. Amei Amei , a qualified survey statistician, has reviewed the seat belt use rate reported above and information reported in Part B and has determined that they meet the Uniform Criteria for State Observational Surveys of Seat Belt Use, 23 CFR Part 1340.

_____ _____

Signature Date

_____

Printed name of signing official

Part B - DATA COLLECTED AT OBSERVATION SITES

Table 38: Statewide Summary - Pre-Mobilization Survey

Site ID	Site type	Date observed	Sample weight	Number of drivers	Number of front passengers	Number of occupants belted	Number of occupants unbelted	Number of occupants with unknown belt use
1	Original	4/5/25	628.9	175	43	215	2	1
2	Original	4/5/25	401.8	33	15	44	4	0
3	Original	4/10/25	14.4	192	25	207	8	2
4	Original	4/5/25	250.8	71	49	118	2	0
5	Original	4/5/25	181.8	116	20	133	3	0
6	Original	4/9/25	51.7	200	23	217	5	1
7	Original	4/9/25	43.7	265	36	288	13	0
8	Original	4/4/25	112.3	31	2	32	1	0
9	Original	4/6/25	195.1	75	17	90	1	1
10	Original	4/7/25	45.7	90	12	96	6	0
11	Original	4/6/25	44.1	38	7	39	6	0
12	Original	4/4/25	79.4	53	7	58	2	0
13	Original	4/9/25	23.4	264	33	282	14	1
14	Original	4/4/25	20.8	120	35	145	9	1
15	Original	4/4/25	54.4	30	7	34	3	0
16	Original	4/7/25	23.4	138	24	153	8	1
17	Original	4/5/25	41.0	31	1	31	1	0
18	Original	4/9/25	36.3	37	4	36	5	0
19	Original	4/4/25	34.0	42	8	45	5	0
20	Original	4/6/25	14.4	105	33	130	8	0
21	Original	4/7/25	22.1	32	6	33	5	0
22	Original	4/10/25	3.2	104	12	111	5	0
23	Original	5/6/25	363.0	241	33	266	6	2
24	Original	5/6/25	43.4	290	45	327	7	1
25	Original	5/3/25	2038.4	21	7	24	4	0
26	Original	5/3/25	440.8	32	12	36	8	0
27	Original	5/6/25	1646.6	112	12	111	12	1
28	Original	5/7/25	915.5	45	11	50	5	1
29	Original	5/4/25	1367.1	113	33	130	16	0
30	Original	5/4/25	292.2	29	5	33	1	0
31	Original	5/6/25	504.3	35	2	35	2	0

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Site ID	Site type	Date observed	Sample weight	Number of drivers	Number of front passengers	Number of occupants belted	Number of occupants unbelted	Number of occupants with unknown belt use
32	Original	5/7/25	221.8	201	23	215	9	0
33	Original	5/6/25	197.4	288	36	311	13	0
34	Original	5/6/25	354.0	39	4	40	3	0
35	Original	5/6/25	316.0	69	3	69	2	1
36	Original	5/6/25	286.3	117	7	120	3	1
37	Original	5/7/25	254.8	35	2	34	2	1
38	Original	5/7/25	223.2	40	0	36	3	1
39	Original	5/6/25	176.5	35	4	38	1	0
40	Original	5/7/25	171.3	31	3	31	3	0
41	Original	5/6/25	151.6	31	6	34	3	0
42	Original	5/6/25	115.5	31	1	29	2	1
43	Original	5/6/25	109.3	68	6	70	4	0
44	Original	5/7/25	78.6	222	30	228	22	2
45	Original	5/7/25	9012.9	63	7	64	5	1
46	Original	5/7/25	3511.6	66	11	71	4	2
47	Original	5/3/25	102649.6	22	10	28	4	0
48	Original	5/3/25	18729.4	121	29	143	7	0
49	Original	5/3/25	57676.6	9	4	12	1	0
50	Original	5/3/25	23899.1	37	13	48	2	0
51	Original	5/3/25	20951.0	69	24	86	7	0
52	Original	5/2/25	16900.2	55	14	68	1	0
53	Original	5/2/25	29178.0	161	45	193	13	0
54	Original	5/3/25	13196.3	5	2	6	1	0
55	Original	5/2/25	22155.8	81	29	96	14	0
56	Original	5/3/25	20945.8	6	2	6	2	0
57	Original	5/3/25	4700.3	39	10	42	7	0
58	Original	5/3/25	7879.2	30	5	34	1	0
59	Original	5/2/25	13315.3	74	18	82	10	0
60	Original	5/3/25	2863.5	74	27	95	6	0
61	Original	5/3/25	2499.7	65	26	84	7	0
62	Original	5/2/25	8283.9	193	28	207	14	0
63	Original	5/3/25	3363.9	85	38	108	15	0
64	Original	5/2/25	2577.5	80	31	97	14	0
65	Original	5/3/25	3761.7	7	1	5	3	0
66	Original	5/3/25	849.9	26	9	34	1	0

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Site ID	Site type	Date observed	Sample weight	Number of drivers	Number of front passengers	Number of occupants belted	Number of occupants unbelted	Number of occupants with unknown belt use
67	Original	4/17/25	25674.1	94	13	102	5	0
68	Original	5/16/25	20640.1	17	4	19	1	1
69	Original	5/5/25	18208.2	79	16	90	4	1
70	Original	5/7/25	14749.3	17	0	16	0	1
71	Original	4/17/25	12653.6	14	10	23	1	0
72	Original	4/17/25	11497.9	37	5	39	3	0
73	Original	5/16/25	10324.5	18	4	21	1	0
74	Original	5/7/25	9444.5	30	7	27	10	0
75	Original	5/5/25	8603.8	22	6	24	4	0
76	Original	5/16/25	7673.4	14	4	17	1	0
77	Original	5/16/25	6835.8	10	1	10	1	0
78	Original	5/2/25	6191.9	36	8	42	1	1
79	Original	4/17/25	5550.7	24	1	23	2	0
80	Original	5/5/25	4928.5	7	1	6	2	0
81	Original	5/2/25	4333.4	26	11	36	0	1
82	Original	5/5/25	3773.1	24	7	30	1	0
83	Original	4/14/25	1613.5	261	52	293	19	1
84	Original	4/14/25	1383.4	197	33	211	19	0
85	Original	4/14/25	1103.8	223	47	252	18	0
86	Original	4/17/25	1709.0	66	16	77	5	0
87	Original	4/17/25	1168.0	80	10	88	2	0
88	Original	4/14/25	80.8	244	43	266	20	1
89	Original	5/9/25	6345.1	62	31	84	9	0
90	Original	5/9/25	4563.7	64	29	80	13	0
91	Original	5/10/25	3182.5	39	9	41	7	0
92	Original	5/9/25	2176.8	54	13	64	3	0
93	Original	5/9/25	1472.6	150	35	157	28	0
94	Original	5/9/25	990.1	118	44	154	8	0
95	Original	5/9/25	310.4	72	24	84	12	0
96	Original	5/9/25	31433.5	5	1	5	1	0
97	Original	5/9/25	11945.5	67	15	75	7	0
98	Original	5/10/25	9491.7	14	6	12	8	0
99	Original	5/9/25	7794.1	183	38	189	32	0
100	Original	5/10/25	13587.3	33	8	33	8	0
101	Original	5/2/25	5783.7	10	2	11	1	0

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Site ID	Site type	Date observed	Sample weight	Number of drivers	Number of front passengers	Number of occupants belted	Number of occupants unbelted	Number of occupants with unknown belt use
102	Original	5/10/25	5233.1	20	8	27	1	0
103	Original	5/2/25	4699.5	23	5	27	1	0
104	Original	5/9/25	8018.7	11	4	12	3	0
105	Original	5/10/25	1741.5	46	19	61	4	0
106	Original	5/10/25	2936.0	48	14	54	8	0
107	Original	5/9/25	2317.6	62	27	82	7	0
108	Original	5/9/25	1758.2	32	16	46	2	0
109	Original	5/10/25	1188.9	76	22	80	18	0
110	Original	5/9/25	520.6	58	14	66	6	0
Overall				8522	1770	9569	693	30

Standard Error of Statewide Belt Use Rate (Pre-mobilization): 0.007709

Nonresponse Rate, as provided in §1340.9(f)

Nonresponse rate for the survey variable seatbelt use (Pre-mobilization): 0.002915

Amei Amei

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Table 39: Statewide Summary - Post-mobilization Survey

Site ID	Site type	Date observed	Sample weight	Number of drivers	Number of front passengers	Number of occupants belted	Number of occupants unbelted	Number of occupants with unknown belt use
1	Original	6/4/25	500.2	208	40	238	7	3
2	Original	6/4/25	319.6	30	5	31	4	0
3	Original	6/5/25	11.4	225	36	245	15	1
4	Original	6/4/25	199.5	43	22	64	1	0
5	Original	6/2/25	144.6	112	5	110	6	1
6	Original	6/5/25	41.1	199	22	212	8	1
7	Original	6/5/25	34.7	238	42	267	12	1
8	Original	6/2/25	89.3	33	3	34	2	0
9	Original	6/3/25	77.6	86	6	85	7	0
10	Original	6/2/25	72.6	77	20	91	6	0
11	Original	6/3/25	70.2	42	7	46	2	1
12	Original	6/2/25	63.2	47	6	52	1	0
13	Original	6/3/25	18.6	218	31	241	7	1
14	Original	6/4/25	16.6	184	25	199	10	0
15	Original	6/2/25	43.3	30	2	31	0	1
16	Original	6/3/25	18.6	92	18	103	7	0
17	Original	6/4/25	32.6	31	1	31	1	0
18	Original	6/4/25	57.8	44	11	49	6	0
19	Original	6/2/25	27.0	33	2	32	3	0
20	Original	6/3/25	11.5	96	4	95	4	1
21	Original	6/2/25	35.2	10	1	10	1	0
22	Original	6/4/25	5.1	96	15	110	1	0
23	Original	6/9/25	288.7	215	48	257	4	2
24	Original	6/9/25	51.8	330	5	319	13	3
25	Original	6/10/25	1621.4	61	12	62	11	0
26	Original	6/10/25	350.7	28	3	26	4	1
27	Original	6/9/25	1309.8	120	10	127	3	0
28	Original	6/10/25	728.2	38	5	41	2	0
29	Original	6/9/25	543.7	112	9	114	7	0
30	Original	6/10/25	464.9	42	1	41	2	0
31	Original	6/9/25	401.1	30	4	31	3	0
32	Original	6/9/25	176.4	197	38	224	11	0
33	Original	6/9/25	157.0	329	29	344	14	0

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Site ID	Site type	Date observed	Sample weight	Number of drivers	Number of front passengers	Number of occupants belted	Number of occupants unbelted	Number of occupants with unknown belt use
34	Original	6/9/25	281.5	54	3	55	2	0
35	Original	6/9/25	251.3	41	1	40	2	0
36	Original	6/9/25	227.7	117	17	126	8	0
37	Original	6/9/25	202.7	33	7	37	3	0
38	Original	6/9/25	177.6	30	6	33	3	0
39	Original	6/9/25	140.4	31	4	33	2	0
40	Original	6/10/25	136.3	30	6	35	1	0
41	Original	6/9/25	120.6	31	1	29	3	0
42	Original	6/10/25	91.8	31	6	34	3	0
43	Original	6/9/25	86.9	73	12	80	5	0
44	Original	6/11/25	31.3	257	27	268	15	1
45	Original	6/10/25	7169.2	69	16	79	5	1
46	Original	6/10/25	2793.2	65	18	77	6	0
47	Original	6/29/25	40825.7	13	3	16	0	0
48	Original	6/11/25	29796.1	73	7	76	3	1
49	Original	6/29/25	22939.1	8	3	11	0	0
50	Original	6/30/25	19010.3	43	9	48	4	0
51	Original	6/11/25	16665.3	103	17	103	17	0
52	Original	6/11/25	13443.1	83	21	95	9	0
53	Original	6/8/25	5802.3	139	19	147	10	1
54	Original	6/11/25	10496.8	112	21	113	19	1
55	Original	6/8/25	4405.9	118	27	135	9	1
56	Original	6/30/25	8330.5	20	3	23	0	0
57	Original	6/10/25	3738.8	116	10	117	8	1
58	Original	6/30/25	6267.4	27	5	29	3	0
59	Original	6/10/25	5295.7	194	25	207	11	1
60	Original	6/10/25	2277.7	171	33	195	7	2
61	Original	6/10/25	1988.4	144	42	174	10	2
62	Original	6/10/25	3294.6	62	14	70	6	0
63	Original	6/11/25	2675.8	92	20	95	15	2
64	Original	6/11/25	2050.2	96	28	113	11	0
65	Original	6/30/25	1496.1	26	3	25	3	1
66	Original	6/30/25	676.0	73	17	80	8	2
67	Original	6/22/25	20422.1	113	60	161	12	0
68	Original	6/21/25	16417.9	4	0	4	0	0

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Site ID	Site type	Date observed	Sample weight	Number of drivers	Number of front passengers	Number of occupants belted	Number of occupants unbelted	Number of occupants with unknown belt use
69	Original	6/21/25	14483.5	36	19	48	7	0
70	Original	6/21/25	11732.2	10	8	17	1	0
71	Original	6/22/25	10065.1	26	9	31	4	0
72	Original	6/22/25	18291.7	42	24	51	15	0
73	Original	6/21/25	16424.9	13	11	21	3	0
74	Original	6/21/25	7512.5	17	7	24	0	0
75	Original	6/21/25	13687.5	22	11	28	5	0
76	Original	6/21/25	12207.4	14	7	20	1	0
77	Original	6/21/25	5437.4	20	9	29	0	0
78	Original	6/13/25	4925.3	43	23	64	2	0
79	Original	6/22/25	4415.2	30	9	36	3	0
80	Original	6/8/25	3920.3	9	1	9	1	0
81	Original	6/13/25	3447.0	43	16	54	5	0
82	Original	6/21/25	3001.3	20	12	28	4	0
83	Original	6/22/25	2566.9	26	17	34	9	0
84	Original	6/22/25	2200.8	118	47	141	24	0
85	Original	6/22/25	1756.1	100	38	122	16	0
86	Original	6/21/25	1359.4	31	14	43	2	0
87	Original	6/22/25	929.1	65	27	90	2	0
88	Original	6/22/25	64.3	98	34	120	12	0
89	Original	6/13/25	5047.1	54	27	68	13	0
90	Original	6/13/25	3630.1	59	24	76	7	0
91	Original	6/14/25	2531.5	67	22	76	13	0
92	Original	6/14/25	1731.5	85	37	109	13	0
93	Original	6/14/25	1171.3	169	53	198	24	0
94	Original	6/14/25	787.5	170	54	208	16	0
95	Original	6/14/25	246.9	90	39	117	12	0
96	Original	6/13/25	25003.4	10	3	10	3	0
97	Original	6/13/25	9501.9	57	28	75	10	0
98	Original	6/14/25	15100.1	8	3	7	4	0
99	Original	6/14/25	6199.7	44	20	57	7	0
100	Original	6/14/25	5403.9	17	7	23	1	0
101	Original	6/13/25	4600.6	19	11	30	0	0
102	Original	6/14/25	4162.6	43	12	52	3	0
103	Original	6/13/25	3738.2	37	20	55	2	0

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Site ID	Site type	Date observed	Sample weight	Number of drivers	Number of front passengers	Number of occupants belted	Number of occupants unbelted	Number of occupants with unknown belt use
104	Original	6/13/25	6378.4	3	1	3	1	0
105	Original	6/14/25	1385.3	47	18	59	6	0
106	Original	6/14/25	2335.4	48	16	54	10	0
107	Original	6/13/25	1843.5	28	9	33	4	0
108	Original	6/13/25	1398.5	38	4	41	1	0
109	Original	6/14/25	945.7	56	16	56	16	0
110	Original	6/13/25	414.1	56	12	57	11	0
Overall				8356	1778	9399	701	34

Standard Error of Statewide Belt Use Rate (Post-mobilization): 0.008320

Nonresponse Rate, as provided in §1340.9(f)

Nonresponse rate for the survey variable seatbelt use (Post-mobilization): 0.003355

Amei Amei

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