WYOMING

2021 STATEWIDE SEATBELT SURVEY

SURVEY ANALYSIS

Acknowledgments

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- Deb Nelson served as the project administrator.
- Lydia DeJesus assisted with project coordination and administration; observer training, coding, data entry, quality assurance procedures; and developed spreadsheets, charts, and graphs.
- Bridget White coordinated and secured the acquisition of contractors to conduct the survey observations.
- Bridget White and Vicky Peterson conducted field monitoring.

Without the dedicated people who conducted the field observations, we could not complete this survey:

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2021 WYOMING SEATBELT SURVEY

The protocols implemented for this study were per the 2012 federal guidelines. The standards and protocols align with the Uniform Criteria for State Observational Surveys of Seatbelt Use, 23 CFR Part 1340. The 2021 survey analysis is the eighth survey conducted under the 2012 guidelines for seatbelt use in the state of Wyoming.

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Executive Summary

Observers collected seat belt use data in Wyoming from Monday, June 7, to Sunday, June 13, 2021. The results are presented throughout the narrative and in the appendices. The survey followed The Uniform Criteria for State Observational Surveys of Seat Belt Use, 23 CFR § 1340. The baseline survey done in 2017 identified the counties and sites sampled for survey observations. The result is data on 21,323 drivers and 7,932 front-seat outboard passengers for a total of 29,255 vehicle occupants. Drivers represent 72.9 percent of all vehicle occupants, and passengers are 27.1 percent of occupants.

The narrative begins with the estimates of seat belt use for all vehicle occupants, then for the drivers and front-seat outboard passengers. Next is a review of occupant seat belt use by county, population density, in-state and out-of-state license registration, and other relevant variables. An analysis of seat belt use within gender and vehicle type categories is followed by comparing driver and passenger seat belt use. At the end of the narrative, two trends are reviewed: sample sizes and estimates of belt use over the past ten years of Wyoming seat belt use surveys.

Throughout the narrative, the reported seat belt use percentages are estimates derived from weighting the raw data. The calculations of the estimates follow an approved statistical procedure that applies weights dependent on sampling probabilities assigned to each site where observations are collected. The weighting process ensures that the statistical results are reliably representative of valid seat belt use in Wyoming.

Here are some of the results of the Wyoming 2021 survey:

- Observers covered 289 sites within seventeen counties, collecting data on 29,255 vehicle occupants.
- The 2021 estimate is a seat belt use rate for all vehicle occupants of 80.2 percent observed as wearing seat belts, with a standard error of .04 percent.
- The estimate for drivers is 78.5 percent belted, with a standard error of 0.4 percent. The estimate for passengers is 87.5 percent belted, with a standard error of 0.6 percent.
- Six counties show seat belt use percentages of 90.0 percent or higher. Rates for the second tier of five counties are above the overall state rate of 80.2 percent belted, but less than 90.0 percent belted. The third group of counties has rates below the average of 80.2 percent, with three counties below 70.0 percent. This last group suppresses the overall rate of seat belt use. The counties in each group are identified in the narrative.
- An analysis of seat belt use by population density shows that vehicle occupants observed in rural areas are belted at a rate of 89.1 percent. Occupants in urban areas are belted at a rate of 75.3 percent. 76.7 percent of the vehicle occupants are in rural sites, and 23.3 are in urban sites.
- Vehicle registration analysis shows that occupants of Wyoming vehicles are belted at a rate of 78.4 percent. Out-of-state vehicle occupants are belted at a rate of 88.7 percent. 54.5 percent of vehicle occupants are observed in Wyoming licensed vehicles.
- Occupant seat belt use is 80.2 percent, 81.6 percent on secondary roads, 79.9 percent on other local, rural, and city roadways.
- Occupant seat belt use is 90.5 percent belted on weekends and 78.6 percent belted on weekdays, an 11.8 percentage point difference. 81.5 percent of all observations were collected on weekdays.

- Analysis of gender and occupant seat belt use finds 75.2 percent of males belted, and 86.7 percent of females belted, a difference of 11.5 percentage points. 57.6 percent of all vehicle occupants are male in the survey, while 42.4 percent are female.
- Nearly three-fourths of all occupants are observed in vans (36.2%) or pickup trucks (38.4 percent. Occupants' seat belt use is highest in vans (86.9%) and SUVs (88.5%). Seat belt use is lowest in automobiles (75.9%) and pickup trucks (74.3%).
- The lowest seat belt use rates are by males in automobiles (66.6 percent belted) and pickup trucks (74.2%). About half of all male occupants (49.8%) are observed in pickup trucks. Female occupants are belted at a rate more significant than the overall rate in three of the four types of vehicles. Females in pickup trucks were belted at a rate of 75.1 percent, unusually low for females in Wyoming seat belt surveys.
- 78.5 percent of drivers and 87.5 percent of passengers are belted. This difference is consistent across nearly every category of every variable associated with seat belt use.
- Passengers are belted at a higher rate than drivers for almost every county, in both Wyoming and out-of-state vehicles, in both rural and urban sites, for all roadway types, and nearly every combination of gender and vehicle type.
- More vehicle occupants were observed in 2021 (29,255) than in any other Wyoming survey in the past ten years. The overall rate of 80.2 percent belted is the sixth-highest rate of the past ten years.

Introduction

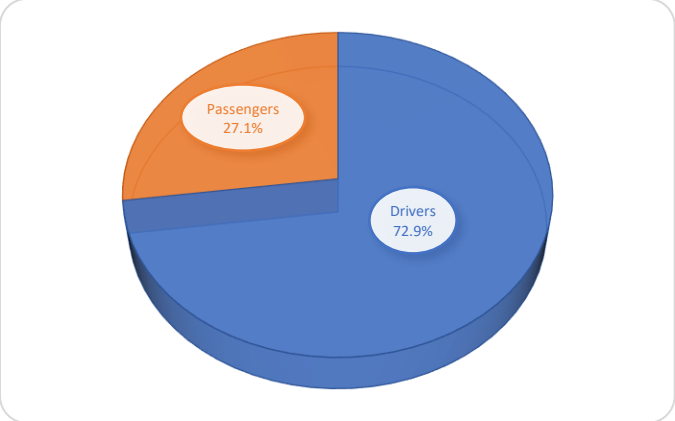
In 2020, the pandemic delayed the seat belt survey from June to August. This year, conditions were normal enough to collect the survey observations from Monday, June 7, to Sunday, June 13, 2021. Seventeen trained observers were dispatched to seventeen sites in each of the seventeen counties. The observers collected seat belt data during 289 shifts over the seven days, a collective total of 289 shifts, covering about 42 sites each day. There were alternate observers available as needed, along with quality control personnel in the field and DLN Consulting, Inc. staff available to support the observers.

The observers collected data on the seat belt use of 21,323 drivers and 7,932 outboard passengers for a total of 29,255 vehicle occupants. Drivers made up 72.9 percent and passengers 27.1 percent of the vehicle occupants. These results are illustrated below:

Table 1: Frequencies by Occupant Type

Frequencies by Type of Vehicle Occupant, Wyoming 2021		
	Unweighted Count	Percent
Drivers	21,323	72.9%
Passengers	7,932	27.1%
All Occupants	29,255	100.0%

Figure 1: Percent of Occupant Type



Each observer was assigned to a specific county. The following table lists the counties, the observers assigned to those counties, and the frequencies of seat belt use (belted, not belted, unsure) for each combination of county and observer.[1]

Table 2: Unweighted Frequencies by County/Observer

Unweighted Frequencies of Occupant Belt Use by County and Observer, Wyoming 2021						
		Occupant Belt Use				
County	Observer	Belted	Not Belted	Unsure	Total	Per Cent
Albany	Monty Byers	1,408	131	0	1,539	5.3%
Big Horn	Dixie Elder	747	101	0	848	2.9%
Campbell	Bryan Shannon	1,348	446	14	1,808	6.2%
Carbon	Brooke Darden	1,165	530	3	1,698	5.8%
Converse	Walter Tampellini	1,206	93	10	1,309	4.5%
Crook	Skylar Elder	1,596	129	0	1,725	5.9%
Fremont	Sandra Gabel	1,729	265	8	2,002	6.8%
Johnson	Deb Eutsler	1,094	74	0	1,168	4.0%
Laramie	Ashley Ingerle	412	179	0	591	2.0%
Lincoln	Mindy McKinley	1,320	86	0	1,406	4.8%
Natrona	Meredith Peak	588	138	0	726	2.5%
Niobrara	Lori Cole	801	28	0	829	2.8%
Park	Donna Lucas	1,111	347	13	1,471	5.0%
Platte	Doug Peterson	1,196	156	0	1,352	4.6%
Sheridan	Kendra Hughes	1,545	429	0	1,974	6.7%
Sweetwater	Kayla Schear	2,920	1,650	0	4,570	15.6%
Teton	Susan Parkinson	3,699	540	0	4,239	14.5%
	Total	23,885	5,322	48	29,255	100.0%
				Average	1,721	

The largest frequencies of observations were collected in Sweetwater (15.6%) and Teton (14.5%) Counties; together, 30.1 percent of all observations were collected in these two counties. The fewest observations were collected in Laramie (2.0%), Natrona (2.5%), Niobrara (2.8%), and Big Horn (2.9%) Counties.

DLN Consulting, Inc. staff developed training and quality control techniques to ensure the reliability and validity of the data in this report. The following section describes the relevant processes.

[1] The numbers presented are the raw data. As such, they are not adjusted for the probability of selection for the site in which the observations were collected. To serve as estimates of seat belt use, the data in each site is weighted by the appropriate probability. In this survey, that weighting process uses the Complex Samples plan in SPSS to mathematically apply probabilities and convert the raw data into an accurate estimate of seat belt use.

Observer Training, Quality Control, and Data Preparation

For the past several years, DLN Consulting, Inc. relied on iPads to record the observations of seat belt use. The iPads are loaded with software tools to facilitate recording and reporting the data for compiling. Every observer, alternate, and quality control staff member received training on the data collection procedural components using audio, visual, and "hands-on" instruction.

On the first day of training, each participant practiced using the program in a classroom setting. Next, the observers engaged in a mock data collection activity. During the second day of training, each observer completed four data-collection sessions. Three of those sessions were used to calculate individual inter-accuracy ratios, which were used to determine observer readiness for collecting actual observations in the field.

Another part of the training required observers to take written tests of each observer's knowledge of observation rules and procedures. A minimum passing score of 80 percent was required for all observers, alternates, and quality control supervisors.

Once in the field, quality control monitors conducted random spot checks on the reliability of observations for a sample of observers. In addition to the training of all observers, the monitors received training in separate half-day sessions, including a detailed review of the specific directions given to each supervisor. During the session, sites were randomly selected for the reliability spot checks where monitoring would take place.

During the survey, DLN Consulting, Inc. staff were available to help observers with any questions or issues. Possible issues included conditions requiring changes to alternate sites or adjustments to observational processes to ensure quality data and observer safety.

Once observers completed an electronic record of observations for each site, they transferred the data electronically to the DLN Consulting, Inc. staff assigned to the task of compiling the data. DLN Consulting, Inc. staff took steps to ensure the data was accurate and included correct codes, working with observers to resolve any issues before proceeding.

Once the data was cleaned of any errors, it was moved to Excel Files and reviewed for any anomalies. The files were then loaded into SPSS (The Statistical Package for the Social Sciences), where variable and value labels were assigned and other analysis preparations. Separate SPSS files were created for drivers, passengers, and all occupants to simplify data analysis. At this point, any unique variables essential to the analysis were created through computation or recoding. In addition, the analysis included further cleaning of the data to correct any incorrect codes and the creation of the Complex Samples Plan for weighting the data to produce accurate estimates based on sampling probabilities.

At every step described here, from observer training to data analysis, DLN Consulting, Inc. staff followed standard protocols to guarantee the reliability and accuracy of the data used to generate this report.

Estimates of Seat Belt Use

The estimates of seat belt use from the Wyoming seat Belt survey in 2021 were calculated using the Complex Samples weighting function in SPSS. This procedure uses the sampling methods and probabilities associated with each site to weigh the raw data for analysis.

Three different estimates are presented. The first is for all vehicle occupants. The following estimates are for the two categories of vehicle occupants, the drivers and the passengers.

The following table presents the weighted estimates for the vehicle occupants, including the calculations for the standard error and the confidence intervals.

Table 3: Estimated Occupant Belt Use

Estimate of Occupant Seat Belt Use, Wyoming 2021					
Belt Use	Estimate	Standard	95% Confidence Interval		Unweighted
		Error	Lower	Upper	Count
Belted	80.2%	0.4%	79.5%	80.9%	23,885
Not Belted	19.8%	0.4%	19.1%	20.5%	5,322
Unsure	0.0%	0.0%	0.0%	0.0%	48
Total	100.0%				29,255

Observers collected data on seat belt use for 29,255 vehicle occupants. 80.2 percent of them were wearing seat belts, and 19.8 percent were not wearing seat belts. Observers were "unsure" about seat belt use for 48 vehicle occupants, or 0.16 percent of the occupants, a percentage too low to register in the table. The standard error is 0.4 percent, below the allowable standard error of 2.5 percent for the survey. The 95 percent confidence intervals calculation produced a low estimate of 79.5 percent and a high of 80.9 percent belted. The estimate of 80.2 percent belted is 2.3 percent lower than the rate for 2020.[2]

The following table presents the estimates of seat belt use for drivers.

Table 4: Estimated Driver Belt Use

Estimate of Driver Seat Belt Use, Wyoming 2021					
Belt Use	Estimate	Standard	95% Confidence Interval		Unweighted
		Error	Lower	Upper	Count
Belted	78.5%	0.4%	77.7%	79.3%	17,082
Not Belted	21.4%	0.4%	20.7%	22.3%	4,206
Unsure	0.0%	0.0%	0.0%	0.0%	35
Total	99.9%				21,323

[2] While the rate is lower, it may not be appropriate to compare it to the 2020 rate because of the exceptional circumstances governing the survey in 2020. The pandemic likely altered traffic patterns in many sites. The delay in the dates for the 2020 survey also may have introduced unpredictable and unknowable differences in the sample and consequent rates of seat belt use.

Observers recorded seat belt use for 21,323 drivers, 72.9 percent of all vehicle occupants. 78.5 percent of the drivers were wearing seat belts, and 21.4 percent were not. Observers could not determine seat belt use for 35 drivers or .16 percent of all drivers. The standard error for drivers is 0.4 percent, and the confidence intervals are a low of 77.7 percent and a high of 79.3 percent.

The following table presents the results for vehicle outboard passengers.

Table 5: Estimated Passenger Belt Use

Estimate of Passenger Seat Belt Use, Wyoming 2021					
Belt Use	Estimate	Standard	95% Confidence Interval		Unweighted
		Error	Lower	Upper	Count
Belted	87.5%	0.6%	86.3%	88.6%	6,803
Not Belted	12.5%	0.6%	11.4%	13.6%	1,116
Unsure	0.1%	0.0%	0.0%	0.1%	13
Total	100.1%				7,932

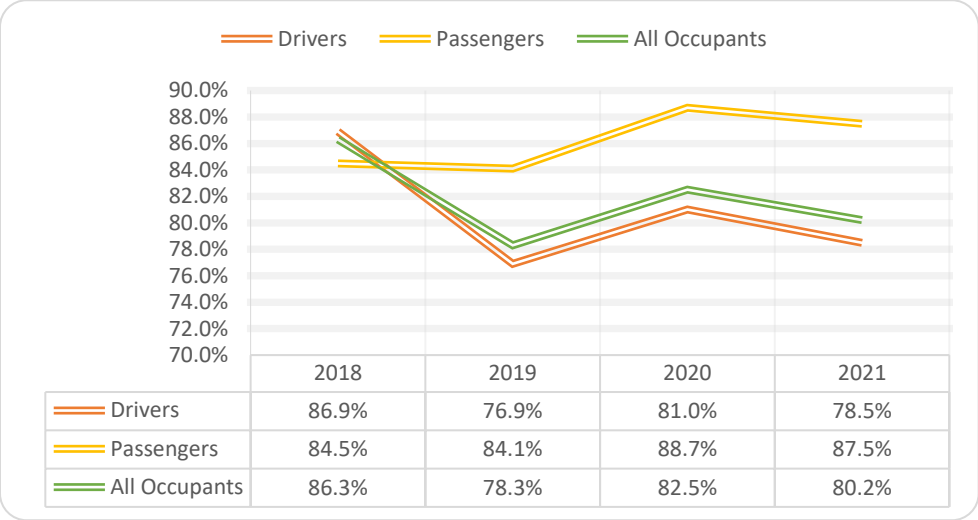
There are 7,932 passengers in the sample, 27.1 percent of vehicle occupants. The estimate is 87.5 percent belted, or 9.0 points higher than the 78.5 percent rate for drivers. 12.5 percent of the passengers were not belted. Observers were unsure about belt use for 13 passengers, or .16 percent of all passengers. The standard error for passengers is 0.6 percent, and the 95.0 percent confidence intervals show a low estimate of 86.3 percent and an upper estimate of 88.6 percent of the sample.

Table 6: Estimated Belt & Frequencies

Estimates of Seat Belt Use for Drivers, Passengers, and All Occupants, Wyoming 2021			
	Drivers	Passengers	All Occupants
Percent Belted	78.5%	87.5%	80.2%
Unweighted Total	21,323	7,932	29,255
% of Sample	72.9%	27.1%	100.0%

The following figure shows the trends in seat belt use for Wyoming surveys from 2018 to 2021.

Figure 2: Seat Belt Use Trends 2018-2021



	2018	2019	2020	2021
Drivers	86.9%	76.9%	81.0%	78.5%
Passengers	84.5%	84.1%	88.7%	87.5%
All Occupants	86.3%	78.3%	82.5%	80.2%

The highest driver seat belt use rate was 86.9 percent in 2018, and the lowest rate was in 2019, with the 2021 rate nearer the low end. Drivers typically have lower seat belt use rates, while passengers have higher rates than drivers (except for 2018). In general, the results for 2021 are more similar than different from the rates for the three prior years. The pattern of many drivers and few passengers is also typical for Wyoming surveys. The 2018 survey is the outlier for these four years, with the highest seat belt use rate overall and a higher rate for drivers than passengers.

The following section focuses on the estimates of seat belt use within the categories of several selected variables. These estimates are included to provide information that may be useful for seat belt use campaigns that target specific populations. First, there is a review of seat belt use within the seventeen counties. Then the focus turns to urban and rural patterns, license registration status (Wyoming, Out-of-State), roadway types, and weekday-weekend rates. The rest examines seat belt use by occupant gender, vehicle type, and gender and vehicle type combinations.

Estimates of Seat Belt Use by County

The following table presents the estimates of seat belt use for drivers, passengers, and total vehicle occupants in each county.

Figure 3: Estimated Belt Use for Drivers, Passengers, and Occupants by County

Estimates of Percent Belted by County for Drivers, Passengers and Occupants, Wyoming 2021					
				Total	% of Total
County	Drivers	Passengers	Occupants	Occupants	Occupants
Albany	88.8%	98.2%	91.3%	1,539	5.3%
Big Horn	85.9%	93.2%	88.1%	848	2.9%
Campbell	73.2%	79.7%	74.7%	1,808	6.2%
Carbon	65.4%	75.9%	68.7%	1,698	5.8%
Converse	92.9%	88.6%	92.1%	1,309	4.5%
Crook	91.3%	94.6%	92.4%	1,725	5.9%
Fremont	83.8%	92.5%	86.4%	2,002	6.8%
Johnson	92.4%	96.3%	93.5%	1,168	4.0%
Laramie	68.6%	73.5%	69.7%	591	2.0%
Lincoln	93.9%	93.8%	93.9%	1,406	4.8%
Natrona	79.2%	90.5%	81.0%	726	2.5%
Niobrara	95.9%	97.9%	96.6%	829	2.8%
Park	72.3%	84.6%	75.5%	1,471	5.0%
Platte	86.6%	92.3%	88.2%	1,352	4.6%
Sheridan	76.4%	86.0%	78.5%	1,974	6.7%
Sweetwater	63.8%	65.1%	64.2%	4,570	15.6%
Teton	86.0%	90.1%	87.3%	4,239	14.5%
Total	78.5%	87.5%	80.2%	29,255	100.0%

The rates of seat belt use are higher for passengers than drivers for all but two counties: Converse, with a driver rate of 92.9 percent and a passenger rate of 88.6 percent, and Lincoln, where the rates differ by only a tenth of a percent, 93.9 percent for drivers and 93.8 percent for passengers.

In addition, the following characteristics emerge about seat belt rates by county.

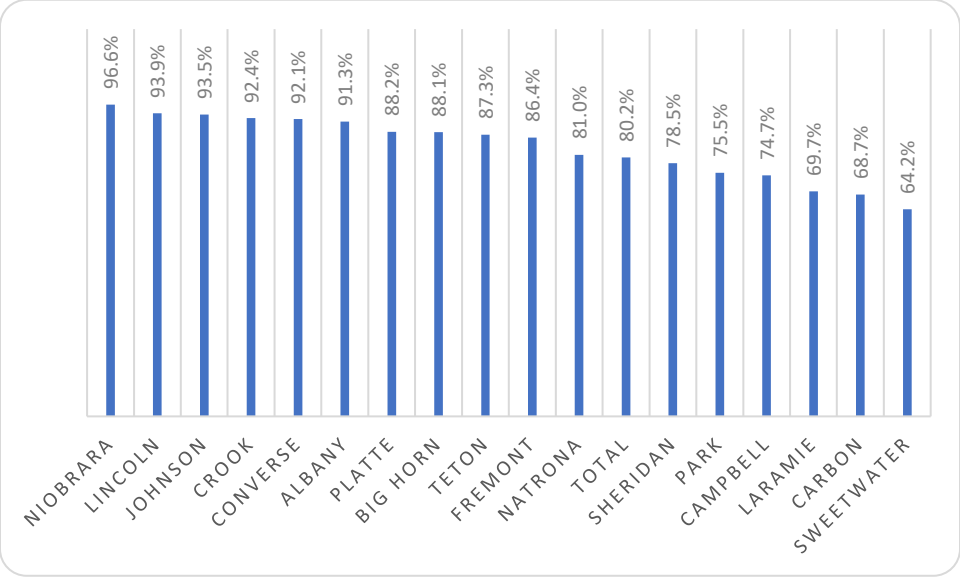
- In six of the counties, nine or more of every ten vehicle occupants are belted: Niobrara (96.6%), Lincoln (93.9%), Johnson (93.5%), Crook (92.4%), Converse (92.1%), and Albany (91.3%).
- A second group of five counties also has rates above the average of 80.2 percent, with at least eight of ten occupants belted. These counties are Platte (88.2%), Big Horn (88.1%), Teton (87.3%), Fremont (86.4%), and Natrona (81.0%).

In other words, there are eleven of the seventeen counties (64.7%) whose seat belt rates are above the overall rate of 80.2 percent of vehicle occupants observed as belted.

- There is a third grouping of six counties that, in varying degrees, reduce the overall occupant seat belt rate. They are Sheridan (78.5%), Park (75.5%), Campbell (74.7%), Laramie (69.7%), Carbon (68.7%), and Sweetwater (64.2%). The occupants in these counties are belted at a rate below the average for Wyoming in 2021.
- The difference in seat belt use rate for occupants in the county with the highest rate, Niobrara (96.6%), and the county with the lowest rate, Sweetwater (64.2%), is 32.4 percent.

The following graph illustrates the occupant rates of seat belt use for the counties, ranked from the highest to the lowest.

Figure 4: Occupant Belt Use by County



Seat Belt Use by Selected Variables

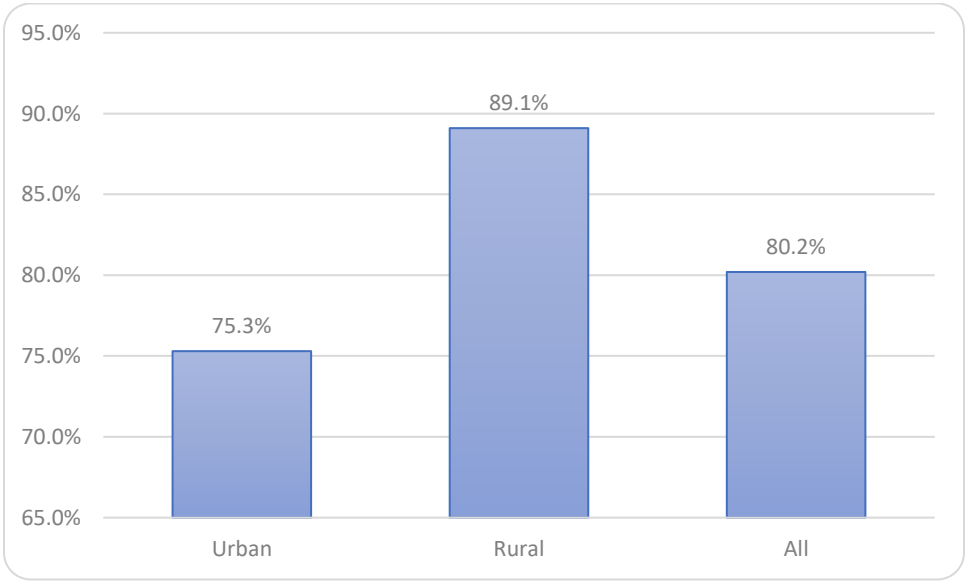
Survey observations are organized into variables and categories within variables. For example, some sites are pre-coded for population density (urban and rural) and the type of roadway (primary, secondary, and an "other" category). Occupant gender, type of vehicle, license registration (Wyoming, out-of-state), and weekday-weekend observations are reviewed. These variables and additional variables of interest when considering seat belt use are examined in this report section.

Population Density

For the baseline survey developed in 2017, DLN staff consulted maps and U. S. Census data to determine the appropriate code for each site in the sample of sites within counties. For example, sites within a city of 5,000 or more are pre-coded as urban sites, while sites located in smaller cities or outside cities with fewer than 5,000 residents are rural. In Wyoming, areas with more than 5,000 residents are defined as "urban." In comparison, sites with fewer than 5,000 residents are designated as "rural." Wyoming is far more rural than urban by this standard. For the current 2021 survey, 76.7 percent of the vehicle occupants are in rural sites, and 23.3 percent are in urban sites.

The seat belt use rate is higher in rural than urban sites, as illustrated by the following.

Figure 5: Estimated Belt Use by Population Density



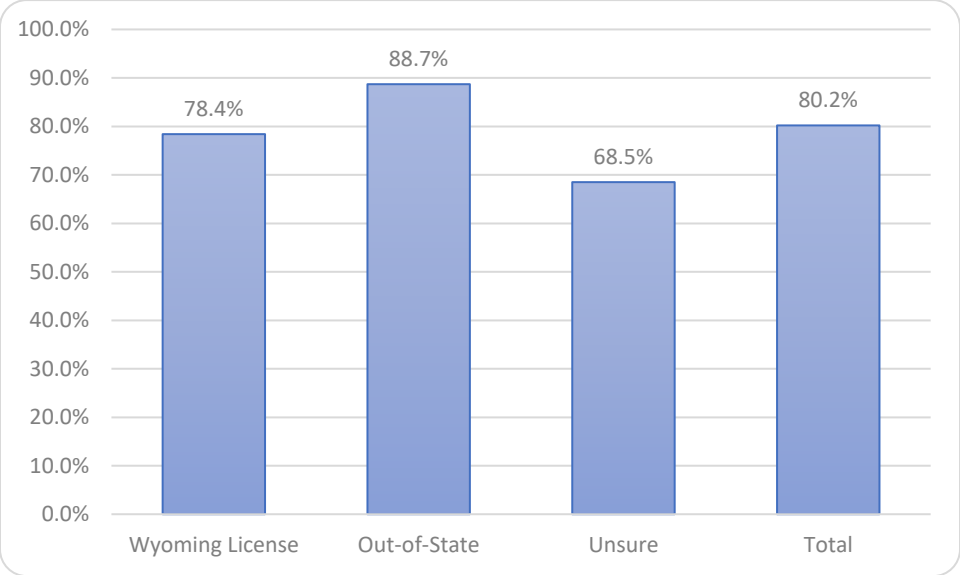
The rural rate is 89.1 percent belted, and the urban rate is 75.3 percent belted, a difference of 13.8 percentage points. Prior surveys have consistently shown higher seat belt use rates in rural areas, but this result shows a more significant than usual difference.

Vehicle Registration

Observers record whether occupants are in vehicles with Wyoming or out-of-state license plates. A third category, "unsure," is recorded when observers are unable to identify the registration. For 2021, 54.5 percent of the 29,255 occupants were in vehicles identified with Wyoming registration, and 44.3 percent were in out-of-state vehicles. Observers were unsure about vehicle registration for 339 vehicle occupants, or 1.2 percent of the sample.

Out-of-state vehicle occupants are more likely to be wearing seat belts than occupants of Wyoming vehicles, as illustrated by the following.

Figure 6: Estimated Belt Use by Registration Type



78.4 percent of Wyoming vehicle occupants are belted, and 88.7 percent of out-of-state vehicle occupants are belted, a difference of 10.3 points. This result is consistent with findings from previous Wyoming surveys.

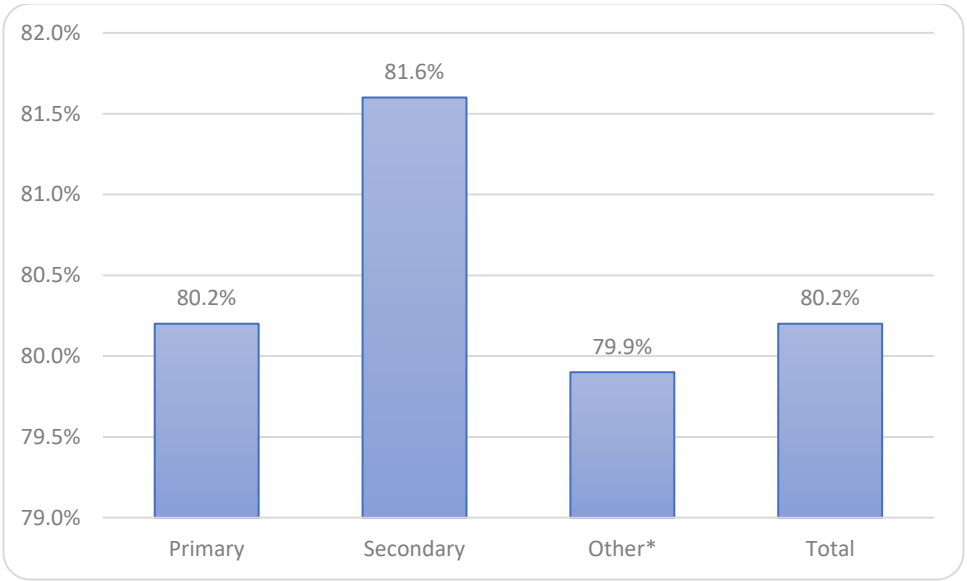
Roadway Type

When the baseline survey was developed in 2017, NHTSA described the type of roadway associated with each observational site. The roadway types are defined as follows:

- S1100 primary roadways are federally or state-maintained primary roads and include interstate and other four-lane highways. For 2021, 8,996 (30.8%) of the vehicle occupants were observed in vehicles on primary roadways.
- S1200 roads are secondary, which means they are state or federally maintained and are typically two-lane highways. For 2021, 19,216 of the 29,255 occupants were in vehicles on secondary roads.
- S1400 "other" roadways are a mixture of local, rural, and city roadways. All are paved roads, but some are two-lane, and some are four-lane. The fewest observations in 2021 are in this category, 1,043 vehicle occupants, or 3.6 percent of all occupants.

Occupant seat belt use by roadway type is illustrated by the following.

Figure 7: Estimated Belt Use by Roadway Type



*"Other" roadways are a catchall category for local, rural roads, and city streets

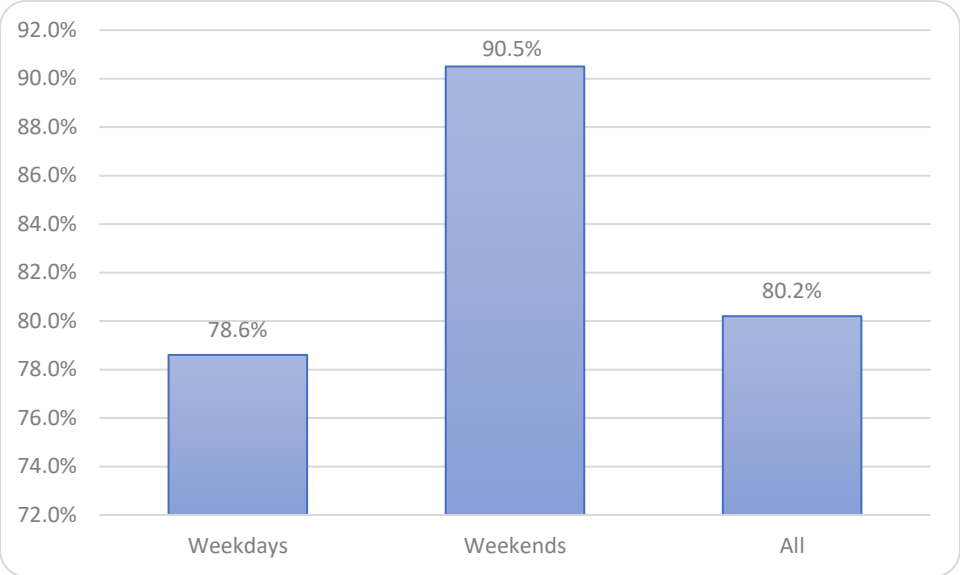
The different rates of seat belt use by roadway type are not great. Occupants in vehicles on primary roads were belted at a rate of 80.2 percent, the same as the overall average. Occupants in vehicles on secondary roads were belted at a slightly higher rate of 81.6 percent. Vehicle occupants on "other" roads were belted at a rate of 79.9 percent. The association of belt use and roadway type has been variable in prior surveys. For this year, belt use is more alike than different across the road types.

Weekdays and Weekends

During data collection, observers code observations by the day of the week. For this report, the observations are collapsed into a dichotomy, weekdays and weekends. Weekends are Saturday and Sunday, and weekdays are Monday through Friday.

For 2021, 23,837 of 29,255 observations were on weekdays (81.5%) and 5,418 (18.5%) on weekends. Seat belt use by weekdays-weekends is illustrated by the following.

Figure 8: Estimated Belt Use by Weekday vs. Weekends



The seat belt use rate on weekends was 90.5 percent belted; on weekdays, 78.6 percent belted, a difference of 11.9 points. Prior surveys in Wyoming have shown similar results, although the difference is greater in 2021.

Other Variables

The data for 2021 also includes estimates of seat belt use by weather conditions, the number of roadway lanes observed, the time observations were collected, and the traffic direction when observations were collected. The 2021 results for these variables appear in the appendices to this report.

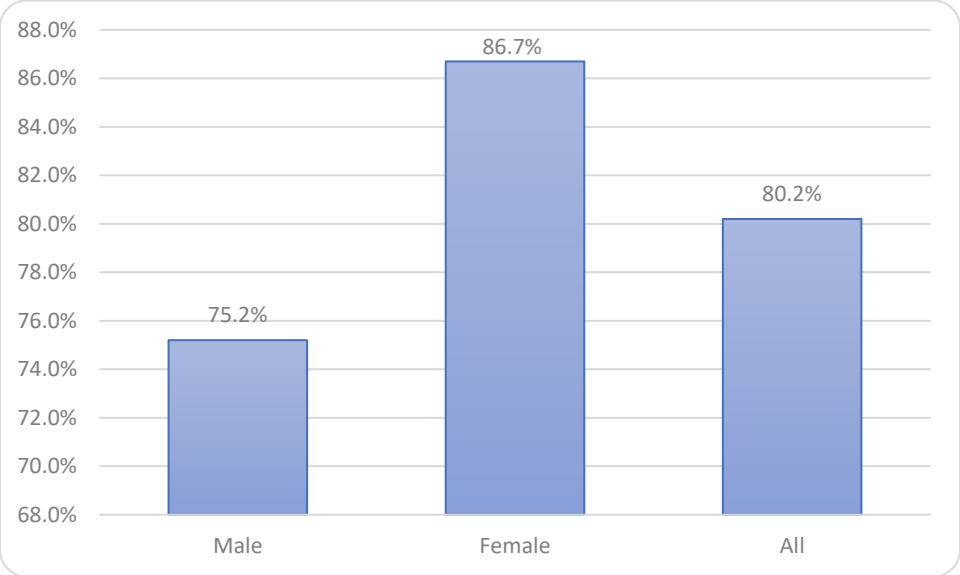
Occupant Gender and Vehicle Type

Occupant gender, vehicle type, and the combination of these two variables have produced consistent results in Wyoming seat belt surveys. Females typically have higher rates of seat belt use than males. Female seat belt use tends to be higher in every type of vehicle. Males typically have the lowest seat belt use rate for any combination of variables when observed as occupants in pickup trucks. Females usually have higher rates of seat belt use in every vehicle type. The results for 2021 are examined next, first for gender, second for vehicle type, and then for the combination of gender and vehicle type.

Occupant Gender

Observers code the gender of occupants. For the 29,255 vehicle occupants in 2021, 16,846 (57.6%) are male, and 12,409 (42.4%) are female, or 15.2 percentage points more males than females in the survey. Gender differences in seat belt use for vehicle occupants are illustrated by the following.

Figure 9: Estimated Belt Use by Gender



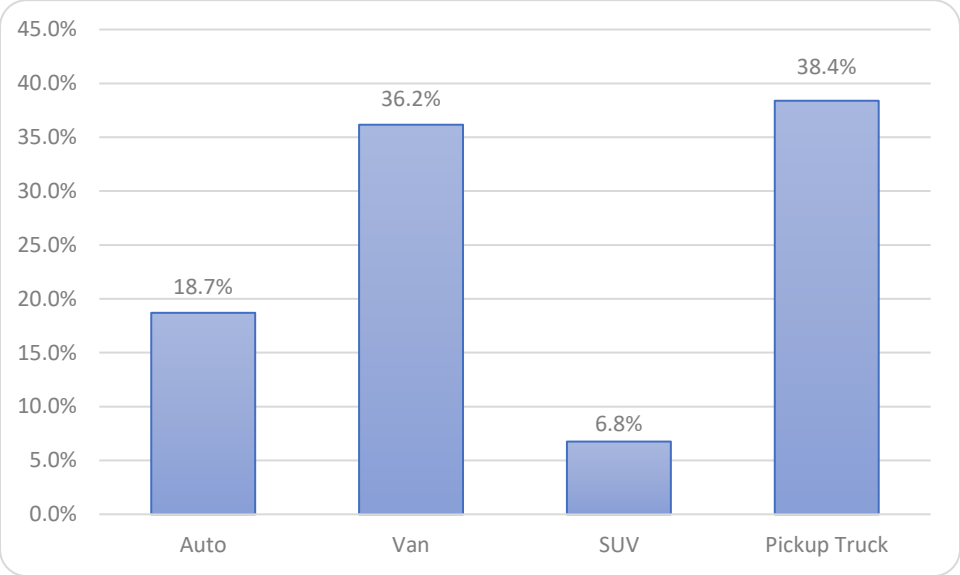
The seat belt use for male occupants is 75.2 percent belted, and for female occupants, it is 86.7 percent belted, a difference of 11.5 percentage points. Because males are 57.6 percent of the occupants, their lower seat belt use rate tends to pull down the overall average to 80.2 percent. Conversely, females tend to increase the overall average because of their greater use of seat belts.

Observers were unsure about gender for 48 vehicle occupants, or .16 percent of the total sample.

Vehicle Type

Occupants were observed in four types of vehicles for the survey: Automobiles, Vans, Sport Utility Vehicles[3] (SUVs), and Pickup Trucks. The following graph illustrates the percentages of occupants in each vehicle type for the Wyoming 2021 survey.

Figure 10: Percent of Sample by Vehicle Type

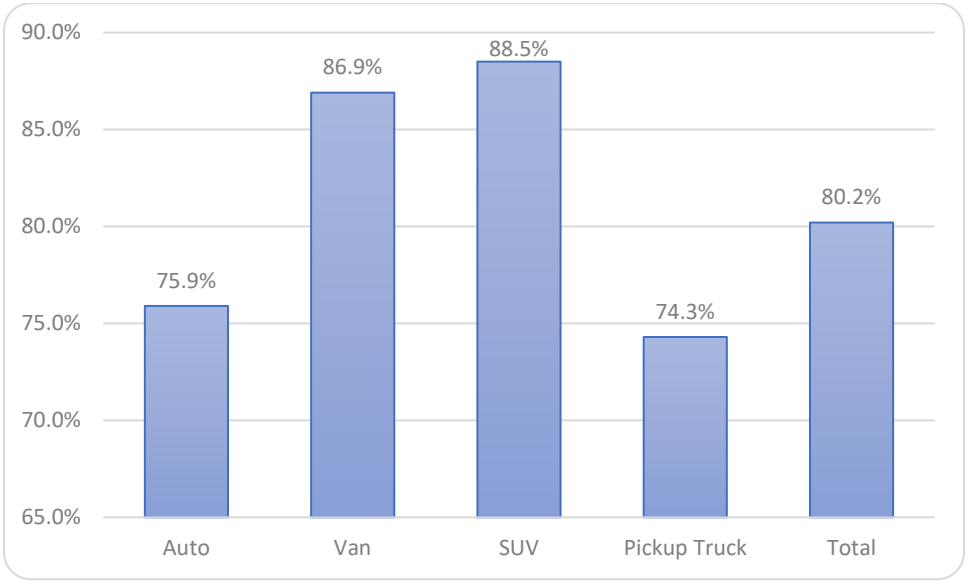


For the 2021 survey, most occupants are in either vans (36.2%) or pickup trucks (38.4%). Together, almost three-fourths of occupants (74.6%) are found in these two vehicle types. Automobiles are the next most common vehicle for occupants (18.7%), and SUVs are the least common vehicle with occupants (6.8%).

[3] First, it is likely the case that many vehicles labeled SUVs or Vans are possibly "Crossovers." Internet sources offer this difference: "Put simply, a crossover is lighter and built on a car platform, while a traditional SUV is heavier and uses a truck chassis." Without an official designation from NHTSA, crossovers are likely to be labeled as SUVs. Second, it's less likely but possible that observers may confuse SUVs and Vans. Again, from the internet: "Automakers design SUVs for towing, hauling, and off-road performance, whereas they build vans for transporting people or cargo."

Estimates of occupant seat belt use for each type of vehicle are illustrated by the following.

Figure 11: Estimated Belt Use by Vehicle Type

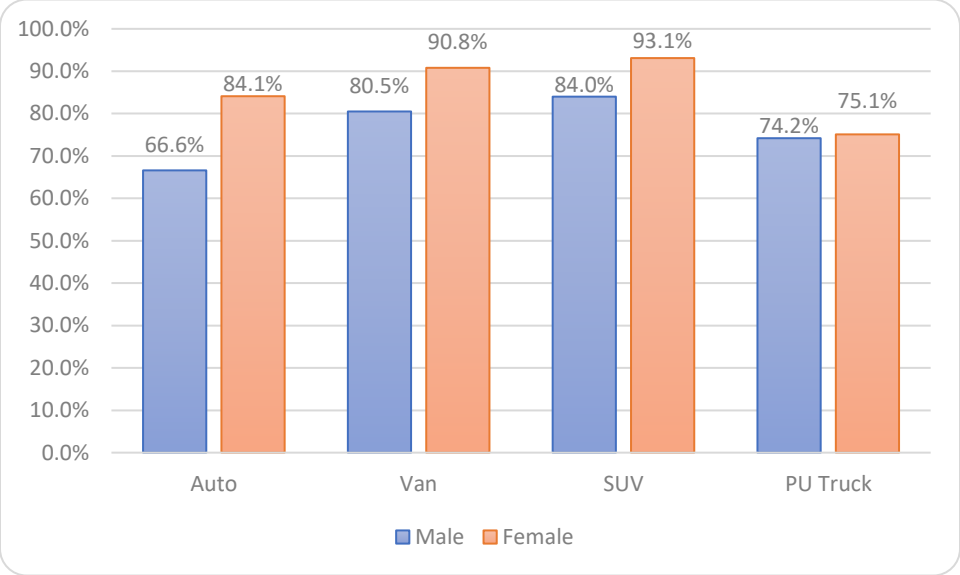


Seat belt use is highest for vehicle occupants in vans (86.9%) and SUVs (88.5%). Seat belt use is lower for occupants of automobiles (75.9%) and pickup trucks (74.3%).

Gender and Vehicle Type

Estimates of occupant seat belt use for the combinations of gender and vehicle type are illustrated by the following.

Figure 12: Estimated Belt Use by Gender & Vehicle Type



The lowest seat belt use rates are for males in automobiles (66.6%) and pickup trucks (74.2%). Male seat belt use in pickup trucks is particularly significant because almost half (49.8%) of all male vehicle occupants were observed in pickup trucks. Male seat belt use is 80.5 percent in vans and 84.0 percent in SUVs.

Female occupants of vehicles have above average (80.2) seat belt use in three of the four vehicle types: 84.1 percent in automobiles, 90.8 percent in vans, and 93.1 percent in SUVs. Seat belt use for female occupants of pickup trucks for 2021 is 75.1 percent belted, almost the same as the male rate of 74.2 percent belted, a difference of less than one percentage point.

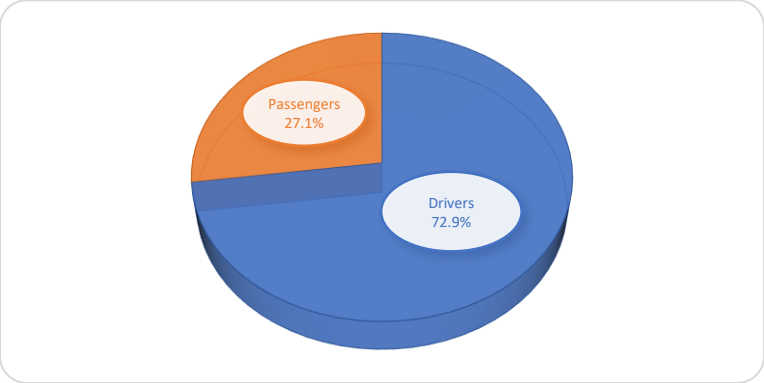
To sum up: (1) Seat belt use rates are higher for females than for males in three of the four vehicle types – automobiles, vans, and SUVs. (2) The most common vehicles for males are pickup trucks, in which seat belt use is lowest. As a result, the overall seat belt use rate is greater for females (86.7%) than for males (75.2%).

Drivers and Passengers

Observers collect seat belt use data on drivers and front-seat outboard passengers, who together make up the total vehicle occupants. The data do not include middle front-seat or back-seat occupants.

For Wyoming 2021, observers collected data on 21,323 drivers and 7,932 passengers, for a total of 29,255 vehicle occupants. Drivers made up 72.9 percent of the vehicle occupants and passengers 27.1 percent. There were 2.7 drivers for every passenger.

Figure 13: Percent of Sample by Occupant Type



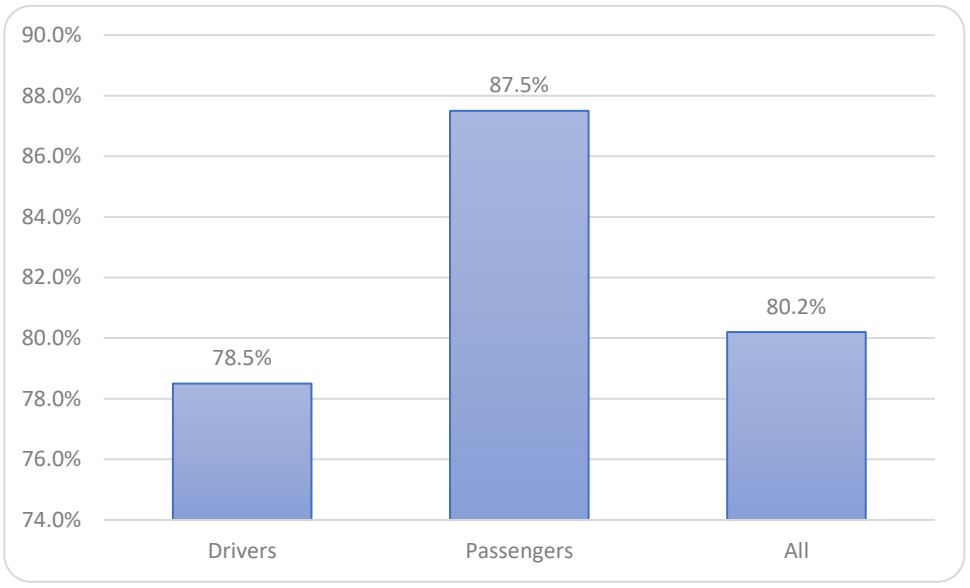
The following section of the report presents seat belt use rates for drivers and passengers. The overall rates are presented. Next, driver and passenger belt use are presented by county, population density, Wyoming license registration, roadway type, and the combination of vehicle type and gender.

Overall Rates

78.5 percent of drivers were observed wearing seat belts. Passengers were belted at a rate of 87.5 percent, or 9.0 percentage points higher than the driver rate. There are many more drivers than passengers, so they contribute far more to the overall rate of 80.2 percent belted. The rates for drivers and passengers are illustrated by the following.

Seat Belt Use Rates for Drivers, Passengers, and All Vehicle Occupants, Wyoming 2021

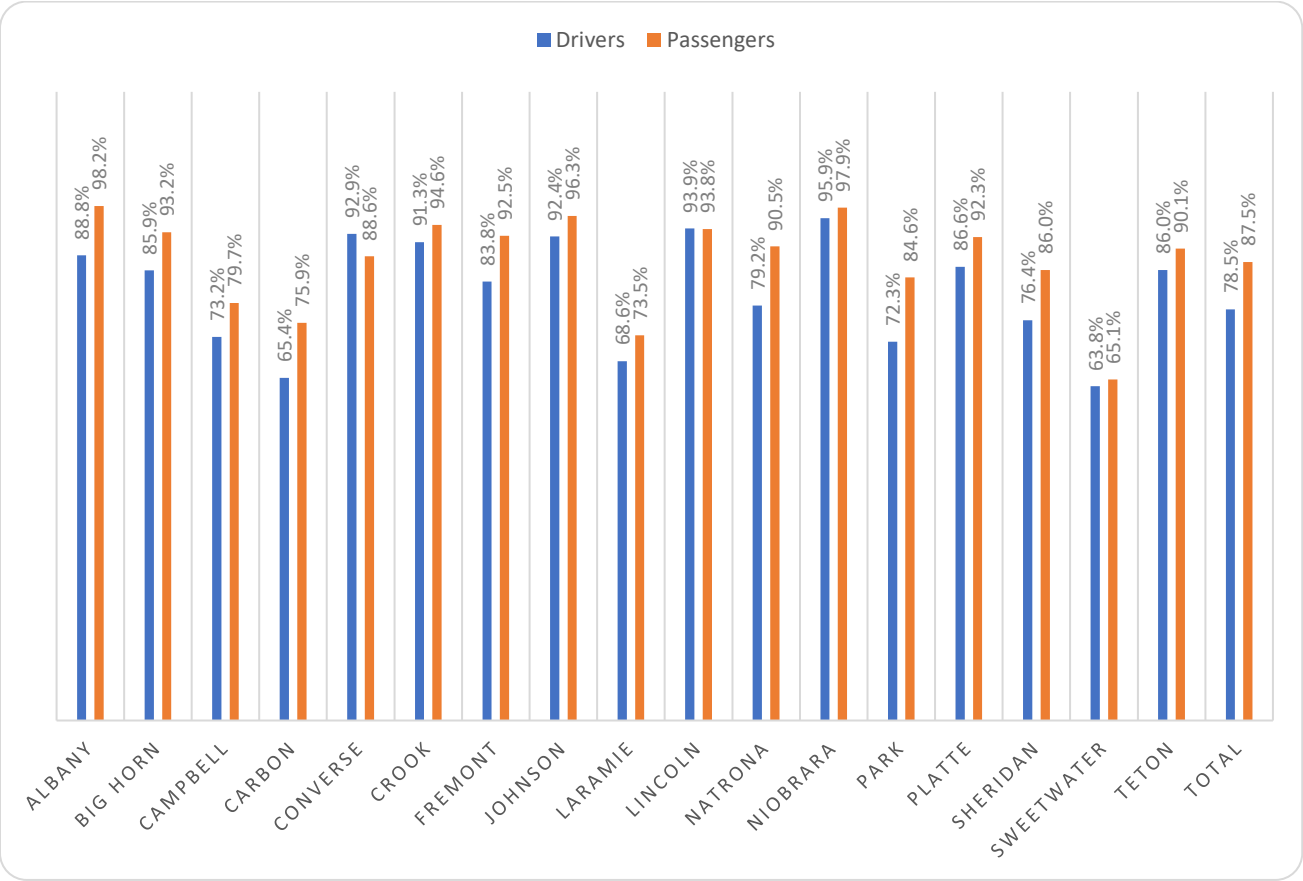
Figure 14: Estimated Belt Use by Drivers, Passengers, and Occupants



Driver and Passenger Rates by County

The estimates of percent belted for drivers and passengers for each county are illustrated by the following.

Figure 15: Estimated Belt Use by County and Occupant Type



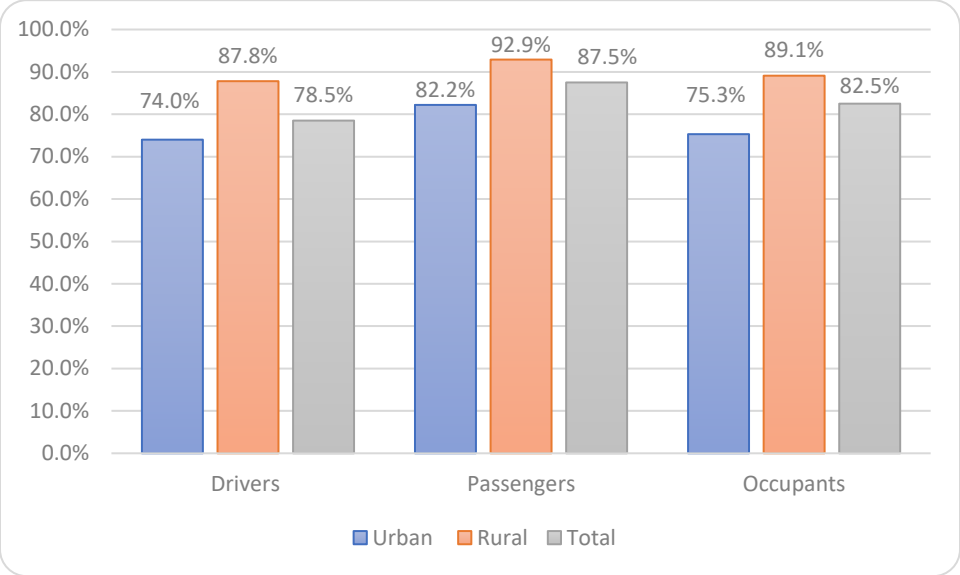
The chart shows that estimates of seat belt use are higher for passengers than drivers in almost all cases. One exception is Converse County, where drivers were belted at a higher rate (92.9%) than passengers (88.6%). The other exception is Lincoln County – the estimate for drivers is 93.9 percent, and for passengers 93.8 percent – but the difference is only a tenth of a percent.

Overall, the seat belt use rate for passengers is 9.0 points higher than the driver rate. For twelve of the counties, the difference is less significant. However, there are five counties where the difference is close to or above the overall rate difference. The counties that had driver rates at least 9.0 points lower than their passenger rates, along with the differences are: Albany (9.4%), Carbon (10.5%), Natrona (11.3%), Park (12.3%), and Sheridan (9.6%).

Driver and Passenger Rates by Population Density

Overall, the seat belt use rate for vehicle occupants is 75.3 percent in urban sites and 89.1 percent in rural sites, a difference of 13.8 points. The rates for drivers, passengers, and all vehicle occupants are illustrated by the following.

Figure 16: Estimated Belt Use by Occupant Type and Population Density

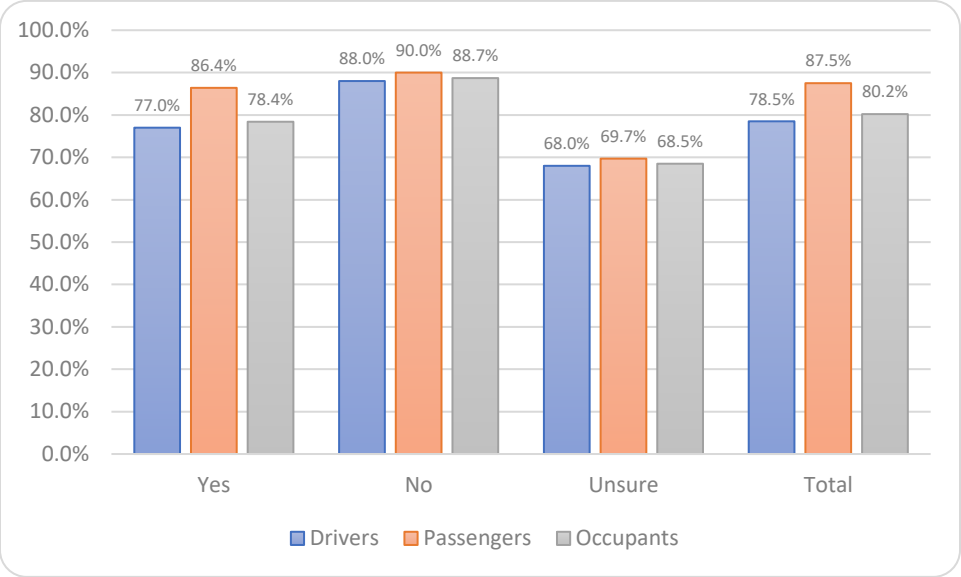


Drivers in rural areas are belted at a higher rate: 87.8 percent in rural sites and 74.0 percent in urban sites, a difference of 13.8 percentage points. The same pattern holds for passengers, but the difference is not quite as significant: 92.9 percent belted for passengers in rural areas, and 82.2 percent belted in rural areas, a difference of 10.7 percentage points.

Driver and Passenger Rates by License Registration

The seat belt use rates for drivers, passengers, and all vehicle occupants are illustrated by the following.

Figure 17: Estimated Belt Use by Occupant Type and Registration

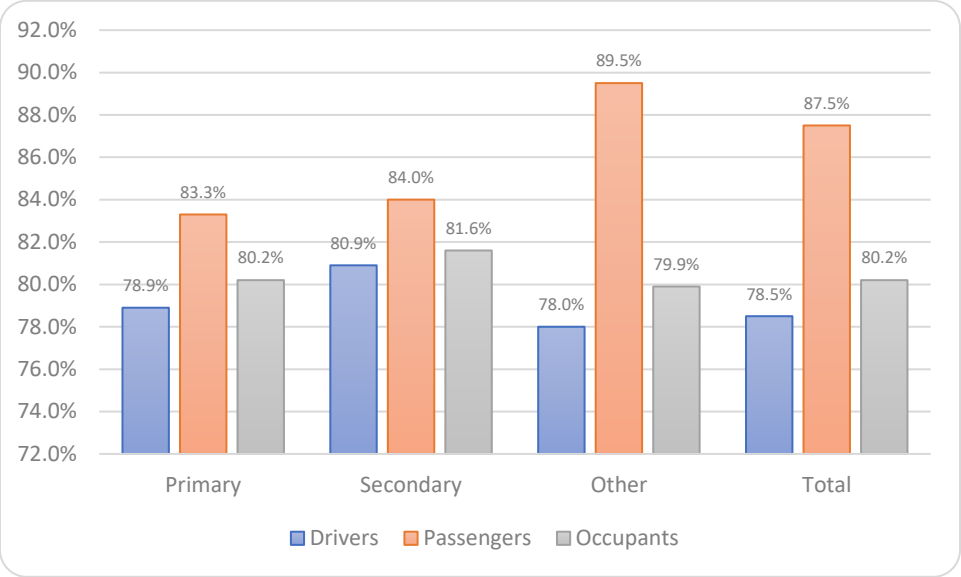


The main difference occurs for vehicle occupants in vehicles registered in Wyoming. The Wyoming seat belt use rate for drivers in Wyoming-registered vehicles is 77.0 percent and 86.4 percent for passengers, a difference of 9.4 percentage points. For occupants of out-of-state vehicles, the driver seat belt use is 88.0 percent and 92.9 percent for passengers, a difference of 2.0 points. The drivers and passengers in out-of-state vehicles are more likely to wear seat belts, while Wyoming passengers are more likely to wear seat belts than Wyoming drivers.

Driver and Passenger Rates by Roadway Type

There are relatively small differences in seat belt use for vehicle occupants on primary (80.2% belted), secondary (81.6% belted), and "other" (79.9% belted) roads.[4] Passengers are more likely than drivers to be observed wearing seat belts on all three types of roadways. Seat belt use for drivers, passengers, and all vehicle occupants is illustrated by the following.

Figure 18: Estimated Belt Use by Occupant Type and Roadway



For the "other" roadways, 78.0 percent of the drivers were observed as belted, and 89.5 percent of passengers were belted, a difference of 11.5 percentage points. The passenger rate was 4.4 percentage points higher than the driver rate for vehicle occupants observed on primary roads. On secondary roads, the passenger rate was 3.1 points higher than the driver rate.

[4] The "other" roads are a mix of local, rural, and city roadways. All are paved roads, some with two and a few with four lanes.

Driver and Passenger Rates by Gender and Vehicle Type.

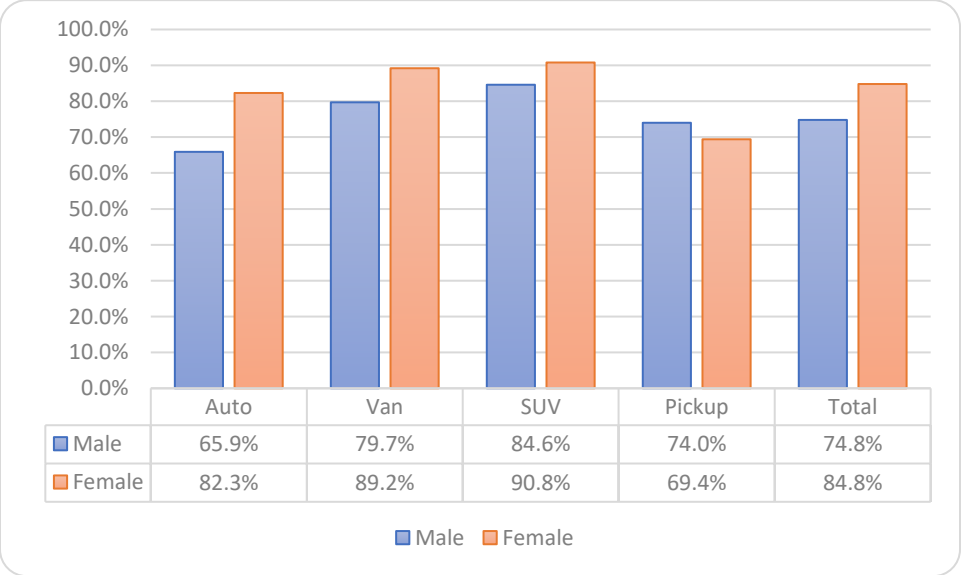
Females have higher rates of seat belt use overall and in every vehicle type except pickup trucks. The differences are illustrated by the following.

Table 7: Estimated Belt Use by Occupant Type, Gender & Vehicle Type

Estimate of Driver, Passenger and All Occupants Seat Belt Use by Gender and Vehicle Type, Wyoming 2021				
Gender	Vehicle Type	Drivers	Passengers	Occupants
Male	Auto	65.9%	72.6%	66.6%
	Van	79.7%	85.3%	80.5%
	SUV	84.6%	75.7%	84.0%
	Pickup	74.0%	76.7%	74.2%
	Total	74.8%	79.2%	75.2%
Female	Auto	82.3%	91.5%	84.1%
	Van	89.2%	94.6%	90.8%
	SUV	90.8%	96.7%	93.1%
	Pickup	69.4%	81.6%	75.1%
	Total	84.8%	90.8%	86.7%

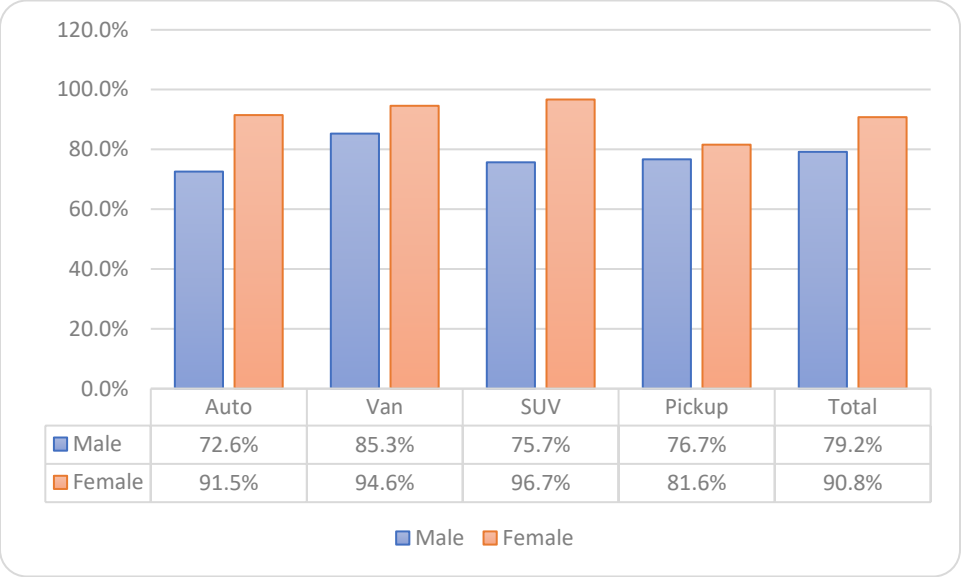
For drivers, seat belt use estimates are higher for females than males except in pickup trucks, where the male rate is 4.6 percentage points higher than the female rate. The rate of belt use is higher for females in automobiles (+16.4%), vans (+9.5%), and SUVs (+6.2%).

Figure 19: Estimated Belt Use for Drivers by Vehicle Type and Gender



Female passengers are more likely to wear seat belts than male passengers in all types of vehicles. The female passenger rates are more significant than male rates for all types of vehicles: automobiles (+18.9%), vans (+9.3%), SUVs (+21.0%), and pickup trucks (+4.9%).

Figure 20: Estimated Belt Use for Passengers by Vehicle Type and Gender

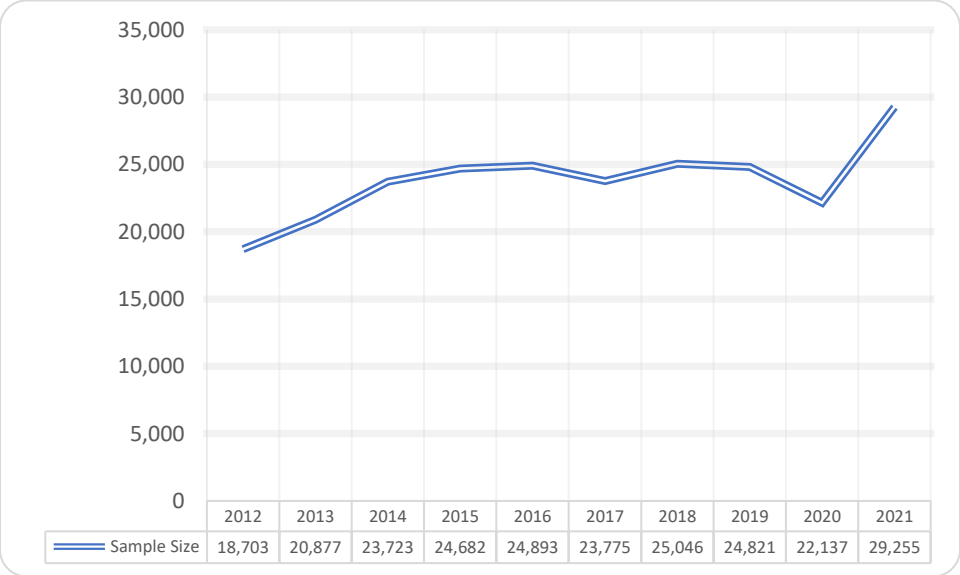


	Auto	Van	SUV	Pickup	Total
Male	72.6%	85.3%	75.7%	76.7%	79.2%
Female	91.5%	94.6%	96.7%	81.6%	90.8%

Trends

The first trend line is for sample size, illustrated by the following.

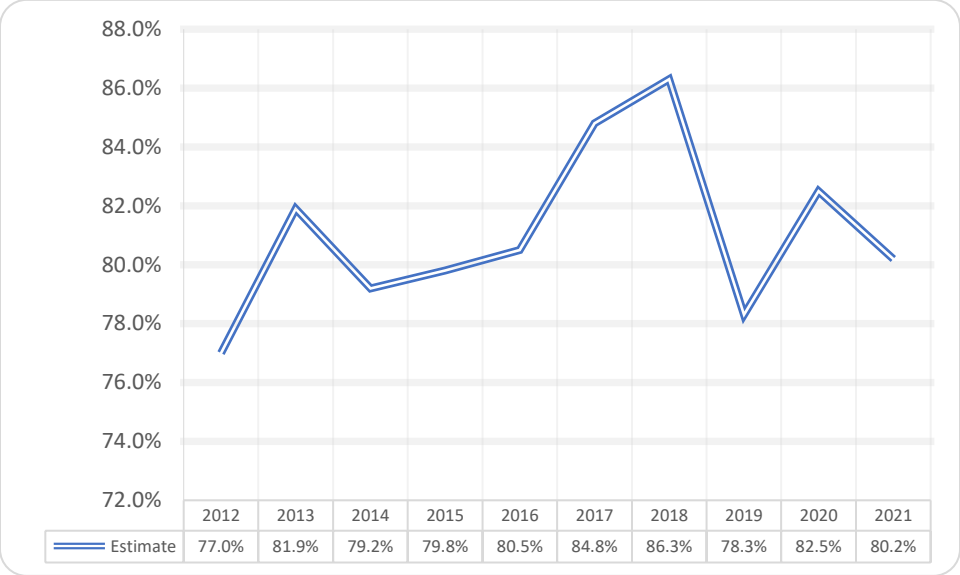
Figure 21: Trends for Sample Size



The 2021 survey in Wyoming produced more observations than any other previous year dating back to 2012. The total of 29,255 vehicle occupants is 4,209 more than in the previous high of 25,046 collected in 2018.

The second trend line is for the overall seat belt use rate for all vehicle occupants. The rates from 2012 to 2021 are illustrated by the following.

Figure 22: Trends for Estimated Belt Use by Year



The 2021 rate of 80.2 percent belted is the sixth-highest rate over the past ten years. The rates were higher in 2018 (86.3%), 2017 (84.8%), 2020 (82.5%), 2013 (81.9%), and 2016 (80.5%). The difference between the highest rate of the past ten years, 86.3 percent in 2018, and 80.2 percent in 2021, or -6.1 percentage points.

Concluding Remarks

A review of the results of the 2021 Wyoming seat belt use survey is found in the executive summary at the beginning of the report. The appendices that follow provide detailed resources that augment the narrative. All of the statistical tables generated by the data analysis are included.

Appendices

Appendix A: State Seatbelt Use Reporting Form

state seatbelt use reporting form

State Seatbelt Use Survey Reporting Form

PART A

State: Wyoming

Calendar Year of Survey: 2021

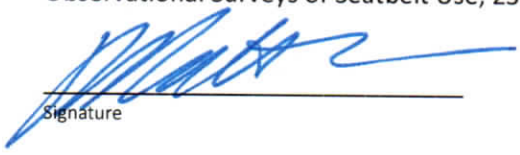
Statewide Seatbelt Use Rate: 80.2 Percent

I hereby certify that: The Governor designated Matthew D. Carlson, P.E. as the State's Highway Safety Representative (GR) and has the authority to sign the certification in writing.

The reported Statewide seatbelt use rate is based on a survey design that received approval by NHTSA, in writing, as conforming to the Uniform Criteria for State Observational Surveys of Seatbelt Use, 23 CFR Part 1340.

The survey design remained unchanged since NHTSA approved the survey.

Dr. James G. Leibert[5], a qualified survey statistician, reviewed the seatbelt use rate reported above and information reported in Part B and determined that they meet the Uniform Criteria for State Observational Surveys of Seatbelt Use, 23 CFR Part 1340.



Signature

9-30-21

Date

Matthew D. Carlson, P.E.

Printed name of authorized signing official

5 In accordance with the final rule published in Federal Register Vol. 76 No. 63, April 1, 2011, Rules and Regulations, pp. 18042-18059, DLN contracted with statistician, Dr. James G. Leibert to determine that the methods used to process the collected data met the Uniform Criteria for State Observational Surveys of Seatbelt Use, 23 CFR Part 1340. Dr. Leibert reviewed the SPSS output files and related data tables to confirm the data are accurate and true. A copy of Dr. Leibert's abbreviated resume follows.

5820 York Ave. S. Phone 952.922.0018

Edina, MN. 55410 E-mail 1jleibert@gmail.com

James G. Leibert, PhD.

Summary – Creative problem solver with knowledge of and experience in a broad array of statistical and computational tools and techniques. I understand that there is no one tool or technique that can be used for every situation. I can quickly see connections and use tools and techniques from other fields as appropriate.

Employment

Research Scientist III, Minnesota Department of Human Services, Disability Services Division, St. Paul, MN. Current

Chair, Dept. of Political Science and Public Administration / Director of the Master of Public Administration Program / Dean of Graduate and Undergraduate Studies, Kazakhstan Institute of Management, Economics, and Strategic Research (KIMEP), Almaty, Republic of Kazakhstan, 2001-2002.

Associate Professor (1999-2001) / International Programs Coordinator (2000 – 2001)

Chairman of the Department of Social Sciences (1999 – 2000) \ Assistant Professor (1993-1998), Dickinson State University Dickinson, ND, 1993-2001.

Leadership

Team Player

Problem

Solving

Appendix B: Survey Design

Wyoming survey design

The Wyoming Department of Transportation Highway Safety Program in collaboration with DLN Consulting, Inc. designed the following sampling, data collection, and estimation plan. The National Highway Traffic Safety Administration accepted and approved the plan on April 24, 2012. A copy of the approval notification can be found in Appendix C.

Seat Belt Use Survey Design for Wyoming

Sampling, Data Collection and Estimation Plan

Revised 04-03-2012

Seat Belt Use Survey Design for Wyoming

Sampling, Data Collection and Estimation Plan

January 3, 2012
Revised March 7, 2012

Submitted to:

National Highway Traffic Safety Administration
Traffic Safety Programs
1200 New Jersey Ave, SE
Washington, DC 20590

Submitted by:

Wyoming Department of Transportation
Highway Safety Program
5300 Bishop Boulevard
Cheyenne, WY, 82009-3340

DLN Consulting, Inc.
2493 4th Ave W
Suite G
Dickinson, ND 58601

Table of Contents

Introduction

This document provides the details of the methods proposed for a survey of seat belt use in the State of Wyoming in 2012. These methods have been developed by Wyoming to comply with the new Uniform Criteria for State Observational Surveys of Seat Belt Use issued in 2011 by the National Highway Traffic Safety Administration (NHTSA).[1]

This proposal includes the following:

- The general parameters of the study design, which produced the proposed sampling frame for the survey of Wyoming seat belt use.
- The sample design, including the proposed sample size and the methods to be used for the selection of road segments.
- The proposed data collection methods, including the training of observers, and the protocols that will guide observers in data collection, and the proposed quality control procedures.
- The proposed analytical methods to be used in producing an estimate of seat belt use in Wyoming, including the statistical use of sampling weights, the methods to adjust for nonresponsive data, and the methods of variance estimation.

This plan is compliant with the Uniform Criteria and will be used for the implementation of Wyoming's 2012 seat belt survey, upon approval.

Study Design

There are 23 counties in the State of Wyoming. Fatality Analysis Reporting System (FARS) data for the years 2005 – 2009 by county was examined to identify the counties that accounted for at least 85 per cent of the cumulative crash–related fatalities during that period of time. Five years of data was selected to produce the largest number of counties available for the sample. Sixteen of the 23 counties accounted for 87.7 percent of the fatalities during this five-year period. Table 1 lists the fatality counts, and cumulative percentage of fatalities by county in Wyoming.

Road segment data was acquired from NHTSA, as developed by the U.S. Census Bureau in the form of 2010 TIGER data, for each of the 16 counties in the sample frame. All roads, with the exception of rural local roads, non-public roads, unnamed roads, unpaved roads, vehicular trails, access ramps, cul-de-sacs, traffic circles, and service drivers. These exclusions are compliant under § 1340.5.a.2.ii. The data include the length of the road segments and the classification of the road segments by road type (MTFCC).[2] This classification scheme locates each road segment within three different types of roads, as follows:

- Primary roads (MTFCC Code S1100), which 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 toll highways, although there are no toll highways in Wyoming.

[1] The final rule was published in Federal Register Vol. 76 No. 63, April 1, 2011, Rules and Regulations, pp. 18042 – 18059.

[2] The classification scheme uses the MAF/TIGER feature Class Code, or MTFCC in the database.

- Secondary roads (MTFCC Code S1200), which 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.
- Local neighborhood roads, rural roads, and city streets (MTFCC Code S1400), including paved non-arterial streets, roads or byways that usually have a single lane of traffic in each direction. The roads in this class may be privately or publicly maintained. Scenic park roads would be included, as would some unpaved roads, in this classification.

This classification scheme will be used to stratify the road segments in each county. The road segments to be included in the statewide sample will be drawn from the strata within each of the selected counties.

Sample Design

The proposed design is intended to conform to the requirements of the Uniform Criteria. The objective of the design is to generate annual estimates of occupant restraint use for adults and children using booster seats in the front seats of passenger vehicles. Wyoming intends to update the sample of data collection sites every five years in order to have survey results that reflect those counties with more than 85 percent of crash–related fatalities. The sample design described here was provided to Wyoming under a consultant agreement with DLN Consulting, Inc. and Dr. Jamil Ibriq of Dickinson State University in Dickinson, North Dakota.[3] The sample design is for a stratified, systematic, randomly selected sample of data collection segments, with the following detailed steps:

- All 23 counties in Wyoming were listed in descending order of the average number of motor vehicle crash-related fatalities for the period of 2005 to 2009. Fatality Analysis Reporting System (FARS) data were used to determine the number of crash-related fatalities per county. It was determined that 16 of the counties accounted for more than 85.0 percent of traffic-related fatalities.[4] A decision was made by the Wyoming Department of Transportation to include all 16 counties for observation in order to maximize the numbers of counties to be observed. This method used in the first sampling stage resulted in all counties in the sample being selected with certainty and a probability factor of 1. Table 1 lists Wyoming's counties, fatality counts, and cumulative fatality percentages.
- The road segments were selected randomly from all eligible segments in each of the strata in the sampled counties. The road segments were stratified on the basis of the MTFCC road type classification[5]. A total sample of 18 road segments was identified for each county based on the historical number of observations collected over the past five years in Wyoming. This stage of the sampling process resulted in the selection of 288 road segments (16 counties X 18 sites per county).

[3] Dr. Jamil Ibriq's résumé is included in Appendix A.
[4] The 16 counties account for 87.7 percent of traffic-related fatalities in the FARS cumulative data from 2005-2009.
[5] The road types, previously described, are (S1100) primary roads, (S1200) secondary roads, and (S1400) local neighborhood roads, rural roads, and city streets.

- The sampling process included the random selection of additional road segments within each road-type strata and county. These segments are part of a pool of reserve sites that can be substituted for existing segments in the sample that become unavailable due to extensive construction, weather-related problems, or other unanticipated events.
- It is expected that this process will produce approximately 28,800 observations, based on prior surveys of seat belt use in Wyoming. Given this sample size, the standard error should be less than the 2.5 percent maximum specified by the Uniform Criteria. In the event that the standard error exceeds 2.5 percent, additional observations will be collected from existing sites.
- Randomization procedures will be used to determine protocols regarding the initial road segment for observation within each county, the direction of traffic flow for observation, etc., to be described later in this proposal.

Table 1: Wyoming's Average Motor Vehicle Crash-Related Fatalities By County 2005 - 2009

STATE CODE	COUNTY NAME	Average fatality counts for 5 years	Fatality percentage within the state	Cumulative fatality percentage
Wyoming	FREMONT	20.6	12.4	12.4
Wyoming	SWEETWATER	19	11.4	23.8
Wyoming	NATRONA	13.2	7.9	31.8
Wyoming	CAMPBELL	11.8	7.1	38.9
Wyoming	LARAMIE	11.2	6.7	45.6
Wyoming	CARBON	10	6	51.7
Wyoming	ALBANY	7.6	4.6	56.2
Wyoming	JOHNSON	6.8	4.1	60.3
Wyoming	PARK	6.8	4.1	64.4
Wyoming	TETON	6.4	3.9	68.3
Wyoming	UINTA	6.4	3.9	72.1
Wyoming	SHERIDAN	5.4	3.3	75.4
Wyoming	SUBLETTE	5.4	3.3	78.6
Wyoming	LINCOLN	5.2	3.1	81.8
Wyoming	BIG HORN	5	3	84.8
Wyoming	PLATTE	4.8	2.9	87.7
Wyoming	CONVERSE	4.2	2.5	90.2
Wyoming	GOSHEN	3.3	2	92.2
Wyoming	CROOK	3.2	1.9	94.1
Wyoming	WESTON	3	1.8	95.9
Wyoming	NIOBRARA	2.8	1.7	97.6
Wyoming	HOT SPRINGS	2	1.2	98.8
Wyoming	WASHAKIE	2	1.2	100

Sample Size and Precision

A standard error of less than 2.5% for the seat belt use estimates is required by the Final Rule. Since 2006, Wyoming has conducted annual seat belt use studies that have historically obtained standard error rates below this threshold (e.g. 1.1%, 1.2%, 0.9%, 1.0%, and 0.8% in the past five years) via

observed sample sizes between 23,404 and 27,274. These observed sample sizes have been obtained from previous sample designs using nine counties and 23 road segments per county. Therefore, since the proposed design is expected to yield a sample of about 28,800 observations (16 counties X 18 sites per county X 100 vehicles per observation site), the precision objective should be achieved without problem. In the event that the precision objective of a 2.5% or less standard error is not met, additional observations will be taken starting with sites having the fewest observations. New data will be added to existing data until the desired precision is achieved.

County Selection

All 16 counties within the sample were selected with certainty. This was a decision made by the Wyoming Department of Transportation to measure seat belt use in all the top fatality counties within the state. As certainty counties, each was assigned a probability factor of 1 (16 counties selected from the 16 counties in the sample) and represented the first stage of sampling.

Road Segment Selection

After determining the number of road segments in each stratum, the probabilities of selection were determined. Based on the probability calculations, no certainty road segments were identified. The road segments in each stratum in each county were then selected randomly using a simple java program. The program randomly selected a particular site from the list of eligible sites in the stratum. Once a site was selected, it was removed from the list of eligible sites in the stratum. The next site was then selected randomly from the remaining sites. This random process continued until all the sites in the stratum were selected.

Table 2: Roadway Functional Strata by County, Road Segments Population (N), Length, and Number of Segments Selected (n)

County		MTFCC Strata			Total
		Primary	Secondary	Local	
Albany	N	149	992	0	1141
	Length	60.639697	247.87805	0	308.517747
	n	2	16	0	18
Big Horn	N	0	1182	0	1182
	Length	0	271.087301	0	271.087301
	n	0	18	0	18
Campbell	N	267	1041	0	1308
	Length	97.912343	275.346207	0	373.25855
	n	4	14	0	18
Carbon	N	222	1311	0	1533
	Length	80.064222	419.42926	0	499.493482
	n	3	15	0	18
Fremont	N	1	1891	0	1892
	Length	0.115489	486.099588	0	486.215077
	n	0	18	0	18
Johnson	N	698	862	0	1560
	Length	234.830117	196.282768	0	431.112885
	n	8	10	0	18
Laramie	N	447	966	10768	12181
	Length	170.462425	242.350688	2127.917681	2540.730794
	n	1	1	16	18
Lincoln	N	94	1312	0	1406
	Length	34.119548	284.555377	0	318.674925
	n	1	17	0	18
Natrona	N	402	1516	11520	13438
	Length	124.83999	273.855866	1699.565696	2098.261552
	n	1	2	15	18
Park	N	0	1593	0	1593
	Length	0	365.12326	0	365.12326
	n	0	18	0	18
Platte	N	401	754	0	1155
	Length	145.526417	168.650462	0	314.176879
	n	6	12	0	18
Sheridan	N	228	1470	0	1698
	Length	85.030844	222.495535	0	307.526379
	n	2	16	0	18
Sublette	N	0	1064	0	1064
	Length	0	258.890084	0	258.890084
	n	0	18	0	18
Sweetwater	N	329	1162	0	1491
	Length	154.80921	374.258433	0	529.067643
	n	4	14	0	18
Teton	N	0	785	0	785
	Length	0	226.731063	0	226.731063
	n	0	18	0	18
Uinta	N	223	624	0	847
	Length	74.802936	132.715057	0	207.517993
	n	5	13	0	18

Reserve Sample

In the event that an original road segment is permanently unavailable, a reserve road segment will be used for data collection. The reserve road segment sample consists of two additional road segments per original road segment selected, resulting in a reserve sample of 576 road segments. The reserve sample is generated by selecting the road segments immediately preceding and immediately following each randomly selected road segment, and constitutes the original sample. Since the road segments in the database for any road type and county are organized geographically by their longitude and latitude values, this implies that the road segments in the reserve sample for a particular road type and county are located in close proximity to each other. For example, if V_i-1 and V_i+1 are the same type as V_i, i.e., primary road type, and located in the same geographical region, they therefore have similar characteristics in terms of traffic flow and population mix. The reserve sample is developed using simple random sampling in which v road segments are selected from V road segments in a particular road classification and county in such a way that every possible combination of v road segments is equally likely to be the sample selected.

For the purposes of data weighting, the reserve road segments inherit all probabilities of selection and weighting components up to and including the road segment stage of selection from the original road segments actually selected.

Data Collection

Site Selection

Each of the road segments in the sample, including those in the reserve sample, was mapped according to the latitude and longitude of their midpoints. Observation sites were identified by the intersections that occurred within the road segment, except when there was no identifiable intersection or interchange. In the latter case, the midpoint within the road segment was selected for observation.

The data collection sites on the road segments were selected in a location approximately fifty yards from any controlled intersection. For interstate highways, data collection will occur on a ramp carrying traffic that is exiting the highway. In every case, the choice of the observation site will be based on maximizing observer safety and line of sight for reliable data collection.

The observed direction of travel was randomly assigned for each road segment. The locations of the data collection sites were described on Site Assignment Sheets for each county, and maps were developed to assist the observers and quality control monitors in travelling to the assigned locations.

Training

Wyoming will hire a minimum of 16 observers, one for each county in the sample, to collect the data. Additional observers will be hired as reserve observers and to assist assigned observers in high traffic sites, defined by known traffic patterns associated with the general area of the sample sites.[6]

Two quality control monitors will be hired. Each will be responsible for half the state. Observers and quality control monitors will be recruited by a contracted firm with preference given to individuals who have experience in past seat belt use surveys or other field data collection. Law enforcement personnel will be excluded from the hiring base to reduce data collection bias.

There will be two quality control monitors assigned to cover the data collectors. Quality control monitors will make unannounced visits at ten percent of the total sites for purposes of determining data reliability through the separate collection of data. The quality control monitors will not serve as both observer and quality control monitor.

Training for observers and quality control monitors will be conducted at a central location in the state prior to the state's pre-survey held the last week in April each year. The training session will include lecture, classroom, and field exercises. Each observer and quality control monitor will be tested through participation at a minimum of three observation test sites to acquire an inter-observer agreement ratio.

Test sites will be selected to represent the types of sites and situations observers will encounter in the field. No actual sites in the sample of roadway segments will be used as test sites. During field training, observers and quality control monitors will record data independently on separate observation forms. Each person will document vehicle type, gender, and seat belt use of drivers and outboard front seat passengers. Individual observations will be compared to the group to calculate the agreement rate. All agreement rates must be sufficiently high (85% or higher) or additional training will be conducted.

At the conclusion of the training, observers and quality control monitors will be given a post-training quiz to ensure they understand the survey terminology, the data collection protocols, and the reporting requirements.

Quality control monitors will be given an additional half-day training session that focuses on their specific duties. These include conducting unannounced site visits to a minimum of two sites (10%) for each observer and reviewing the field protocols with the observers during the visits. The quality control monitors will be available to respond to questions and offer assistance to observers as needed.

The training syllabus can be found in Appendix D.

Data Collection Protocols

Observers will collect data on the seat belt use of drivers and outboard passengers, including children in booster seats,[7] on the weekdays and weekends during the collection period during the first full week of

[6] The definition of high traffic sites includes the number of observations in similar areas from a combination of data from prior Wyoming SBU surveys, and/or demographic information from densely populated areas.

June 2012. Data collection will occur in 45-minute observation periods between the hours of 7:00 a.m. and 6:00 p.m. Start times will be staggered to ensure that a representative number of weekday/weekend sites and rush hour/non-rush hour sites will be included. Observers will cover between four and five sites per day, depending on the accessibility of sites and the travel time needed to arrive at the sites.

All observers will have packets of maps showing the location of assigned sites and data collection forms specific to each assigned site. Additional information will include the road segment names; the location of the intersection within the road segment; the assigned date, time, and direction of travel; and any additional instructions which may apply at any given site. Sites in close geographic proximity to each other will be clustered to increase efficiency of data collection. The first site to be observed within a cluster will be chosen randomly and observations at subsequent sites will be scheduled by geographic proximity to minimize travel within the cluster. The clustering process will be designed so that an observer can cover all the sites within the cluster in a single day.

Some sites will have much heavier traffic than others. An additional observer will be assigned to sites identified as having heavy traffic patterns. One person will be responsible for the visual observation and the second observer will record the observations as verbally provided by the first observer. The objective here is to maximize coverage and minimize those observations where seat belt use cannot be determined due to the volume of traffic. The number of second observers will be determined once all sites have been physically located.

Data Collection

All passenger vehicles, including commercial vehicles weighing less than 10,000 pounds, will be eligible for observation. Observers will be provided data collection forms, a sample of which is included in Appendix C.[8] Cover sheets for each site will provide for documentation of important site information, including the location of the road segment, assigned date, time, direction of traffic flow, lanes observed, start and end times, and additional information as appropriate, including weather conditions, road construction, or any other factors which might affect data collection. Observers will fill in the cover form at each site. If observers need to move to an alternate site, the reasons, along with all other information, will be detailed on the cover sheet.

For each vehicle, observers will record the type of vehicle, the gender of each driver and passenger, the belt status for each driver and passenger, and the vehicle license registration (Wyoming or out-of-state). These variables, along with belt use by county and roadway type, will be analyzed for the state of Wyoming. [9]

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[7] Front seat occupants who are child passengers traveling in child seats with harness straps will not be included in the observations.

[8] The sample form included in the appendix may need some modifications before data collection occurs, but any changes are likely to be minor.

[9] Once all statistical calculations have been completed by Dr. Ibriq, Dr. Keith Fernsler will serve as the analyst of the data. Dr. Fernsler's resume can be found in Appendix A.

Belt status for each driver and passenger will be recorded as follows:

- Belted, which is defined as an observable shoulder belt in front of the occupant's shoulder;
- Not belted, when the shoulder belt is not in front of the occupant's shoulder;
- Unknown, which is the code used for the occupant or occupants when the observer cannot determine whether the driver or outboard passenger is belted.
- A code which indicates that no passenger is present.[10] This code would also apply to children restrained in safety seats with harnesses.

For sites with two-way traffic, the direction of the traffic to be observed will be predetermined through a random selection process. For road segments with two or more lanes of traffic traveling in the same direction, observations will be made in the lane closest to the observer.

Generally, observations will occur from observer vehicles. The vehicles will be parked in safe locations that do not hinder normal traffic and are not a traffic hazard. The objective is for the observer to find a safe site from which drivers and front seat outboard passenger seat belt use can be determined. Other considerations include light conditions and the direction of the sun, so as to minimize glare in making observations.

In some instances, observers will not be able to collect data from their vehicles. In those cases, observers may exit the vehicle and stand as close to the intersection as is safely feasible. Whenever they make observations outside the vehicle, observers will wear safety vests and hard hats as required by Wyoming Department of Transportation policy. This safety equipment will be issued to all observers and quality control monitors by the Wyoming Department of Transportation.

Alternate Sites and Rescheduling

Assigned sites on assigned days and times may not be available for a variety of reasons. When a site is temporarily unavailable due to inclement weather or a crash, data collection will be rescheduled for a similar time of day and day of week. If a site is permanently unavailable, such as on a detoured road segment or within a gated community, then an alternate site, selected as part of the reserve sample, will be used as the permanent replacement. The two alternate locations for each site will be clearly identified and listed on the Site Assignment Sheet. Observers will select one of the reserve sites at random. If the selected reserve site is also permanently unavailable, then the observer will use the second reserve site listed.

Quality Control

Quality control monitors will be randomly assigned to two data collection sites within each of the sixteen counties in the Wyoming sample. At each site, the monitor will evaluate the observer's general performance and will work alongside the observer to ensure that the observer is following all survey

[10] It is possible that separate lines of data for drivers and passengers during the data analysis stage may be created. This process will make it easier to combine drivers and passengers when reporting on seat belt use for all vehicle occupants.

protocols. The quality control monitor will include in the performance evaluation all or more of the following:

- Was the observer on time at the assigned sites?
- Did the observer complete the cover sheets and observation forms correctly?
- Were the observer's observations of seat belt use accurate?

The quality control monitors will prepare full reports on each of their site visits within a reasonable time after a site visit occurs. If there are problems with an observer's performance, the monitor should report these problems to the survey supervisor immediately so problems can be corrected.

Quality control monitors will be especially sensitive to any indications that an observer may have falsified data. Any such falsification will be reported by the monitor immediately so that the observer can be replaced by a reserve observer. This back-up observer will be assigned to revisit all sites where it is proven or suspected that falsification of data may have occurred.

Under normal circumstances, observers will be required to mail completed observation forms to the data entry supervisor at DLN Consulting, Inc. when observations are completed for all sites within the observer's assigned county, provided that no problems are identified by the quality control monitors for any given observer. When problems are identified, observers may be required to return forms from a given site immediately after observations are completed for that site so that the forms can be reviewed. Also, forms may need to be returned as soon as possible if either the quality control monitor or the observer encounters a large number of observations where seat belt use is coded as "unknown ."

The data entry supervisor will review all returned forms from the observers to ascertain if the rate of observations coded as "unknown" for seat belt use approximates or exceeds 10 percent of the observations for any given site. If this occurs, the observer will be sent back to any such site for an additional observation period.

Imputation, Estimation, and Variance

This section includes a discussion of the sampling weights and formulas; the procedures for adjustments for "nonresponse;" the estimators, with formulas; and the variance estimation.

Imputation

No imputation will be done on missing data.

Variance Estimation

A stratified multistage sample design has been proposed, and as such, direct variance estimation for the seat belt use estimator can be a complicated mathematical process, in addition to being time-consuming and costly. For the variance estimator, the ratio estimation procedure in *The Statistical Package for the Social Sciences (SPSS)* software package, its corresponding *Complex Sample Module for* SPSS, and the joint PSU selection probabilities to calculate the seat belt use rate and its variance will be employed.

Estimation

The following computation is based on the NHTSA guidelines provided in [1]. NHTSA provides two seat belt rate estimators: a ratio estimator, and an estimator using road segment level VMT. DLN implements the ratio estimator to compute the seat belt rate use.

Notation

The following notations are used in developing the seat use rate estimator

- The following are the subscripts used:
  - c used for county (PSU)
  - h used for road segment strata.
  - i used for road segment.
  - j used for time segment.
  - k used for road direction.
  - l used for the lane.
  - m used for vehicle.
  - n used for front seat occupants.
- π denote the inclusion probability, and
  - π_c represents the inclusion probability for a county.
  - $\pi_{hi|c}$ represents the inclusion probability for road segment.
  - $\pi_{j|chi}$ represents the inclusion probability for time segment.
  - $\pi_{k|chij}$ represents the inclusion probability for direction
  - $\pi_{l|chij}$ represents the inclusion probability for lane
  - $\pi_{m|chijl}$ represents the inclusion probability for vehicle.
- $w_{chijklm}$ denote the sampling weight for vehicle m and is computed as follows:

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

$\pi_{chijklm}$ in Equation (1) represents the overall vehicle inclusion probability which is the product of the selection probabilities at all stages in the sample design. $\pi_{chijklm}$ is computed as follows:

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

- *Length* denote the length of the road segment.
- p denote the rate estimator.

Nonresponse Adjustment

Given the data collection protocol described in this plan, including the provision for the use of alternate observation sites, road segments with non-zero eligible volume and yet zero observations conducted should be a rare event. Nevertheless, if eligible vehicles passed an eligible site or an alternate eligible site during the observation time but no usable data were collected for some reason, then this site will be considered as a "non-responding site." The weight for a non-responding site will be distributed over other sites in the same road type in the same PSU. Let

$$\pi_{chi} = \pi_c \cdot \pi_{h|c}$$

be the road segment selection probability, and

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

be the road segment weight. The nonresponding site nonresponse adjustment factor:

$$f_{ch} = \frac{\sum_{\forall\ i}\ w_{chi}}{\sum_{responding\ i}\ w_{chi}}$$

will be multiplied to all weights of non-missing road segments in the same road type of the same county and the missing road segments will be dropped from the analysis file. However, if there were no vehicles passing the site during the selected observation time (60 minutes), then this is simply an empty block at this site and this site will not be considered as a nonresponding site, and will not require nonresponse adjustment.

In rare cases, the Nonresponse Adjustment procedure described above fails. For example, if in a county, only one road segment was drawn from a road type and that this segment was nonresponding and both alternate segments were unavailable, then the nonresponse adjustment will not work. In such a rare case, this cell would be collapsed with a cell of a different road type within the same county.

Seat Use Rate Estimator

The first stratum rate estimator can be obtained using the following equation:

$$p_{chi} = \frac{\sum_{\forall\ chijklmn}\ w_{chijklm}\ Length_{chi}\ y_{chijklmn}}{\sum_{\forall\ chijklmn}\ w_{chijklm}\ Length_{chi}} \tag{2}$$

where

$$y_{gchijklmn} = \begin{cases} 1 & if\ belt\ is\ used \\ 0 & otherwise \end{cases} \tag{3}$$

In the proposed sample design, it is assumed that after the selecting the road segment i, the selection probabilities for all vehicles at segment i are equal. Hence, $w_{jklm|chi}$ values for the same road segment i are equal and can be cancelled in the calculation of the first seat belt rate use estimator. Furthermore, since the $Length_{chi}$ values for all vehicles at road segment i are the same, the length $Length_{chi}$ can also be cancelled from the first seat belt rate use estimator. Thus, the first stratum rate estimator for road segment i that is provided in equation (2) reduces to the following:

$$p_{chi} = \frac{1}{n_{chi}} \sum_{\forall jklmn \ \in \ chi} y_{chijklmn} \tag{4}$$

where n_{chi} is the sample size at road segment i.

Based on the above analysis, our design does not record amount of observation time, the number of directions, the number of lanes, and the number of vehicles passing the site i.

For the second stratum, namely the road type, the following formula is used:

$$p_{ch} = \frac{\sum_{\forall \ i \ in \ h} \ w_{chi} \ Length_{chi} \ p_{chi}}{\sum_{\forall \ i \ in \ h} \ w_{chi} \ Length_{chi}} \tag{5}$$

where

$$w_{chi} = \frac{1}{\pi_{chi}} \tag{6}$$

Another method can be used for the calculation of P_{chi}. Since stratified random sampling is proposed in this methodology where the sample is selected by simple random sampling, that is random sampling without replacement in each stratum, the following equation can be used to calculate the rate estimator at stratum h.

$$p_{ch} = \frac{1}{n_h} \sum_{i=1}^{n_h} p_{chi} \tag{7}$$

where n_h is number of road segments each road stratum.

For the county, the following rate estimator will be used:

$$p_c = \frac{\sum_{\forall \ h \ in \ c} \ w_{ch} \cdot Length_{ch} \cdot p_{ch}}{\sum_{\forall \ h \ in \ c} \ w_{chi} \cdot Length_{ch}} \tag{8}$$

where

$$w_{ch} = \frac{1}{\pi_{ch}} \tag{9}$$

The following equation can also be used to compute p_c.

$$p_c = \frac{1}{n_c} \sum_{i=1}^{n_c} p_{ch} \tag{10}$$

where n_c is number of road strata in the county.

For the state, the following rate estimator will be used:

$$p = \frac{\sum_{\forall\ c} \quad w_c \cdot Length_c \cdot p_c}{\sum_{\forall\ c} \quad w_c \cdot Length_c} \tag{11}$$

where

$$w_c = \frac{1}{\pi_c} \tag{12}$$

The following equation can also be used to compute p.

$$p = \frac{1}{n} \sum_{i=1}^{n} p_c \tag{13}$$

where n is number of counties in the frame.

Appendix A

Resumés

Jamil Ibriq

Summary

Dr. Jamil Ibriq is an assistant professor at Dickinson State University with extensive experience in simulation modeling that involves sampling and optimization techniques. Dr. Ibriq has expertise in area of data processing and survey research methodology. Dr. Ibriq is a proficient user of many programming languages and software packages, including SPSS.

Education

Ph.D., Computer Engineering, Florida Atlantic University, 2007
M.S., Computer Science, 2000
B.A. Biochemistry, University of Texas at Austin, 1979

Professional Associations

IEEE
ACM

Computer Skills

- Operation Systems: Windows, UNIX/LINUX, and UNIX shell scripts.
- Programming Languages: C, C++, Java, Visual Basic, SQL, Oracle PL/SQL, Motorola 68000 Assembly Language, PHP, Python, HTML, and Perl
- Software: Windows database, spreadsheet, and presentation software, TeX and LaTeX, SPSS, MatLab.

Publications

- J. Ibriq, I. Mahgoub, and M. Ilyas. Handbook of Information & Communication Security chapter Secure Routing in Wireless Sensor Networks, pages 549-574. Springer, Germany, December 2010.
- J. Ibriq and I. Mahgoub, "Hierarchical Key Management Scheme for Wireless Sensor Networks," in Proceedings of the 21st IEEE International Conference on Advanced Information Networking and Applications (AINA '07) Niagara Falls, Canada, May 2007, pages 210-219.
- J. Ibriq, I. Mahgoub, M. Ilyas and M. Cardei, Encyclopedia of Wireless and Mobile Communications chapter: Key Management Schemes in Wireless Sensor Networks, CRC Press, Boca Raton, FL, December 2007, pages 1509-1522.
- J. Ibriq and I. Mahgoub,"A hierarchical key management scheme for wireless sensor networks," Technical report, Florida Atlantic University, Boca Raton, FL, April 2006.
- J. Ibriq and I. Mahgoub, "A secure hierarchical routing protocol for wireless sensor networks," in Proceedings of the 10th IEEE International Conference on Communication Systems (ICCS '06),Singapore, October 2006, pages 1-6.
- J. Ibriq and I. Mahgoub,"Cluster-based Routing in Wireless Sensor Networks: Issues and Challenges," in Proceedings of the 2004 International Symposium on Performance Evaluation of Computer and Telecommunication Systems San Jose, CA, July 2004, pages 759 –766.

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CURRENT EMPLOYMENT ACTIVITIES

Research Analyst, Evaluation Research, both quantitative and qualitative. Survey and Observational Research. Focus Group Design and Analysis. Data Analysis and Report Writing. Resident Analyst at DLN Consulting, Inc., 1999 – Present.

EDUCATION AND PROFESSIONAL ACTIVITIES

AB ('67) and MA ('72) Indiana University, Bloomington, IN; Ph.D. University of Montana, 1979.

College Teaching from 1968 – 1973 and 1978 - 2008 at St. Ambrose College (Iowa), Marycrest College (Iowa), Christopher Newport College (Virginia), and Dickinson State University. Several Bush Foundation Faculty Development Awards at Dickinson State; Social Science Department Chair (five years); DSU Professor Emeritus, 2008 – Present.

Membership in American Sociological Association (1976 – Present); Charter Member of ASA Teaching Resource Center; Author of two editions of the manual for Deviant Behavior courses. American Association of Public Opinion Research membership, 2003 – Present.

Knowledge of Microsoft Word and Excel, the Statistical Package for the Social Sciences; analysis of Census Data; and knowledge of the General Social Survey.

Specializations in sociology include methodology, theory, deviant behavior, criminology, sociological practice and public sociology.

RECENT CONSULTING ACTIVITIES

Wyoming seat belt pre-surveys and main surveys, research design and methodology development, data analysis, report writing (Wyoming Department of Transportation, 2006-2011; currently assisting in development of 2011 methodology under new Federal rules.

North Dakota Workforce Safety and Insurance, Employer and Injured Worker Surveys; research design, data analysis, and report writing; 2009 – present.

Focus group design, observation, analysis and report writing on topic of underage drinking (youth, law enforcement, educators, university students),

Community Action Partnership.

Alcohol, Tobacco and Other Drugs, data analysis and report writing, Dickinson Community Action Program.

North Dakota Seat Belt Use Surveys: Research design and data analysis consultation, 1999-2009, including major redesign in 2006; report writing; data analysis using SPSS.

CURRENT COMMUNITY SERVICE

Roughrider Country Kiwanis Club; First Congregational Church, UCC; North Dakota Public Employees Association.

REFERENCES

Deb Nelson, CEO and Owner, DLN Consulting, Inc. 2493 4th Ave W, Dickinson, ND 58601 (701/483-2801). deb@dlnconsulting.com

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Debora Dragseth, Ph.D., Professor of Business Administration, Department of Business and Management, Dickinson State University, 291 Campus Drive, Dickinson, ND 58601 (701/483-2696) deb.dragseth@dickinsonstate.edu

Appendix B

Selected Road Segments within Each County and Their Probabilities of Selection

STATEFP	COUNTYFP	MTFCC	FULLNAME	TLID	Alt_Name	DIVROAD	DECKEDROAD	Longitude	Latitude	SegLen_Mi	SRSWOR
56	1	S1100	I- 80	168749730	US Hwy 30	Y	N	-105.378496	41.145686	0.831622	0.01342282
56	1	S1100	I- 80	604512124		N	N	-105.976683	41.455622	0.185331	0.01342282
56	1	S1200	US Hwy 30	604512235	US Hwy 30	N	N	-105.613789	41.436288	0.487287	0.01612903
56	1	S1200	S 3rd St	168748704	US Hwy 287	N	N	-105.591913	41.28322	0.082576	0.01612903
56	1	S1200	State Hwy 130	168722835		N	N	-106.287656	41.350363	0.427204	0.01612903
56	1	S1200	S 3rd St	604506806	US Hwy 287	N	N	-105.594072	41.294338	0.176844	0.01612903
56	1	S1200	Snowy Range Rd	168750353	State Hwy 130	N	N	-106.138426	41.297205	0.029432	0.01612903
56	1	S1200	N 3rd St	168757040	N 3rd St	N	N	-105.591733	41.328609	0.047988	0.01612903
56	1	S1200	State Hwy 13	168722017		N	N	-106.005865	41.719918	0.045972	0.01612903
56	1	S1200	N 3rd St	604510122	N 3rd St	N	N	-105.589465	41.349592	0.023102	0.01612903
56	1	S1200	Snowy Range Rd	168738815	State Hwy 130	N	N	-105.695098	41.328608	0.311022	0.01612903
56	1	S1200	Happy Jack Rd	168744760	State Hwy 210	N	N	-105.309387	41.191091	0.653912	0.01612903
56	1	S1200	Bus I- 80	168756901	US Hwy 30	N	N	-105.568899	41.309599	0.005935	0.01612903
56	1	S1200	State Hwy 10	168745008		N	N	-105.994902	41.032165	0.213298	0.01612903
56	1	S1200	US Hwy 30	168737539	US Hwy 30	N	N	-105.618617	41.445781	0.55288	0.01612903
56	1	S1200	State Hwy 11	168755506		N	N	-106.090934	41.193713	0.3791	0.01612903
56	1	S1200	State Hwy 210	604505747		N	N	-105.438008	41.239964	0.011093	0.01612903
56	1	S1200	N 4th St	168755958	Co Rd 67	N	N	-105.975505	41.75157	0.062117	0.01612903
56	3	S1200	US Hwy 14 E	605633431		N	N	-107.749401	44.549772	0.01933	0.01522843
56	3	S1200	US Hwy 14A E	180494288		NA	NA	-108.222314	44.854737	0.237779	0.01522843
56	3	S1200	US Hwy 14A E	180493968		NA	NA	-108.320407	44.840598	0.062603	0.01522843
56	3	S1200	US Hwy 14A E	605624056		NA	NA	-108.354114	44.840581	0.053415	0.01522843
56	3	S1200	State Hwy 32	180493545		N	N	-108.415772	44.800116	0.006963	0.01522843
56	3	S1200	State Hwy 32	605621594		N	N	-108.587279	44.732075	0.173849	0.01522843
56	3	S1200	US Hwy 14	180484672		N	N	-108.015517	44.49378	0.057181	0.01522843
56	3	S1200	State Hwy 30	605616914		N	N	-108.339589	44.417795	0.321328	0.01522843
56	3	S1200	3rd St E	180505210	US Hwy 310	N	N	-108.46286	44.87988	0.015607	0.01522843
56	3	S1200	US Hwy 14 Alt	626936823		Y	N	-108.016292	44.79296	0.353805	0.01522843
56	3	S1200	US Hwy 16	180500795		N	N	-107.224785	44.177728	0.893127	0.01522843
56	3	S1200	US Hwy 14 Alternate Rte	180501932		N	N	-108.376118	44.839933	0.099877	0.01522843
56	3	S1200	US Hwy 310	180490602		N	N	-108.584372	44.89102	0.036785	0.01522843
56	3	S1200	State Hwy 32	180506937		N	N	-108.49826	44.776846	0.166397	0.01522843
56	3	S1200	State Hwy 433	180507017		N	N	-107.938854	44.197309	0.474787	0.01522843
56	3	S1200	Marshall St	180508412	State Hwy 31	N	N	-107.962173	44.274582	0.04248	0.01522843
56	3	S1200	State Hwy 433	180499656		N	N	-107.979944	44.249642	0.248082	0.01522843
56	3	S1200	C St	180485070	State Hwy 36	N	N	-108.041229	44.381112	0.071452	0.01522843

56	5	S1100	I- 90	607415957	I- 90	NA	NA	-105.248589	44.294692	0.2338	0.01498127
56	5	S1100	I- 90	607413318	I- 90	NA	NA	-105.383825	44.295056	0.565923	0.01498127
56	5	S1100	I- 90	146326960	US Hwy 14	N	N	-105.352327	44.289556	0.032443	0.01498127
56	5	S1100	I- 90	146347844	US Hwy 14	N	N	-105.378563	44.294171	0.039906	0.01498127
56	5	S1200	State Hwy 59	146348156		N	N	-105.526384	44.352279	0.035885	0.01344861
56	5	S1200	E 2nd St	146325159	E 2nd St	N	N	-105.489034	44.292555	0.006099	0.01344861
56	5	S1200	US Hwy 14	146349851	State Hwy 59	N	N	-105.529311	44.296796	0.051126	0.01344861
56	5	S1200	State Hwy 50	146329404		N	N	-105.62461	44.181178	0.128849	0.01344861
56	5	S1200	State Hwy 50	146334309		N	N	-105.724815	43.993419	0.268938	0.01344861
56	5	S1200	State Hwy 50	146353809		N	N	-105.719015	44.07693	0.152303	0.01344861
56	5	S1200	State Hwy 59	607396191		N	N	-105.464887	44.022166	0.220383	0.01344861
56	5	S1200	State Hwy 50	146333806		N	N	-105.750504	43.925684	0.026796	0.01344861
56	5	S1200	US Hwy 14	146321054	US Hwy 16	N	N	-105.538015	44.391359	0.066024	0.01344861
56	5	S1200	State Hwy 50	146353348		N	N	-105.711349	44.114846	0.837201	0.01344861
56	5	S1200	State Hwy 51	607406131		N	N	-105.283045	44.288769	0.020793	0.01344861
56	5	S1200	US Hwy 14	146346688	State Hwy 59	N	N	-105.530279	44.30921	0.060938	0.01344861
56	5	S1200	State Hwy 59	635532528		N	N	-105.44592	43.969271	0.227319	0.01344861
56	5	S1200	State Hwy 387	146342308		N	N	-105.979091	43.5588	0.24863	0.01344861
56	7	S1100	I- 80	611197576		N	N	-106.521149	41.752786	0.67332	0.01351351
56	7	S1100	I- 80	148702972	I- 80	N	N	-106.948342	41.751102	0.026198	0.01351351
56	7	S1100	I- 80	148729076	I- 80	Y	N	-107.373738	41.786936	0.145819	0.01351351
56	7	S1200	3rd St	622138133	US Hwy 287	N	N	-107.22921	41.807878	0.184918	0.01144165
56	7	S1200	State Hwy 70	148737136		N	N	-107.034068	41.156663	0.828525	0.01144165
56	7	S1200	State Hwy 789	148752555		N	N	-107.730909	41.291091	1.697048	0.01144165
56	7	S1200	State Hwy 130	148712671		N	N	-106.760293	41.392624	0.460732	0.01144165
56	7	S1200	State Hwy 130	148715207		N	N	-106.651357	41.343293	0.077775	0.01144165
56	7	S1200	State Hwy 230	148718040		N	N	-106.610856	41.172584	0.416111	0.01144165
56	7	S1200	State Hwy 220	148695417		N	N	-107.243952	42.428181	0.229884	0.01144165
56	7	S1200	N Higley Blvd	148729803	US Hwy 287 Byp	N	N	-107.215405	41.795669	0.069431	0.01144165
56	7	S1200	State Hwy 72	148707454		N	N	-106.453685	41.718692	0.74372	0.01144165
56	7	S1200	Lincoln Hwy	148702076	US Hwy 30	N	N	-106.277868	41.901903	1.701502	0.01144165
56	7	S1200	State Hwy 230	148743798		N	N	-106.701352	41.218277	0.116587	0.01144165
56	7	S1200	State Hwy 789	148736405		N	N	-107.693147	41.220518	0.326679	0.01144165
56	7	S1200	State Hwy 230	148714894		N	N	-106.776349	41.255209	0.053899	0.01144165
56	7	S1200	State Hwy 487	148727630		N	N	-106.186809	42.097454	1.894335	0.01144165
56	7	S1200	State Hwy 130	148716025		N	N	-106.496624	41.32687	0.364838	0.01144165

56	13	S1200	Fremont St	628694209	Fremont St	N	N	-108.739361	42.824433	0.041387	0.00951877
56	13	S1200	US Hwy 287	148440001	State Hwy 789	N	N	-108.355944	42.651302	0.917551	0.00951877
56	13	S1200	S Fifth St	148435866	S Fifth St	N	N	-108.735391	42.83345	0.075688	0.00951877
56	13	S1200	US Hwy 287	634121244	US Hwy 287	N	N	-107.749138	42.488102	0.108102	0.00951877
56	13	S1200	US Hwy 26	148495718		N	N	-108.56709	43.112365	0.083409	0.00951877
56	13	S1200	US Hwy 26	148494149	US Hwy 26	N	N	-109.43973	43.416155	0.271117	0.00951877
56	13	S1200	US Hwy 20	148486152	State Hwy 789	N	N	-108.160355	43.394654	0.521853	0.00951877
56	13	S1200	Blue Sky Hwy	148473776	Blue Sky Hwy	N	N	-108.766271	43.086613	0.493145	0.00951877
56	13	S1200	US Hwy 26	148485578	US Hwy 26	N	N	-109.940564	43.65715	0.666155	0.00951877
56	13	S1200	Gas Hills Rd	148433925	State Hwy 136	N	N	-108.336608	42.993204	0.029512	0.00951877
56	13	S1200	US Hwy 26	148495394		N	N	-108.879131	43.224349	0.382653	0.00951877
56	13	S1200	US Hwy 20	148468455	State Hwy 789	N	N	-108.115049	43.35974	0.359517	0.00951877
56	13	S1200	US Hwy 26	148486961		N	N	-108.920264	43.213638	0.606161	0.00951877
56	13	S1200	US Hwy 287	148429899	State Hwy 789	N	N	-107.580341	42.462137	0.201633	0.00951877
56	13	S1200	US Hwy 20	148448781	US Hwy 20	N	N	-107.689438	43.151979	0.292919	0.00951877
56	13	S1200	Missouri Valley Rd	148470962	Missouri Valley Rd	N	N	-108.610016	43.214772	0.456474	0.00951877
56	13	S1200	State Hwy 789	148433053		N	N	-108.553074	42.911615	0.035458	0.00951877
56	13	S1200	State Hwy 789	148432511		N	N	-108.569408	42.910442	0.085218	0.00951877
56	19	S1100	I- 25	624471389	I- 25	Y	N	-106.646302	43.995016	0.300971	0.01146132
56	19	S1100	I- 25	147364609	US Hwy 87	Y	N	-106.533561	43.598253	0.116223	0.01146132
56	19	S1100	I- 25	147364620	US Hwy 87	Y	N	-106.608497	43.644685	0.809497	0.01146132
56	19	S1100	I- 90	635198026		Y	N	-106.160823	44.212252	0.230765	0.01146132
56	19	S1100	I- 90	635203662		Y	N	-106.306087	44.217749	0.201378	0.01146132
56	19	S1100	I- 90	147303287		Y	N	-106.156158	44.212943	0.018582	0.01146132
56	19	S1100	I- 90	147364484		Y	N	-106.390326	44.235006	0.124988	0.01146132
56	19	S1100	I- 90	147365807		Y	N	-106.104178	44.219162	0.078479	0.01146132
56	19	S1200	Sussex Rd	147321002	Sussex Rd	N	N	-106.297982	43.698467	0.019054	0.01160093
56	19	S1200	N Main St	624035496	State Hwy 196	N	N	-106.697436	44.360852	0.066349	0.01160093
56	19	S1200	N Main St	147299782	State Hwy 196	N	N	-106.698941	44.34753	0.093436	0.01160093
56	19	S1200	Old Hwy 87	147375368	Old Hwy 87	N	N	-106.70217	44.152286	0.414683	0.01160093
56	19	S1200	Sussex Rd	147320405	State Hwy 1002	N	N	-106.52221	43.69458	0.231502	0.01160093
56	19	S1200	US Hwy 16	147301629		N	N	-106.917457	44.161293	0.182867	0.01160093
56	19	S1200	US Hwy 16	147301697		N	N	-106.92537	44.233648	0.042325	0.01160093
56	19	S1200	US Hwy 16	147330545		N	N	-106.686296	44.354195	0.03269	0.01160093
56	19	S1200	US Hwy 16	617881865		N	N	-106.7265	44.341227	0.069923	0.01160093
56	19	S1200	Sussex Rd	147320871	State Hwy 1002	N	N	-106.373653	43.706753	0.085488	0.01160093

56	21	S1100	I- 25	622388802	I- 25	N	N	-104.838174	41.198768	0.794488	0.00223714
56	21	S1200	E Four Mile Rd	624043730	E Four Mile Rd	N	N	-104.81166	41.189258	0.093536	0.0010352
56	21	S1400	Draper Rd	160176358		N	N	-104.822959	41.096529	0.061319	0.00148588
56	21	S1400	Harriman Rd	160145448	Co Rd 102	N	N	-105.255088	41.000815	0.014499	0.00148588
56	21	S1400	Hirsig Rd	160162024	Hirsig Rd	N	N	-105.164265	41.552454	0.505235	0.00148588
56	21	S1400	E 5th St	160151376		N	N	-104.793841	41.128595	0.05956	0.00148588
56	21	S1400	Foothills Rd	160148179		N	N	-104.773765	41.169918	0.052044	0.00148588
56	21	S1400	Clear View Cir	160171828		N	N	-104.797632	41.199493	0.174119	0.00148588
56	21	S1400	Jack Rabbit Rd	160148102		N	N	-104.772682	41.195892	0.201315	0.00148588
56	21	S1400	Douglas St	160148214		N	N	-104.769206	41.167367	0.028956	0.00148588
56	21	S1400	E 20th St	160149935		N	N	-104.810315	41.138992	0.061455	0.00148588
56	21	S1400	Bus Park	160172654	Bus Park	N	N	-104.057737	41.182368	0.016854	0.00148588
56	21	S1400	Carroll Ave	160147641		N	N	-104.827405	41.165087	0.123116	0.00148588
56	21	S1400	Monroe Ave	160152283		N	N	-104.758935	41.135548	0.125386	0.00148588
56	21	S1400	Co Rd 138	160160311		N	N	-104.566438	41.120511	0.223542	0.00148588
56	21	S1400	McDonald Rd	160176882		N	N	-105.067974	41.152391	0.087434	0.00148588
56	21	S1400	McAllister Ln	160179037		N	N	-104.808831	41.174821	0.015039	0.00148588
56	21	S1400	Military Rd	608318324		N	N	-104.885953	41.13547	0.003858	0.00148588
56	23	S1100	US Hwy 30	611001502		NA	NA	-110.063887	41.684366	0.185933	0.0106383
56	23	S1200	Hwy 238	130299361	State Hwy 238	N	N	-110.997509	42.736914	0.321042	0.01295732
56	23	S1200	US Hwy 30	130309240		N	N	-110.975366	41.842883	2.388625	0.01295732
56	23	S1200	US Hwy 26	130324547	US Hwy 89A	N	N	-111.02474	43.180649	0.251294	0.01295732
56	23	S1200	US Hwy 89	130316044	US Hwy 89A	N	N	-111.017462	43.167187	0.031132	0.01295732
56	23	S1200	US Hwy 26	130316740	US Hwy 89	N	N	-110.933792	43.191983	0.115793	0.01295732
56	23	S1200	Hwy 236	611004110	State Hwy 236	N	N	-110.961819	42.692569	0.058369	0.01295732
56	23	S1200	US Hwy 189	611001556		N	N	-110.571305	41.633032	0.036267	0.01295732
56	23	S1200	State Hwy 89	635503417		N	N	-111.04699	42.347346	0.288851	0.01295732
56	23	S1200	Hwy 237	130297921	State Hwy 237	N	N	-110.950765	42.793945	0.227784	0.01295732
56	23	S1200	State Hwy 239	619637613		N	N	-111.030837	42.982527	0.060775	0.01295732
56	23	S1200	US Hwy 30	130324450		N	N	-110.954794	41.923748	0.658579	0.01295732
56	23	S1200	US Hwy 89	611008956	US Hwy 89A	N	N	-111.025859	43.13296	0.053011	0.01295732
56	23	S1200	State Hwy 235	130301475		N	N	-110.242527	42.261535	0.421719	0.01295732
56	23	S1200	US Hwy 30	130301732		N	N	-110.981435	42.153542	0.502008	0.01295732
56	23	S1200	US Hwy 26	130316677	US Hwy 89	N	N	-110.943822	43.192256	0.401259	0.01295732
56	23	S1200	US Hwy 89	611008950	US Hwy 89A	N	N	-111.026041	43.133785	0.062243	0.01295732
56	23	S1200	US Hwy 189	130303332		N	N	-110.185824	42.179875	0.328363	0.01295732

56	25	S1100	I- 25	149010081	I- 25	N	N	-106.335419	43.056092	0.413891	0.00248756
56	25	S1200	Cy Ave	149022110	Cy Ave	N	N	-106.366423	42.82324	0.017426	0.00131926
56	25	S1200	Cole Creek Rd	149038958	Cole Creek Rd	N	N	-106.188882	42.891713	0.027375	0.00131926
56	25	S1400	Co Rd 607	149017131		N	N	-106.154287	42.66765	0.463712	0.00130208
56	25	S1400	E A St	607727858		N	N	-106.300759	42.85147	0.033396	0.00130208
56	25	S1400	Star Ln	617962807		NA	NA	-106.340114	42.849249	0.007403	0.00130208
56	25	S1400	S 5th Ave	149021251		N	N	-106.392876	42.84351	0.0661	0.00130208
56	25	S1400	Gooder Ave	149019813		N	N	-106.45744	42.894276	0.202048	0.00130208
56	25	S1400	Lakeshore Dr	607699609	Lakeshore Dr	N	N	-106.778388	42.529729	0.036057	0.00130208
56	25	S1400	E 13th St	149024110		N	N	-106.313672	42.837542	0.017916	0.00130208
56	25	S1400	Co Rd 602	149026356		N	N	-106.225292	42.853349	0.012091	0.00130208
56	25	S1400	N 6 Mile Rd	149020050	Co Rd 119	N	N	-106.434416	42.899062	0.408276	0.00130208
56	25	S1400	Second St	607727056		N	N	-106.365773	42.841959	0.030995	0.00130208
56	25	S1400	Oregon Trl	148992543	Turkey Track Rd	N	N	-107.479794	42.473862	0.38719	0.00130208
56	25	S1400	Missouri Ave	607718345	Missouri Ave	N	N	-106.29305	42.83014	0.109077	0.00130208
56	25	S1400	N East St	149039592		N	N	-106.24357	43.414304	0.02002	0.00130208
56	25	S1400	Goose Egg Cir	607701450		N	N	-106.515294	42.760538	0.070234	0.00130208
56	25	S1400	Granada Ave	617963960		N	N	-106.342498	42.814829	0.029059	0.00130208
56	29	S1200	Beartooth Hwy	612523424	US Hwy 212	N	N	-109.633519	44.922577	1.645067	0.01129944
56	29	S1200	Chief Joseph Hwy	612522810	Chief Joseph Hwy	N	N	-109.644082	44.866408	0.069016	0.01129944
56	29	S1200	N Fork Hwy	627160085	US Hwy 14	N	N	-109.619865	44.463599	0.38333	0.01129944
56	29	S1200	Rd 18	149194387	Badger Basin Rd	N	N	-108.916337	44.703963	0.240759	0.01129944
56	29	S1200	N Fork Hwy	149206406	US Hwy 14	N	N	-109.911367	44.482239	0.238308	0.01129944
56	29	S1200	E Entrance Rd	626966347	US Hwy 14	N	N	-110.363413	44.560993	0.680702	0.01129944
56	29	S1200	17th St	612520875	17th St	N	N	-109.054089	44.51858	0.033156	0.01129944
56	29	S1200	Hwy 114	612522765	Hwy 114	N	N	-108.665672	44.875669	0.469234	0.01129944
56	29	S1200	US Hwy 14 Alt	624469118		N	N	-108.683333	44.77285	0.003999	0.01129944
56	29	S1200	Ln 13	612517654	State Hwy 295	N	N	-108.750575	44.695729	0.017968	0.01129944
56	29	S1200	W Coulter Ave	149194643	W US Hwy 14A	N	N	-108.781521	44.744254	0.145786	0.01129944
56	29	S1200	Powell Hwy	612521823	Powell Hwy	N	N	-108.926863	44.679533	0.055645	0.01129944
56	29	S1200	State Hwy 120	149212941		N	N	-108.823272	44.12936	0.036804	0.01129944
56	29	S1200	State Hwy 294	149202036	State Hwy 294	N	N	-109.016527	44.855058	0.095278	0.01129944
56	29	S1200	Rd 9	612468763	Hwy 295	N	N	-108.75993	44.7847	0.219583	0.01129944
56	29	S1200	US Hwy 191	149216474		N	N	-111.055155	44.933339	0.096348	0.01129944
56	29	S1200	W Coulter Ave	625076103	W US Hwy 14A	N	N	-108.776052	44.745846	0.085806	0.01129944
56	29	S1200	R 9	612522218	Rd 9	N	N	-108.759912	44.741851	0.051305	0.01129944

56	31	S1100	I- 25	160436166	I- 25	N	N	-105.033471	42.488013	0.150221	0.01496259
56	31	S1100	I- 25	606897806	I- 25	NA	NA	-105.002408	42.181889	0.336848	0.01496259
56	31	S1100	I- 25	604828586	I- 25	N	N	-104.828994	41.694975	1.05719	0.01496259
56	31	S1100	I- 25	606897551	I- 25	NA	NA	-104.791379	41.788735	0.107012	0.01496259
56	31	S1100	I- 25	604829666	I- 25	NA	NA	-105.048003	42.280869	0.749704	0.01496259
56	31	S1100	I- 25	618035322	I- 25	NA	NA	-104.96093	42.014929	0.189146	0.01496259
56	31	S1200	N Pioneer Rd	604823280	N Pioneer Rd	N	N	-104.750109	41.89528	0.703969	0.01591512
56	31	S1200	Hartville Hwy	160432353	State Hwy 270	N	N	-104.724922	42.320239	0.333096	0.01591512
56	31	S1200	Lake Side Dr	604817760	Lake Side Dr	N	N	-104.747501	42.33979	1.191051	0.01591512
56	31	S1200	US Hwy 26	624031047		N	N	-104.847177	42.248395	0.091746	0.01591512
56	31	S1200	W Whalen St	604820352	US Hwy 26	N	N	-104.748604	42.269744	0.140121	0.01591512
56	31	S1200	State Hwy 34	160445492		N	N	-105.082689	41.953594	0.428089	0.01591512
56	31	S1200	N Wheatland Hwy	160445589	State Hwy 320	N	N	-104.936079	42.12393	0.519234	0.01591512
56	31	S1200	S Glendo Hwy	160431220	S Glendo Hwy	N	N	-104.992648	42.360525	0.223112	0.01591512
56	31	S1200	Hartville Hwy	160441567	State Hwy 270	N	N	-104.694803	42.501143	0.777523	0.01591512
56	31	S1200	el Rancho Rd	604820453	el Rancho Rd	N	N	-105.049222	42.271762	0.09635	0.01591512
56	31	S1200	Slater Rd	160442550	State Hwy 314	N	N	-104.830403	41.871476	0.442447	0.01591512
56	31	S1200	Iron Mountain Rd	160425201	State Hwy 211	N	N	-104.836275	41.756586	0.136607	0.01591512
56	33	S1100	I-90	629143491		NA	NA	-106.936971	44.802617	0.025825	0.00877193
56	33	S1100	I- 90	634774573		NA	NA	-106.828618	44.582922	3.868549	0.00877193
56	33	S1200	US Hwy 14	147411270	US Hwy 16	N	N	-106.534251	44.567071	0.032397	0.01088435
56	33	S1200	Big Goose Rd	147421444	State Hwy 331	N	N	-107.062538	44.76667	0.019143	0.01088435
56	33	S1200	E 5th St	605384408	State Hwy 336	N	N	-106.955285	44.806844	0.031902	0.01088435
56	33	S1200	US Hwy 14	147398734		N	N	-107.364785	44.799827	0.737105	0.01088435
56	33	S1200	Coffeen Ave	147408472	Coffeen Ave	N	N	-106.94748	44.736972	0.051388	0.01088435
56	33	S1200	Front St	147409609	US Hwy 14	N	N	-106.382235	44.637732	0.032159	0.01088435
56	33	S1200	US Hwy 14	147400215		N	N	-107.500689	44.714898	0.029523	0.01088435
56	33	S1200	State Hwy 345	147396185		N	N	-107.321543	44.948465	0.756063	0.01088435
56	33	S1200	N Piney Rd	147420545	N Piney Rd	N	N	-106.900559	44.578041	0.177454	0.01088435
56	33	S1200	US Hwy 87	605368387		N	N	-106.885561	44.63175	0.031174	0.01088435
56	33	S1200	Fish Hatchery Rd	147419891	State Hwy 194	N	N	-106.918967	44.568667	0.147106	0.01088435
56	33	S1200	Big Goose Rd	147399687	State Hwy 331	N	N	-107.070202	44.7648	0.393307	0.01088435
56	33	S1200	State Hwy 335	147408335		N	N	-106.980318	44.700411	0.029008	0.01088435
56	33	S1200	US Hwy 14	147398523		N	N	-107.476861	44.77952	0.069219	0.01088435
56	33	S1200	W Loucks St	614721355	W Loucks St	N	N	-106.973517	44.796617	0.05157	0.01088435
56	33	S1200	Main St	147417308	Main St	N	N	-107.262715	44.871275	0.020451	0.01088435

56	35	S1200	Big Piney Calpet Rd	149346148	Big Piney Calpet Rd	N	N	-110.283783	42.393018	0.195383	0.01691729
56	35	S1200	Big Piney Calpet Rd	149347154	Big Piney Calpet Rd	N	N	-110.284863	42.37851	0.385055	0.01691729
56	35	S1200	State Hwy 352	149330874		N	N	-109.989113	42.956827	0.497131	0.01691729
56	35	S1200	State Hwy 352	149342158		N	N	-110.023781	43.098791	0.126517	0.01691729
56	35	S1200	Bloomfield Ave	617103316		NA	NA	-109.879699	42.882772	0.190991	0.01691729
56	35	S1200	US Hwy 189	614284845	US Hwy 189	N	N	-110.409656	43.20366	0.12783	0.01691729
56	35	S1200	State Hwy 352	631784199		N	N	-109.989064	42.97478	0.225948	0.01691729
56	35	S1200	Big Piney Calpet Rd	149328921	Big Piney Calpet Rd	N	N	-110.290572	42.358646	0.278765	0.01691729
56	35	S1200	Middle Piney Rd	149319272	Middle Piney Rd	N	N	-110.285006	42.538177	0.847708	0.01691729
56	35	S1200	Big Piney Calpet Rd	149327486	Big Piney Calpet Rd	N	N	-110.282524	42.387895	0.261669	0.01691729
56	35	S1200	State Hwy 354	611631792		N	N	-110.124057	42.890585	0.348304	0.01691729
56	35	S1200	State Hwy 353	149335729		N	N	-109.714446	42.749503	0.046943	0.01691729
56	35	S1200	Big Piney Calpet Rd	149349722	Big Piney Calpet Rd	N	N	-110.28701	42.453728	0.154211	0.01691729
56	35	S1200	State Hwy 352	149348298		N	N	-110.024543	43.100778	0.158921	0.01691729
56	35	S1200	Fox Willow Dr	624696401		NA	NA	-109.863534	42.858926	0.039994	0.01691729
56	35	S1200	US Hwy 189	149341811	US Hwy 191	N	N	-110.167302	43.096316	0.195055	0.01691729
56	35	S1200	State Hwy 353	149343493		N	N	-109.509085	42.67973	0.040054	0.01691729
56	35	S1200	US Hwy 191	611631778		N	N	-110.070024	42.890439	0.046435	0.01691729
56	37	S1100	I- 80	624231944	I- 80	NA	NA	-108.780959	41.678094	0.163315	0.01215805
56	37	S1100	I- 80	633104230	US Hwy 30	N	N	-109.316632	41.554826	0.039476	0.01215805
56	37	S1100	I- 80 Interstate Rmp	149499689		N	N	-109.587987	41.555451	0.259911	0.01215805
56	37	S1100	I- 80	149487238	I- 80	N	N	-108.066013	41.661045	0.136447	0.01215805
56	37	S1200	US Hwy 191	618328344		N	N	-109.437956	42.043985	0.338956	0.01204819
56	37	S1200	State Hwy 374	149511333		N	N	-109.482509	41.541523	0.131587	0.01204819
56	37	S1200	Uinta Dr	149500497	Uinta Dr	N	N	-109.472709	41.511854	0.0531	0.01204819
56	37	S1200	State Hwy 414	149464554		N	N	-109.985213	41.027126	0.131917	0.01204819
56	37	S1200	State Hwy 28	149493695		N	N	-109.808056	41.858995	0.147627	0.01204819
56	37	S1200	Lower Farson Cutoff Rd	149492132	California-Mormon Emigr	N	N	-109.666317	41.965696	0.038819	0.01204819
56	37	S1200	Dewar Dr	149503912	Dewar Dr	N	N	-109.226073	41.584776	0.04782	0.01204819
56	37	S1200	US Hwy 191	149496622		N	N	-109.325226	41.744334	0.329502	0.01204819
56	37	S1200	Pilot Butte Ave	611877695	Pilot Butte Ave	NA	NA	-109.216939	41.59261	0.030201	0.01204819
56	37	S1200	State Hwy 430	149458823		N	N	-108.78958	41.049775	0.243255	0.01204819
56	37	S1200	US Hwy 191	149461346	State Hwy 373	N	N	-109.310187	41.437909	1.183344	0.01204819
56	37	S1200	State Hwy 372	149499742	State Hwy 374	N	N	-109.591055	41.555985	0.056765	0.01204819
56	37	S1200	D St	149502711	State Hwy 430	N	N	-109.2125	41.581594	0.037972	0.01204819
56	37	S1200	State Hwy 430	149457693		N	N	-108.836841	41.204642	0.057298	0.01204819

56	39	S1200	Grand Loop Rd	130447128	US Hwy 89	N	N	-110.647369	44.4336	0.335289	0.02292994
56	39	S1200	State Hwy 22	130412425		N	N	-111.023765	43.531226	0.014713	0.02292994
56	39	S1200	W Broadway Ave	626815081	US Hwy 26	N	N	-110.767775	43.479528	0.008592	0.02292994
56	39	S1200	US Hwy 26	130414136	US Hwy 26	N	N	-110.747679	43.393058	0.052961	0.02292994
56	39	S1200	US Hwy 26	130440602	US Hwy 26	N	N	-110.519893	43.822999	0.705899	0.02292994
56	39	S1200	State Hwy 22	235945248		N	N	-111.044466	43.542907	0.121907	0.02292994
56	39	S1200	N Cache St	130449024	US Hwy 26	N	N	-110.762232	43.489123	0.002913	0.02292994
56	39	S1200	Grand Loop Rd	130410308	US Hwy 89	N	N	-110.849699	44.487252	0.476339	0.02292994
56	39	S1200	US Hwy 26	130442142	US Hwy 26	N	N	-110.140642	43.785674	0.058013	0.02292994
56	39	S1200	US Hwy 26	130414163	US Hwy 26	N	N	-110.745142	43.384441	0.015347	0.02292994
56	39	S1200	US Hwy 26	130416881	US Hwy 26	N	N	-110.179349	43.812532	0.085526	0.02292994
56	39	S1200	John D Rockefeller Jr Pkwy	625696810	US Hwy 89	N	N	-110.632246	43.929951	0.644068	0.02292994
56	39	S1200	US Hwy 26	633121288	US Hwy 26	N	N	-110.748242	43.394564	0.107092	0.02292994
56	39	S1200	Grand Loop Rd	130435259	US Hwy 20	N	N	-110.418215	44.54549	0.012986	0.02292994
56	39	S1200	N Moose Wilson Rd	130421972	N Moose Wilson Rd	N	N	-110.846204	43.500474	0.111366	0.02292994
56	39	S1200	W Broadway Ave	626815080	US Hwy 26	N	N	-110.767992	43.479487	0.01271	0.02292994
56	39	S1200	US Hwy 189	130430099	US Hwy 189	Y	N	-110.730176	43.322355	0.075306	0.02292994
56	39	S1200	John D Rockefeller Jr Pkwy	130438888	US Hwy 89	N	N	-110.617709	43.904563	0.02257	0.02292994
56	41	S1100	I- 80	160262564		N	N	-110.424833	41.332567	0.082322	0.02242152
56	41	S1100	I- 80	160262989		N	N	-110.382457	41.349435	0.884846	0.02242152
56	41	S1100	I- 80	160263878		N	N	-110.369274	41.354538	0.581572	0.02242152
56	41	S1100	I- 80	160276521		N	N	-110.449606	41.328957	0.025325	0.02242152
56	41	S1100	I- 80 Bus	625848180		N	N	-110.374475	41.316471	0.467979	0.02242152
56	41	S1200	State Hwy 150	160278118	State Hwy 150	N	N	-110.948574	41.26097	0.069808	0.02083333
56	41	S1200	State Hwy 89	160256726	State Hwy 89 N	N	N	-111.041282	41.406968	0.045853	0.02083333
56	41	S1200	State Hwy 414	160278610		N	N	-110.33637	41.272014	0.050479	0.02083333
56	41	S1200	State Hwy 414	160276641		N	N	-110.32857	41.269014	0.002005	0.02083333
56	41	S1200	State Hwy 89	160259758	State Hwy 89 N	N	N	-110.982831	41.297753	0.059565	0.02083333
56	41	S1200	State Hwy 414	160269401		N	N	-110.121784	41.048317	0.287048	0.02083333
56	41	S1200	State Hwy 412	160258496		N	N	-110.423572	41.4321	0.102188	0.02083333
56	41	S1200	State Hwy 410	160266210		N	N	-110.493857	41.1882	0.094194	0.02083333
56	41	S1200	US Hwy 189	160257875		N	N	-110.625197	41.430625	0.935336	0.02083333
56	41	S1200	Carter Cutoff Rd	160258469	Carter Cutoff Rd	N	N	-110.441935	41.452999	0.052881	0.02083333
56	41	S1200	State Hwy 414	160269069		N	N	-110.178426	41.097522	0.74704	0.02083333
56	41	S1200	State Hwy 150	606738273	State Hwy 150 S	N	N	-110.953165	41.262237	0.015361	0.02083333
56	41	S1200	State Hwy 89	160275943		N	N	-110.957224	41.281488	0.07992	0.02083333

Appendix C

Sample Data Collection Form and Cover Sheet

WYDOT SEAT BELT SURVEY DATA COLLECTION FORM

Observer _____ Total # of observation pages: _____

County _____ Date: _____

Site # _____

Site Location _____

Alternate Site Information

Available alternate sites:

1. _____

2. _____

Is this an alternate site? Yes No (Please circle response)

If yes, which site was selected? 1 2 (Please circle response)

Please provide reason for using alternate site:

_____

_____

_____

Site Description

Please circle your responses:

Assigned traffic flow North South East West

Number of lanes in this direction: _____

Weather conditions clear/sunny cloudy light fog light rain light snow

Observation Site start and end times:

Start Time: _____ AM PM End Time: _____ AM PM

(Total observation period MUST last EXACTLY 45 minutes)

Vehicle Type				WY License		
(1) Auto	(2) Van	(3) SUV	(4) PU	(1) Y	(2) N	(9) Unsure
Driver	(1) M	(2) F	(1) Y	(2) N	(3) UK	
Pass.	(1) M	(2) F	(1) Y	(2) N	(3) UK	(4) NP

Vehicle Type				WY License		
(1) Auto	(2) Van	(3) SUV	(4) PU	(1) Y	(2) N	(9) Unsure
Driver	(1) M	(2) F	(1) Y	(2) N	(3) UK	
Pass.	(1) M	(2) F	(1) Y	(2) N	(3) UK	(4) NP

Vehicle Type				WY License		
(1) Auto	(2) Van	(3) SUV	(4) PU	(1) Y	(2) N	(9) Unsure
Driver	(1) M	(2) F	(1) Y	(2) N	(3) UK	
Pass.	(1) M	(2) F	(1) Y	(2) N	(3) UK	(4) NP

Vehicle Type				WY License		
(1) Auto	(2) Van	(3) SUV	(4) PU	(1) Y	(2) N	(9) Unsure
Driver	(1) M	(2) F	(1) Y	(2) N	(3) UK	
Pass.	(1) M	(2) F	(1) Y	(2) N	(3) UK	(4) NP

Vehicle Type				WY License		
(1) Auto	(2) Van	(3) SUV	(4) PU	(1) Y	(2) N	(9) Unsure
Driver	(1) M	(2) F	(1) Y	(2) N	(3) UK	
Pass.	(1) M	(2) F	(1) Y	(2) N	(3) UK	(4) NP

Vehicle Type				WY License		
(1) Auto	(2) Van	(3) SUV	(4) PU	(1) Y	(2) N	(9) Unsure
Driver	(1) M	(2) F	(1) Y	(2) N	(3) UK	
Pass.	(1) M	(2) F	(1) Y	(2) N	(3) UK	(4) NP

Vehicle Type				WY License		
(1) Auto	(2) Van	(3) SUV	(4) PU	(1) Y	(2) N	(9) Unsure
Driver	(1) M	(2) F	(1) Y	(2) N	(3) UK	
Pass.	(1) M	(2) F	(1) Y	(2) N	(3) UK	(4) NP

Vehicle Type				WY License		
(1) Auto	(2) Van	(3) SUV	(4) PU	(1) Y	(2) N	(9) Unsure
Driver	(1) M	(2) F	(1) Y	(2) N	(3) UK	
Pass.	(1) M	(2) F	(1) Y	(2) N	(3) UK	(4) NP

Vehicle Type				WY License		
(1) Auto	(2) Van	(3) SUV	(4) PU	(1) Y	(2) N	(9) Unsure
Driver	(1) M	(2) F	(1) Y	(2) N	(3) UK	
Pass.	(1) M	(2) F	(1) Y	(2) N	(3) UK	(4) NP

Vehicle Type				WY License		
(1) Auto	(2) Van	(3) SUV	(4) PU	(1) Y	(2) N	(9) Unsure
Driver	(1) M	(2) F	(1) Y	(2) N	(3) UK	
Pass.	(1) M	(2) F	(1) Y	(2) N	(3) UK	(4) NP

Appendix D

Training Syllabus

Day One

Welcome and introduction of all participants

- **Trainers**
- **Employer**
- **Highway Safety Office Personnel**
- **Observers**
- **Alternate (reserve) observers**
- **Quality Control Monitors**

Distribution of equipment

- **Checklist of materials, including WYDOT authorization letter, safety materials, all forms & observation materials**

Survey overview

- **Steps**
- **Importance of Data Collection process**

Data Collection Techniques

- **Definition of vehicles**
- **Definition of passengers & belt/booster seat use**
- **Weekday/weekend**
- **Heavy traffic v. light traffic**
    - **Use of second observers**
- **Weather conditions**
- **Observation duration**

Scheduling and Rescheduling

- **Site assignment sheet**
- **Daylight observation**
- **Problems encountered because of temporary impediments (i.e., weather)**
- **Permanent problems at data collection sites**

Site locations

- **Site location & description sheet**
- **Parking**
- **Interstate ramps and surface streets**
- **Direction of travel/number of observed lanes**
- **Non-intersection requirement**
- **Alternate site selection**

Data Collection Forms

- **Cover sheet**
- **Recording observations**
- **Recording temporary problems/weather conditions**
- **Recording alternate site information**

Safety and Security

Field Testing

- **Practice field site**

Day Two (AM)

Review of maps

- **Locating all sites on county maps**

Shipment of Forms and materials

- **Review materials**
- **Essential timeline**

Timesheet and expense reporting

Field Testing

- **3 Test Sites**

Post Training Quiz

Day Two (PM)

Quality Control Training

- **Review of randomly selected QC sites**
- **Checklist of field protocols to address during site**
- **Inter-observer agreement ratio testing**
- **Procedures in cases of suspected or confirmed data falsification**
- **Reporting**

Uniform Criteria for State Observational Surveys of Seatbelt Use

Per the required procedures, the sample first created in 2012 reached its expiration date and necessitated a new sampling. What follows is the certification form submitted for NHTSA approval.

Uniform Criteria for State Observational Surveys of Seat Belt Use

Certification Form

1. CONTACT INFORMATION

Submit Form

State: Wyoming

Name: Contact Name

Address: Street Address

City | State | Zip Code

Email: Email Address

Phone number:

2. VERIFICATION

I verify that this sample design is consistent with the previously NHTSA approved design plan (i.e., the sample design characteristics (stratification, stages of selection, etc.) and sample sizes have not changed). I verify that all of the information provided is complete and accurate.

(●) Yes ( ) No

3. ROAD SEGMENT SAMPLING FRAME

a. What road segment sample frame was used? TIGER

If Other, please specify:

b. If you are not using NHTSA provided road segment data please verify the following:

I verify that every road in the state is represented in the database, with the exception of rural local roads in counties that are not within Metropolitan Statistical Areas (MSAs), other non-public roads, unnamed roads, unpaved roads, vehicular trails, access ramps, cul-de-sacs, traffic circles, and service drives. If the database is a sample of roads, I verify that all in-scope roads had a chance to be selected and the overall probability of selection is trackable.

(●) Yes ( ) No

4. EXCLUSIONS

a. Was the optional FARS 85% fatality exclusion implemented? (●) Yes ( ) No
[1340.5.a.1 allows for exclusions of counties proivded that the sample frame accounts for at least 85% of the state's fatalities in the last 3, 4, 5 years based on FARS.]

i. If yes, please specify years of FARS data used:

Year 2014 and range 5 years

b. Was the optional rural local roads exclusion implemented? (●) Yes ( ) No
[1340.5.a.2.iii allows for exclusions of rural local roads that are not within a Metropolitan Statistical Area (MSA).]

c. Were the optional road types exclusions implemented? (●) Yes ( ) No
[1340.5.a.2.iii allows for exclusions of non-public roads, unnamed roads, unpaved roads, vehicular trails, access ramps, cul-de-sacs, traffic circles, and service drives.]

5. STAGES OF SELECTION

a. How many stages of selection? 2 Stages

b. Please specify the definition of units:

Stage	Unit	
1	County	If Other, please specify:
2	Road segments	If Other, please specify:
3	Select Unit	If Other, please specify:
4	Select Unit	If Other, please specify:

c. Was stratification of sampling units used for each for each stage (i.e., PSUs/counties, road segments, etc.)? (●) Yes ( ) No

i. If yes, please specify:
County Stratification: By Region
Road Segment Stratification: By Road Type

6. **PROBABILITIES OF SELECTION**

a. Probabilities of selection: Other | SRS by County and Road Type

i. If PPS, please specify measure of size: Specify PPS Measure of Size:

7. **ALLOCATION**

a. Please provide the following information on the allocation of the road segment sample:

Stratum/County	Description	Population	Sample Count
Albany	S1100	254	4
Albany	S1200	954	13
Big Horn	S1200	1258	17
Campbell	S1100	234	3
Campbell	S1200	990	14
Carbon	S1100	385	4
Carbon	S1200	1216	13
Converse	S1100	310	5
Converse	S1200	765	12
Crook	S1100	315	5
Crook	S1200	820	12
Fremont	S1200	1613	17
Johnson	S1100	667	8
Johnson	S1200	842	9
Laramie	S1100	527	1
Laramie	S1200	964	1
Laramie	S1400	13007	15
Lincoln	S1200	1430	17
Natrona	S1200	1335	1
Natrona	S1400	28117	16
Niobrara	S1200	495	17
Park	S1200	1561	17
Platte	S1100	372	6
Platte	S1200	751	11
Sheridan	S1100	218	2
Sheridan	S1200	1422	15
Sweetwater	S1100	534	5
Sweetwater	S1200	1135	12
Teton	S1200	617	17

Submit Form

Signed Change Order Approved on 05-01-2020

For the 2020 observation period timeline adjustments were implemented due to the impacts of COVID-19. Requests for changes in the process (observer training, data collection, and data analysis) were submitted to and approved by the State Highway Safety Engineer Matthew Carlson, P.E.

For the 2021 observation period data was collected the first full week of June as is customary.

Mark Gordon
Governor

WYOMING Department of Transportation
"Providing a safe, high quality, and efficient transportation system"
5300 Bishop Boulevard, Cheyenne, Wyoming 82009-3340

K. Luke Reiner
Director

Distribution to:		Services for:		Reviewed by:	Date:
Owner:	☒	Design	☐		
FHWA (When Applicable):	☐	Construction	☐		4-30-2020
Consultant:	☒	Other	☒	Engineering Services Engineer	

Project No.:	HS40220 & HS40221	Consultant:	DLN Consulting, Inc.
Project Name:	Statewide Seat Belt Observation Survey	Address:	2493 4th Avenue West, Suite G Dickinson, ND 58607
County:	Statewide	Agreement No.:	69717
		Change Order No.:	1

Upon execution of this Change Order, the following supplemental instructions and/or fees shall become a part of the project agreement and, where in conflict with, supersede the original agreement and previously executed change orders.

Description of Services:

Change Order No. 1 is issued to amend the scope of work, to extend the completion date, and to add project HS40221 for Fiscal Year 2021 as described in Exhibit A-1, attached hereto and made a part of this Change Order.

Execution of this Change Order authorizes performance to commence from the date entered into and, except as may be changed by the State, in writing, the Consultant shall complete the services described herein on or by December 21, 2020.

April 30, 2020

Fees:

Original Agreement	$126,004.80	Cost-not-to-exceed
Net Previous Changes	$ 0.00	Cost-not-to-exceed
Subtotal	$126,004.80	Cost-not-to-exceed
Fee (increase this change order)	$ 0.00	Cost-not-to-exceed
Total Adjusted Fee	$126,004.80	Cost-not-to-exceed

With the exception of the items explicitly delineated in this Change Order, all terms and conditions of the original Agreement between WYDOT and the Consultant, including but not limited to sovereign immunity, shall remain unchanged and in full force and effect.

EXECUTION: This Change Order shall be binding on successors and assigns of either party and the parties hereby agree to the terms and conditions set forth in this instrument, and have found that this Change Order can be authorized under the terms of the above referenced Agreement and shall be executed by their proper officials thereunto duly authorized as of the date indicated below.

DLN Consulting, Inc.

By: Debra L. Nelson Date: 5-1-2020
Debra L. Nelson
President

Transportation Commission of Wyoming

By: _____ Date: 5-1-2020
Matthew Carlson, P.E.
State Highway Safety Engineer
Wyoming Department of Transportation

Proposal for Wyoming Seat Belt Survey, 2020

DLN Consulting, Inc. staff met on April 17, 2020, to map out a plan for the conduct of the Wyoming Seat Belt Survey in the current year. There are so many unknown factors that the strategic plan has to be flexible enough to accommodate various developments in the Covid-19 pandemic. Here is an outline of DLN's current proposal.

The Basic Plan

- Prior yearly studies have been done in early June, with training the week before field observations occur. It is unlikely that conditions will change enough to permit that time frame.
- DLN staff recommends that the time for training and observations needs to be postponed until traffic conditions are as comparable to prior studies as possible.
    - Specifically, the ratio of in-state and out-of-state licensed vehicles should be as similar as possible. For this to happen, the tourist season will need some opportunity to develop for comparable traffic patterns.
    - DLN staff suggest a plan that specifies as a tentative goal the latest possible time for observations, which we calculate to be one to two weeks before Labor Day (September 7, 2020), the day that usually marks the end of the tourist season. This plan sets the dates as follows:
        - Training to be the week of August 17-21, 2020.
        - Field observations collected August 24-30, 2020.
- If conditions allow, both training and observations could occur earlier, depending on when normal travel conditions return.

A Contingency Plan

If current pandemic conditions prevail up to and including the training and observation period in August, some changes will be necessary. DLN proposes the following potential contingency plans:

- Training can be done virtually using a meeting platform (Zoom, Go To Meeting, WebEx, etc.) that brings the observers together. DLN staff have experience with different platforms. However, it will be necessary to determine in advance if observers are available and all have the technical capabilities, hardware and software (including WiFi access), to participate in the virtual training.
- A more complex problem involves the process of determining interaccuracy reliability (or interrater reliability) ratios. Under normal conditions, observers are paired, and they watch and record observations for the same traffic. Their observations are then compared and a reliability ratio is calculated. If pandemic conditions are still prevalent, DLN staff suggest a simulated test of observer interaccuracy.
    - DLN staff will create virtual pairings of observers who view the same traffic, but in a video format. This simulation requires that each pair view the same video and record observations in as similar a manner as possible. The platform for viewing the videos needs to exclude observer actions that alter the viewing patterns. For example, observers would not be allowed to rewind and rewatch traffic, use slow motion or zooming techniques, or otherwise change the viewing patterns and skew the results.

- Once this plan is approved, DLN staff can begin the process of preparing for the simulation.
  - Staff will begin the search for an appropriate video platform as soon as possible.
  - Video services or video equipment will need to be procured and videos will need to be recorded.
  - Videos will need to approximate Wyoming traffic patterns and Wyoming landscape conditions.
  - A pre-test can allow assessment of the viability of the simulation.

Changes to the Budget

Virtual training may, and simulated tests of interaccuracy reliability ratios certainly will, involve costs that are not currently itemized in the budget for the Wyoming 2020 Seat Belt Survey. However, the current budget provides for travel and in-person meeting expenses that could be reallocated to cover the unexpected costs of virtual training and simulation tests. Of course, this depends on whether this plan is acceptable, approved and implemented.

One additional point about the simulation: DLN staff believe that a pre-test of the simulated interaccuracy reliability ratio experiment is in order. This can be done on a smaller scale, using only a few paired observers and locally produced videos for a trial run of the process. Whether a simulation is necessary, or is unnecessary because conditions return to normal in a timely manner, it may still be valuable to determine if the simulations are reliable enough to be included in the training.

At this point, DLN staff does not assume that conditions will be fully returned to normal under the current pandemic restrictions. Depending on real circumstances, a hybrid plan that uses an appropriate mix of virtual training and on-site data collection can be developed.

Changes to the Timeline

Event	Task	Original Completion Date	Proposed Completion Date
Observer Training	All contacts for training date	05/15/2020	7/1/2020
	Training Event	NLT 6/5/2020	Week of 8/17/2020
Preparation	Purchases completed, all setup and preparation completed (including virtual training & reliability testing, if necessary)	5/29/2020	NLT 8/3/2020
Observational Survey	Statewide Survey Observations	6/8 – 6/14/2020	8/24 – 8/30/2020
	Data Work & QA Completed	7/31/2020/	10/15/2020
	Statewide Survey Results to HSO	8/14/2020	10/31/2020
	Statewide Analysis Report to HSO	9/25/2020	12/21/2020

Appendix C: NHTSA Approval

NHTSA approval and final review

State Seatbelt Survey Plan

NHTSA Final Review

Wyoming

Version 4

Requirement Type		Design Requirement	Status	Comments
Statistical	1	Are the sampling units, with measures of size, defined and compliant with 1340.5.a?	Compliant	16 counties account for approximately 85% of the passenger vehicle crash-related fatalities according to FARS data averages for the period 2005 to 2009 (p.4).
GIS	2	Is the source for the sample frame road segments specified and compliant with 1340.5.a.2.i?	Compliant	Westat supplied 2010 TIGER data (p.4).
Statistical	3	If there are any exclusions to the sampling frame, are they specified and compliant with 1340.5.a.2.ii?	Compliant	Wyoming exercised the available exclusion option and removed rural local roads in counties that are not within Metropolitan Statistical Areas (MSAs), and other non-public roads, unnamed roads, unpaved roads, vehicular trails, access ramps, cul-de-sacs, traffic circles, and service drivers from the dataset (p.4).
Statistical	4	Are the stratification methods for each stage of sampling defined along with a description of methods that were used for allocating the sample units into the strata?	Compliant	1) County: 16 of 23 counties accounted for 85% of the traffic-related fatalities; all 16 counties were selected for the sample (p.5). 2) Road segment: Stratified by MTFCC road classification into three groups (Primary, Secondary, and Local) (pp.4-5).
Statistical	5	Is the method used for selecting road segments for observation sites specified and compliant with 1340.5.b?	Compliant	Segments were sampled by random sampling (p.5). The reserve sample segments were also selected SRS within a particular road classification and county (p.9).
Statistical	6	Is there a list of all observation sites and their probabilities of selection?	Compliant	A list of sites is found in Appendix B (p.23). The probabilities represent an SRS.
Statistical	7	Is there an explanation of how the sample sizes were determined? Is that explanation compliant with section 1340.5.d?	Compliant	Based on historical data, the state estimates a total of 28,800 vehicle observations (16 counties * 18 sites in each county * 100 observations per site) (pp.6-7).

Requirement Type		Design Requirement	Status	Comments
Operational	8	Is the process of assigning observation sites to observation time periods explained? Is it compliant with 1340.6?	Compliant	All observations will be conducted during weekdays and weekends between 7 a.m. and 6 p.m. (p.11). Sites within relatively close geographic proximity will be assigned as data collection clusters. The first site within each cluster will be assigned a random day and time for completion. All other sites within a cluster will be assigned to the same day and scheduled in order of operational efficiency (p.11).
Statistical	9	Is the state statistician named and his/her qualifications described? Does the statistician meet the requirements in 1340.8.c?	Compliant	The statistician's resume is Appendix A (p.19).
Operational	10	Is an observation period defined?	Compliant	45 minutes (p.11)
Operational	11	Are the procedures used to reschedule and substitute observation sites specified and compliant with 1340.5.c?	Compliant	When a site is temporarily unavailable, data collection will be rescheduled for a similar day of the week and time of day. In the event that the site is permanently unworkable, an alternate site, selected as part of the reserve sample, will be used as a permanent replacement (p.12).
Statistical	12	Are the procedures for collecting additional data to reduce the nonresponse rate specified and compliant with 1340.9.f.2?	Compliant	If a site exceeds 10% nonresponse, data collectors will be sent back to that site for an additional observation period (p.13).
Operational	13	Are the data collection procedures described?	Compliant	Data collection will primarily be performed by single observers, except at high volume sites where two data collectors will be assigned (p.11). The observed direction of traffic will be predetermined and randomly assigned (p.12). The appropriate vehicles, occupants, belt use definitions, and data elements are included in the survey (pp.10-12).
Operational	14	Are the number of observers and quality control monitors specified?	Compliant	16 data collectors and 2 QC Monitors will be hired (p.10). QC Monitors will visit 2 sites per county (or 11%) (p.10). Training will take place prior to data collection, during the last week of April (p.10). The training agenda is Appendix D (p.35).
Statistical	15	Is there a description of how the seat belt use rate estimate will be calculated?	Compliant	A ratio estimator will be used (pp.15-16).
Statistical	16	Is there a description of how the variance will be calculated? Is it compliant with 1340.9.g?	Compliant	Complex Sample Module for SPSS will be used to calculate the variance (p.13).

Requirement Type		Design Requirement	Status	Comments
Statistical	17	If any imputation is planned, are the methods specified and compliant with 1340.9.c?	Compliant	No imputation is planned (p.13).
Statistical	18	Are the weighting procedures appropriate for the design, including base weights, and adjustments for observation sites with no usable data, and specified and compliant with 1340.9.d and 1340.9.e?	Compliant	Weights and estimators are appropriate for the SRS design (pp.14-17). The nonresponse adjustment is also appropriate for the proposed plan (p.15).
Statistical	19	If the standard error exceeds 2.5 percentage points, are the procedures to reduce it specified and compliant with 1340.9.g?	Compliant	If the standard error exceeds 2.5%, more data will be collected from existing sites (p.6).

U.S. Department
of Transportation
**National Highway
Traffic Safety
Administration**

Region 8
Colorado, Nevada, North Dakota,
South Dakota, Utah, Wyoming

12300 West Dakota Avenue
Suite 140
Lakewood, CO 80228
Phone: 720-963-3100
Fax: 720-963-3124

February 9, 2017

Kenneth Ledet, Grants Manager
Highway Safety Behavioral Program
Wyoming Department of Transportation
5300 Bishop Boulevard
Cheyenne, WY 52009

Dear Ken:

NHTSA has completed its review of your Uniform Criteria for State Observational Surveys of Seat Belt Use Certification form and supporting documentation, evaluating the four requirements related to the re-selection of observation sites listed in 1340.10 of the Final Rule. We are pleased to inform you that your re-selection is fully compliant with the Uniform Criteria for State Observational Surveys of Seat Belt Use.

Sincerely,

Gina Mia Espinosa-Salcedo
Regional Administrator

cc: Karson James

NHTSA
www.nhtsa.gov

Appendix D: Data Tables

Detailed table of collected data

Occupant Frequencies

Unweighted Frequencies of Occupant Belt Use by County and Observer, Wyoming 2021						
		Occupant Belt Use				
County	Observer	Belted	Not Belted	Unsure	Total	Per Cent
Albany	Monty Byers	1,408	131	0	1,539	5.3%
Big Horn	Dixie Elder	747	101	0	848	2.9%
Campbell	Bryan Shannon	1,348	446	14	1,808	6.2%
Carbon	Brooke Darden	1,165	530	3	1,698	5.8%
Converse	Walter Tampellini	1,206	93	10	1,309	4.5%
Crook	Skylar Elder	1,596	129	0	1,725	5.9%
Fremont	Sandra Gabel	1,729	265	8	2,002	6.8%
Johnson	Deb Eutsler	1,094	74	0	1,168	4.0%
Laramie	Ashley Ingerle	412	179	0	591	2.0%
Lincoln	Mindy McKinley	1,320	86	0	1,406	4.8%
Natrona	Meredith Peak	588	138	0	726	2.5%
Niobrara	Lori Cole	801	28	0	829	2.8%
Park	Donna Lucas	1,111	347	13	1,471	5.0%
Platte	Doug Peterson	1,196	156	0	1,352	4.6%
Sheridan	Kendra Hughes	1,545	429	0	1,974	6.7%
Sweetwater	Kayla Schear	2,920	1,650	0	4,570	15.6%
Teton	Susan Parkinson	3,699	540	0	4,239	14.5%
	Total	23,885	5,322	48	29,255	100.0%
				Average	1,721	

Frequencies by Type of Vehicle Occupant, Wyoming 2021		
	Unweighted Count	Percent
Drivers	21,323	72.9%
Passengers	7,932	27.1%
All Occupants	29,255	100.0%

Occupant Variables

Estimate of Occupant Seat Belt Use, Wyoming 2021					
Belt Use	Estimate	Standard	95% Confidence Interval		Unweighted
		Error	Lower	Upper	Count
Belted	80.2%	0.4%	79.5%	80.9%	23,885
Not Belted	19.8%	0.4%	19.1%	20.5%	5,322
Unsure	0.0%	0.0%	0.0%	0.0%	48
Total	100.0%				29,255

Occupant Estimated Belt Use by County, Wyoming 2019-2021			
Year	2019	2020	2021
County	% Belted	% Belted	% Belted
Albany	87.9%	89.7%	91.3%
Big Horn	86.4%	89.4%	88.1%
Campbell	67.5%	77.7%	74.7%
Carbon	67.6%	91.9%	68.7%
Converse	73.1%	81.9%	92.1%
Crook	92.9%	92.6%	92.4%
Fremont	83.5%	83.3%	86.4%
Johnson	87.8%	85.8%	93.5%
Laramie	74.9%	90.4%	69.7%
Lincoln	88.7%	87.0%	93.9%
Natrona	78.4%	78.4%	81.0%
Niobrara	97.8%	94.8%	96.6%
Park	72.3%	83.6%	75.5%
Platte	85.3%	84.9%	88.2%
Sheridan	79.8%	83.1%	78.5%
Sweetwater	63.5%	77.5%	64.2%
Teton	91.6%	91.6%	87.3%
Total	78.3%	82.5%	80.2%

Percent of Occupants by Gender and Vehicle Type, Wyoming 2021			
Vehicle	Gender		Percent
Type	Male	Female	Difference
Auto	16.5%	21.6%	5.1%
Van	27.2%	48.3%	21.1%
SUV	6.4%	7.2%	0.7%
PU Truck	49.8%	22.9%	-26.9%
Total	100.0%	100.0%	0.0%

Estimate of Occupant Belt Use by Vehicle Type, Wyoming 2021								
Vehicle	Occupant Belt Use				Unweighted	%		
Type	Belted	Not Belted	Unsure	Total	Count	Total	Males	Females
Auto	75.9%	24.0%	0.1%	100.0%	5,471	18.7%	16.5%	21.6%
Van	86.9%	13.1%	0.0%	100.0%	10,579	36.2%	27.2%	48.3%
SUV	88.5%	11.5%	0.0%	100.0%	1,975	6.8%	6.4%	7.2%
PU Truck	74.3%	25.6%	0.0%	99.9%	11,230	38.4%	49.8%	22.9%
Total	82.5%	17.5%	0.0%	100.0%	29,255	100.0%	100.0%	100.0%

Estimate of Occupant Belt Use by Vehicle Type and Occupant Gender, Wyoming 2021							
	Vehicle	Occupant Belt Use				Unweighted	% of
Gender	Type	Belted	Not Belted	Unsure	Total	Count	Sample
Male	Auto	66.6%	33.3%	0.1%	100.0%	2,786	16.5%
	Van	80.5%	19.4%	0.0%	99.9%	4,584	27.2%
	SUV	84.0%	16.0%	0.0%	100.0%	1,084	6.4%
	PU Truck	74.2%	25.8%	0.0%	100.0%	8,392	49.8%
	Total	75.2%	24.8%	0.0%	100.0%	16,846	100.0%
Female	Auto	84.1%	15.9%	0.1%	100.1%	2,685	21.6%
	Van	90.8%	9.2%	0.0%	100.0%	5,995	48.3%
	SUV	93.1%	6.9%	0.0%	100.0%	891	7.2%
	PU Truck	75.1%	24.9%	0.1%	100.1%	2,838	22.9%
	Total	86.7%	13.3%	0.0%	100.0%	12,409	100.0%

Estimates of Occupant Seat Belt Use by Population Density, Wyoming 2021						
Population	Occupant Belt Use				Unweighted	
Density	Belted	Not Belted	Unsure	Total	Count	%
Urban	75.3%	24.7%	0.0%	100.0%	6,830	23.3%
Rural	89.1%	10.8%	0.1%	100.0%	22,425	76.7%
All	80.2%	17.5%	0.0%	97.7%	29,255	100.0%

Estimate of Occupant Seat Belt Use by Wyoming License, Wyoming 2021						
	Occupant Belt Use				Unweighted	
Wyoming License	Belted	Not Belted	Unsure	Total	Count	%
Yes	78.4%	21.6%	0.0%	100.0%	15,950	54.5%
No	88.7%	11.2%	0.1%	100.0%	12,966	44.3%
Unsure	68.5%	30.7%	0.8%	100.0%	339	1.2%
Total	80.2%	19.8%	0.0%	100.0%	29,255	100.0%

Estimate of Occupant Seat Belt Use by Roadway Type, Wyoming 2021						
	Occupant Belt Use				Unweighted	
Roadway Type	Belted	Not Belted	Unsure	Total	Count	%
Primary	80.2%	19.7%	0.1%	100.0%	8,996	30.8%
Secondary	81.6%	18.2%	0.2%	100.0%	19,216	65.7%
Other*	79.9%	20.1%	0.0%	100.0%	1,043	3.6%
Total	80.2%	19.8%	0.0%	100.0%	29,255	100.0%
***"Other" roadways are a catchall category for local, rural roads, and city streets**						
that are not primary or secondary roadways.						

Estimate of Occupant Seat Belt Use by Day of Week, Wyoming 2021						
	Occupant Belt Use				Unweighted	
Weekday-Weekend	Belted	Not Belted	Unsure	Total	Count	%
Weekdays	78.6%	21.4%	0.0%	100.0%	23,837	81.5%
Weekends	90.5%	9.4%	0.0%	99.9%	5,418	18.5%
All	80.2%	17.5%	0.0%	97.7%	29,255	100.0%

Estimate of Occupant Seat Belt Use by Occupant Gender, Wyoming 2021						
Occupant	Occupant Belt Use				Unweighted	
Gender	Belted	Not Belted	Unsure	Total	Count	%
Male	75.2%	24.8%	0.0%	100.0%	16,846	57.6%
Female	86.7%	13.3%	0.0%	100.0%	12,409	42.4%
All	80.2%	17.5%	0.0%	97.7%	29,255	100.0%

Estimate of Occupant Seat Belt Use by Vehicle Type, Wyoming 2021						
	Occupant Belt Use				Unweighted	Percent
Vehicle Type	Belted	Not Belted	Unsure	Total	Count	Percent of Sample
Auto	75.9%	24.0%	0.1%	100.0%	5,471	18.7%
Van	86.9%	13.1%	0.0%	100.0%	10,579	36.2%
SUV	88.5%	11.5%	0.0%	100.0%	1,975	6.8%
Pickup Truck	74.3%	25.6%	0.0%	99.9%	11,230	38.4%
Total	80.2%	19.8%	0.0%	100.0%	29,255	100.0%

Estimate of Occupant Belt Use by Type of Weather, Wyoming 2021						
	Occupant Belt Use				Unweighted	
Weather	Belted	Not Belted	Unsure	Total	Count	%
Clear/Sunny	80.2%	19.7%	0.0%	99.9%	27,245	93.1%
Cloudy	78.8%	21.1%	0.1%	100.0%	1,908	6.5%
Light Fog	50.0%	50.0%	0.0%	100.0%	2	0.0%
Light Rain	80.4%	19.6%	0.0%	100.0%	100	0.3%
Total	80.2%	19.8%	0.0%	100.0%	29,255	100.0%

Estimate of Occupant Belt Use by Number of Lanes Observed, Wyoming 2021						
	Occupant Belt Use				Unweighted	
Lanes	Belted	Not Belted	Unsure	Total	Count	%
One Lane	84.2%	15.8%	0.1%	100.1%	16,831	57.5%
Two Lanes	77.6%	22.4%	0.0%	100.0%	12,424	42.5%
Total	80.2%	19.8%	0.0%	100.0%	29,255	100.0%

Estimate of Occupant Belt Use by Time of Observation, Wyoming 2021						
	Occupant Belt Use				Unweighted	
Time	Belted	Not Belted	Unsure	Total	Count	%
7:30-9:30 AM	82.3%	17.6%	0.1%	100.0%	4,378	15.0%
9:30-11:30 AM	77.8%	22.2%	0.0%	100.0%	5,491	18.8%
11:30 AM-1:30 PM	67.7%	32.2%	0.1%	100.0%	6,678	22.8%
1:30-3:30 PM	83.2%	16.8%	0.0%	100.0%	5,797	19.8%
3:30-5:30 PM	90.4%	9.5%	0.1%	100.0%	6,911	23.6%
Total	80.2%	19.8%	0.0%	100.0%	29,255	100.0%

Estimate of Occupant Belt Use by Direction of Observation, Wyoming 2021						
	Occupant Belt Use				Unweighted	
Direction	Belted	Not Belted	Unsure	Total	Count	%
North	92.9%	7.1%	0.0%	100.0%	4,526	15.5%
South	90.9%	9.1%	0.0%	100.0%	6,079	20.8%
East	71.7%	28.3%	0.0%	100.0%	9,522	32.5%
West	83.7%	16.3%	0.1%	100.1%	9,128	31.2%
Total	80.2%	19.8%	0.0%	100.0%	29,255	100.0%

Driver & Passenger Variables

Estimates of Percent Belted by County for Drivers, Passengers and Occupants, Wyoming 2021					
				Total	% of Total
County	Drivers	Passengers	Occupants	Occupants	Occupants
Albany	88.8%	98.2%	91.3%	1,539	5.3%
Big Horn	85.9%	93.2%	88.1%	848	2.9%
Campbell	73.2%	79.7%	74.7%	1,808	6.2%
Carbon	65.4%	75.9%	68.7%	1,698	5.8%
Converse	92.9%	88.6%	92.1%	1,309	4.5%
Crook	91.3%	94.6%	92.4%	1,725	5.9%
Fremont	83.8%	92.5%	86.4%	2,002	6.8%
Johnson	92.4%	96.3%	93.5%	1,168	4.0%
Laramie	68.6%	73.5%	69.7%	591	2.0%
Lincoln	93.9%	93.8%	93.9%	1,406	4.8%
Natrona	79.2%	90.5%	81.0%	726	2.5%
Niobrara	95.9%	97.9%	96.6%	829	2.8%
Park	72.3%	84.6%	75.5%	1,471	5.0%
Platte	86.6%	92.3%	88.2%	1,352	4.6%
Sheridan	76.4%	86.0%	78.5%	1,974	6.7%
Sweetwater	63.8%	65.1%	64.2%	4,570	15.6%
Teton	86.0%	90.1%	87.3%	4,239	14.5%
Total	78.5%	87.5%	80.2%	29,255	100.0%

Estimates of Seat Belt Use for Drivers, Passengers, and All Occupants, Wyoming 2021			
	Drivers	Passengers	All Occupants
Percent Belted	78.5%	87.5%	80.2%
Unweighted Total	21,323	7,932	29,255
% of Sample	72.9%	27.1%	100.0%

Estimate of Driver Seat Belt Use, Wyoming 2021					
Belt Use	Estimate	Standard	95% Confidence Interval		Unweighted
		Error	Lower	Upper	Count
Belted	78.5%	0.4%	77.7%	79.3%	17,082
Not Belted	21.4%	0.4%	20.7%	22.3%	4,206
Unsure	0.0%	0.0%	0.0%	0.0%	35
Total	99.9%				21,323

Estimate of Passenger Seat Belt Use, Wyoming 2021					
Belt Use	Estimate	Standard	95% Confidence Interval		Unweighted
		Error	Lower	Upper	Count
Belted	87.5%	0.6%	86.3%	88.6%	6,803
Not Belted	12.5%	0.6%	11.4%	13.6%	1,116
Unsure	0.1%	0.0%	0.0%	0.1%	13
Total	100.1%				7,932

Comparison of Estimates of Seat Belt Use by Type of Vehicle Occupant in Wyoming, 2018-2021				
	2018	2019	2020	2021
Drivers	86.9%	76.9%	81.0%	78.5%
Passengers	84.5%	84.1%	88.7%	87.5%
All Occupants	86.3%	78.3%	82.5%	80.2%
Unweighted Count	25,046	24,821	22,137	29,255

Estimates of Driver, Passenger and All Occupants Belted by Population Density, Wyoming 2021			
Population	Drivers	Passengers	Occupants
Urban	74.0%	82.2%	75.3%
Rural	87.8%	92.9%	89.1%
Total	78.5%	87.5%	82.5%

Estimates of Drivers, Passengers and All Occupants Belted by Wyoming License, Wyoming 2021			
Wy License	Drivers	Passengers	Occupants
Yes	77.0%	86.4%	78.4%
No	88.0%	90.0%	88.7%
Unsure	68.0%	69.7%	68.5%
Total	78.5%	87.5%	80.2%

Estimates of Drivers, Passengers and All Occupants Belted by Roadway Type, Wyoming 2021			
Roadway	Drivers	Passengers	Occupants
Primary	78.9%	83.3%	80.2%
Secondary	80.9%	84.0%	81.6%
Other	78.0%	89.5%	79.9%
Total	78.5%	87.5%	80.2%

Estimate of Driver, Passenger and All Occupants Seat Belt Use by Gender and Vehicle Type, Wyoming 2021				
	Vehicle			
Gender	Type	Drivers	Passengers	Occupants
Male	Auto	65.9%	72.6%	66.6%
	Van	79.7%	85.3%	80.5%
	SUV	84.6%	75.7%	84.0%
	Pickup	74.0%	76.7%	74.2%
	Total	74.8%	79.2%	75.2%
Female	Auto	82.3%	91.5%	84.1%
	Van	89.2%	94.6%	90.8%
	SUV	90.8%	96.7%	93.1%
	Pickup	69.4%	81.6%	75.1%
	Total	84.8%	90.8%	86.7%

Vehicle Type & Gender

Estimate of Occupant Belt Use by Vehicle Type, Wyoming 2021						
Vehicle	Occupant Belt Use				Unweighted	Percent
Type	Belted	Not Belted	Unsure	Total	Count	Sample
Auto	75.9%	24.0%	0.1%	100.0%	5,471	18.7%
Van	86.9%	13.1%	0.0%	100.0%	10,579	36.2%
SUV	88.5%	11.5%	0.0%	100.0%	1,975	6.8%
PU Truck	74.3%	25.6%	0.0%	99.9%	11,230	38.4%
Total	80.2%	17.5%	0.0%	97.7%	29,255	100.0%

Estimate of Occupant Belt Use by Vehicle Type and Occupant Gender, Wyoming 2021							
	Vehicle	Occupant Belt Use				Unweighted	% of
Gender	Type	Belted	Not Belted	Unsure	Total	Count	Sample
Male	Auto	66.6%	33.3%	0.1%	100.0%	2,786	16.5%
	Van	80.5%	19.4%	0.0%	99.9%	4,584	27.2%
	SUV	84.0%	16.0%	0.0%	100.0%	1,084	6.4%
	PU Truck	74.2%	25.8%	0.0%	100.0%	8,392	49.8%
	Total	75.2%	24.8%	0.0%	100.0%	16,846	100.0%
Female	Auto	84.1%	15.9%	0.1%	100.1%	2,685	21.6%
	Van	90.8%	9.2%	0.0%	100.0%	5,995	48.3%
	SUV	93.1%	6.9%	0.0%	100.0%	891	7.2%
	PU Truck	75.1%	24.9%	0.1%	100.1%	2,838	22.9%
	Total	86.7%	13.3%	0.0%	100.0%	12,409	100.0%

Percent of Occupants by Gender and Vehicle Type, Wyoming 2021			
Vehicle	Gender		Percent
Type	Male	Female	Difference
Auto	16.5%	21.6%	5.1%
Van	27.2%	48.3%	21.1%
SUV	6.4%	7.2%	0.7%
PU Truck	49.8%	22.9%	-26.9%
Total	100.0%	100.0%	0.0%

Trends

Trend in Sample Sizes for Wyoming Seat Belt Surveys, 2012-2020	
Year	Sample Size
2012	18,703
2013	20,877
2014	23,723
2015	24,682
2016	24,893
2017	23,775
2018	25,046
2019	24,821
2020	22,137
2021	29,255
Total	237,912
Average	26,435

Trend in Seat Belt Use, 2012-2020	
Year	Estimate
2012	77.0%
2013	81.9%
2014	79.2%
2015	79.8%
2016	80.5%
2017	84.8%
2018	86.3%
2019	78.3%
2020	82.5%
2021	80.2%

Appendix E: Observer Field Test Ratings

Field Test Scores by Observer

Observer Written Exam & Field Observations

County	Observer	Written	Practice	Test 1	Test 2	Test 3	AVG 1-3
Albany	Monty Byers	90.00	95.51	87.40	80.52	94.03	89.49
Big horn	Dixie Elder	85.00	98.36	92.68	100.00	100.00	95.21
Campbell	Bryan Shannon	95.00	92.06	82.55	75.00	89.07	86.74
Carbon	Brooke Darden	95.00	93.51	84.31	84.72	97.60	91.03
Converse	Walter Tampellini	95.00	90.00	76.26	90.48	98.28	90.00
Crook	Skyler Elder	100.00	100.00	87.63	83.33	84.72	91.14
Fremont	Sandra Gabel	100.00	100.00	88.19	100.00	97.67	97.17
Johnson	Deb Eutsler	100.00	75.90	82.67	99.10	100.00	91.53
Laramie	Ashley Ingerle	95.00	88.78	77.92	82.67	97.47	88.37
Lincoln	Mindy McKinley	95.00	98.36	86.36	98.41	89.24	93.47
Natrona	Meredith Peak	95.00	88.04	97.89	84.29	93.85	91.81
Niobrara	Lori Cole	95.00	95.45	92.94	73.68	98.39	91.09
Park	Donna Lucas	100.00	100.00	78.21	98.59	97.97	94.95
Platte	Doug Peterson	100.00	92.86	99.10	80.26	97.94	94.03
Sheridan	Kendra Huges	100.00	97.98	84.16	87.21	92.67	92.40
Sweetwater	Kayla Schearer	100.00	100.00	86.99	86.59	89.85	92.69
Teton	Susan Parkinson	100.00	100.00	97.37	99.10	97.74	98.84
Alternate 1	Vikie Ingerle	100.00	93.18	90.91	84.29	89.24	91.52
WY Cor	Bridget White	100.00	93.59	97.60	91.30	92.95	95.09
QC2	Vicky Peterson	100.00	77.27	90.91	87.91	85.23	88.26
	State Averages	97.00	93.54	88.10	88.37	94.20	92.24

Appendix F: SBU Unknown Rate

Seatbelt Survey Unknown Rates

County	County Code	Unknown Driv+Pass	Total Obsv. Driv+Pass	County Rate
Albany	1	0	1539	0.000000
Big Horn	3	0	848	0.000000
Campbell	5	14	1799	0.007782
Carbon	7	3	1697	0.001768
Converse	9	10	1309	0.007639
Crook	11	0	1725	0.000000
Fremont	13	8	1701	0.004703
Johnson	19	0	1168	0.000000
Laramie	21	0	591	0.000000
Lincoln	23	0	1406	0.000000
Natrona	25	0	726	0.000000
Niobrara	27	0	829	0.000000
Park	29	13	1469	0.008850
Platte	31	0	1352	0.000000
Sheridan	33	0	1974	0.000000
Sweetwater	37	0	2285	0.000000
Teton	39	0	4239	0.000000
State		48	26657	0.001801

Appendix G: Reporting requirements

Data Collected at Observation Sites

1. Standard Error of Statewide Belt Use Rate: 0.4 percent
2. Nonresponse Rate as provided in §1340.9 (f)
    a. Nonresponse rate for the survey variable seatbelt use: 0.1801 percent

PART B-DATA COLLECTED AT OBSERVATION SITES

Site ID	Site type[1]	Date observed	Sample weight	Number of drivers	Number of front passengers	Number of occupants[2] belted	Number of occupants unbelted	Number of occupants with unknown belt use
168744812	Original	6/11/2021	0.001650855	181	76	238	19	0
604506604	Original	6/11/2021	0.001650855	201	70	254	17	0
604518733	Original	6/8/2021	0.001650855	187	65	228	24	0
618090887	Original	6/10/2021	0.001650855	180	68	240	8	0
168721954	Original	6/7/2021	0.00536996	8	3	8	3	0
168724202	Original	6/13/2021	0.00536996	22	16	35	3	0
168736409	Original	6/8/2021	0.00536996	3	1	4	0	0
168736812	Original	6/9/2021	0.00536996	2	0	1	1	0
168736818	Original	6/9/2021	0.00536996	2	1	2	1	0
168739458	Original	6/10/2021	0.00536996	57	13	61	9	0
168744758	Original	6/11/2021	0.00536996	29	15	41	3	0
168755794	Original	6/8/2021	0.00536996	1	0	1	0	0
168756946	Original	6/10/2021	0.00536996	39	12	41	10	0
168759492	Original	6/10/2021	0.00536996	28	8	32	4	0
604505737	Original	6/12/2021	0.00536996	78	33	100	11	0
604508028	Original	6/12/2021	0.00536996	79	27	91	15	0
639960821	Original	6/7/2021	0.00536996	25	9	31	3	0
180485518	Original	6/9/2021	0.00675	32	12	37	7	0
180488087	Original	6/8/2021	0.00675	12	10	21	1	0
180490194	Original	6/7/2021	0.00675	21	9	24	6	0
180496628	Original	6/9/2021	0.00675	71	29	85	15	0
180498297	Original	6/10/2021	0.00675	16	8	23	1	0
180499677	Original	6/12/2021	0.00675	29	18	43	4	0
180499711	Original	6/11/2021	0.00675	28	13	37	4	0
180499713	Original	6/11/2021	0.00675	28	18	43	3	0
180500800	Original	6/13/2021	0.00675	49	34	82	1	0
180502805	Original	6/8/2021	0.00675	51	10	44	17	0
605615639	Original	6/7/2021	0.00675	34	13	38	9	0
605622874	Original	6/8/2021	0.00675	13	5	18	0	0
605628846	Original	6/7/2021	0.00675	53	10	57	6	0
605634311	Original	6/12/2021	0.00675	4	3	5	2	0
605635819	Original	6/7/2021	0.00675	52	15	55	12	0
629140276	Original	6/10/2021	0.00675	64	34	94	4	0
640075189	Original	6/9/2021	0.00675	40	10	41	9	0
146322365	Original	6/7/2021	0.00122368	142	76	179	38	1
607412531	Original	6/7/2021	0.00122368	78	21	82	13	4

635167239	Original	6/9/2021	0.00122368	176	90	207	56	3
146318474	Original	6/12/2021	0.00570204	7	3	8	2	0
146328862	Original	6/7/2021	0.00570204	41	10	40	11	0
146332262	Original	6/8/2021	0.00570204	85	24	88	21	0
146339526	Original	6/11/2021	0.00570204	47	18	49	14	2
146342003	Original	6/10/2021	0.00570204	14	7	15	5	1
146343481	Original	6/11/2021	0.00570204	56	21	62	14	1
146347374	Original	6/13/2021	0.00570204	5	4	4	5	0
146350863	Original	6/9/2021	0.00570204	202	24	127	99	0
146351033	Original	6/8/2021	0.00570204	270	62	234	98	0
146353423	Original	6/9/2021	0.00570204	82	22	71	32	1
607412366	Original	6/10/2021	0.00570204	17	9	22	4	0
624031392	Original	6/12/2021	0.00570204	15	4	16	3	0
633856780	Original	6/8/2021	0.00570204	77	18	75	20	0
637303141	Original	6/8/2021	0.00570204	61	20	69	11	1
611196911	Original	6/13/2021	0.0012506	176	102	250	28	0
611197521	Original	6/10/2021	0.0012506	191	95	214	72	0
611197813	Original	6/10/2021	0.0012506	114	49	96	67	0
611197839	Original	6/9/2021	0.0012506	155	37	103	86	3
148697142	Original	6/11/2021	0.004063325	97	58	108	47	0
148703998	Original	6/10/2021	0.004063325	17	2	12	7	0
148709091	Original	6/9/2021	0.004063325	37	15	34	18	0
148715351	Original	6/8/2021	0.004063325	21	9	12	18	0
148715791	Original	6/7/2021	0.004063325	11	3	11	3	0
148729069	Original	6/13/2021	0.004063325	59	20	42	37	0
148729548	Original	6/11/2021	0.004063325	122	70	140	52	0
610950022	Original	6/8/2021	0.004063325	10	1	5	6	0
622138132	Original	6/12/2021	0.004063325	83	34	71	46	0
622152589	Original	6/12/2021	0.004063325	11	6	14	3	0
634320706	Original	6/9/2021	0.004063325	55	15	42	28	0
635735302	Original	6/7/2021	0.004063325	14	6	10	10	0
638995814	Original	6/7/2021	0.004063325	3	0	1	2	0
146991744	Original	6/8/2021	0.00232162	92	7	94	4	1
147011297	Original	6/9/2021	0.00232162	114	17	123	7	1
606576236	Original	6/7/2021	0.00232162	117	31	138	8	2
638018831	Original	6/9/2021	0.00232162	104	29	119	14	0
639999220	Original	6/12/2021	0.00232162	108	67	173	2	0
146973757	Original	6/8/2021	0.00558606	50	2	48	2	2
146990064	Original	6/9/2021	0.00558606	55	8	59	2	2
146992776	Original	6/7/2021	0.00558606	26	0	21	5	0
146999066	Original	6/13/2021	0.00558606	2	1	3	0	0
147014316	Original	6/13/2021	0.00558606	11	4	15	0	0
147015716	Original	6/11/2021	0.00558606	75	11	86	0	0
606568024	Original	6/11/2021	0.00558606	59	17	70	6	0

606572349	Original	6/10/2021	0.00558606	38	2	32	8	0
606573014	Original	6/10/2021	0.00558606	107	20	102	25	0
635660664	Original	6/12/2021	0.00558606	2	0	2	0	0
635660676	Original	6/11/2021	0.00558606	62	25	82	5	0
638996176	Original	6/8/2021	0.00558606	40	6	39	5	2
147162757	Original	6/11/2021	0.002206125	117	63	170	10	0
610821880	Original	6/9/2021	0.002206125	123	60	178	5	0
610821966	Original	6/9/2021	0.00220613	153	66	210	9	0
610822060	Original	6/9/2021	0.00220613	137	73	197	13	0
634779349	Original	6/11/2021	0.00220613	91	37	120	8	0
147156838	Original	6/13/2021	0.00527425	73	53	121	5	0
147158424	Original	6/10/2021	0.00527425	36	25	57	4	0
147159706	Original	6/13/2021	0.00527425	35	17	42	10	0
147159927	Original	6/12/2021	0.00527425	24	9	27	6	0
147160775	Original	6/12/2021	0.00527425	31	10	27	14	0
147172557	Original	6/7/2021	0.00527425	102	22	104	20	0
147177000	Original	6/8/2021	0.00527425	62	49	108	3	0
610822469	Original	6/10/2021	0.00527425	40	12	40	12	0
610824002	Original	6/7/2021	0.00527425	25	8	31	2	0
610824055	Original	6/7/2021	0.00527425	48	22	63	7	0
610824506	Original	6/8/2021	0.00527425	25	14	39	0	0
636266007	Original	6/8/2021	0.00527425	38	25	62	1	0
148431519	Original	6/12/2021	0.00525	115	49	156	8	0
148433356	Original	6/9/2021	0.00525	254	84	291	46	1
148434220	Original	6/9/2021	0.00525	0	0	0	0	0
148436040	Original	6/11/2021	0.00525	0	0	0	0	3
148444989	Original	6/12/2021	0.00525	96	61	154	3	2
148448765	Original	6/8/2021	0.00525	68	32	75	22	0
148470147	Original	6/8/2021	0.00525	39	11	32	16	1
148470268	Original	6/7/2021	0.00525	21	7	19	9	1
148472074	Original	6/8/2021	0.00525	20	8	20	7	0
148472781	Original	6/7/2021	0.00525	43	17	49	10	0
148483099	Original	6/7/2021	0.00525	25	7	23	9	0
628693352	Original	6/10/2021	0.00525	113	26	111	28	0
633721362	Original	6/11/2021	0.00525	197	60	218	39	0
635524645	Original	6/13/2021	0.00525	111	71	169	13	0
638997913	Original	6/10/2021	0.00525	101	54	135	20	0
639777342	Original	6/12/2021	0.00525	124	45	138	31	0
641181426	Original	6/13/2021	0.00525	87	56	139	4	0
147299629	Original	6/11/2021	0.002652	63	10	66	7	0
147364555	Original	6/7/2021	0.002652	73	43	114	2	0
147364574	Original	6/8/2021	0.002652	79	27	102	4	0
147364598	Original	6/7/2021	0.002652	85	18	95	8	0
147364618	Alternate	6/9/2021	0.002652	76	26	96	6	0

635199539	Original	6/10/2021	0.002652	123	34	156	1	0
635832919	Original	6/13/2021	0.002652	117	50	160	7	0
641441511	Original	6/9/2021	0.002652	28	8	32	4	0
147304101	Original	6/11/2021	0.0029853	5	0	3	2	0
147307397	Original	6/8/2021	0.0029853	12	1	3	10	0
147307449	Original	6/8/2021	0.0029853	9	1	3	7	0
147318882	Original	6/8/2021	0.0029853	6	3	7	2	0
147326253	Original	6/12/2021	0.0029853	73	61	126	8	0
147326365	Original	6/12/2021	0.0029853	48	30	78	0	0
147328662	Original	6/10/2021	0.0029853	2	1	3	0	0
147375707	Alternate	6/9/2021	0.0029853	14	4	18	0	0
635127767	Original	6/13/2021	0.0029853	27	11	32	6	0
606515802	Original	6/10/2021	0.00003458	138	52	146	44	0
160144721	Original	6/9/2021	0.00003325	47	15	39	23	0
160143525	Original	6/8/2021	0.00053826	0	0	0	0	0
160145523	Alternate	6/9/2021	0.00053826	0	0	0	0	0
160147391	Alternate	6/7/2021	0.00053826	0	0	0	0	0
160149538	Original	6/10/2021	0.00053826	4	1	0	5	0
160154128	Original	6/7/2021	0.00053826	3	0	1	2	0
160158288	Original	6/13/2021	0.00053826	2	0	1	1	0
160158469	Original	6/12/2021	0.00053826	0	0	0	0	0
160163562	Original	6/11/2021	0.00053826	222	56	186	92	0
160167119	Original	6/8/2021	0.00053826	0	0	0	0	0
160169067	Original	6/12/2021	0.00053826	5	2	6	1	0
604943907	Original	6/7/2021	0.00053826	35	4	31	8	0
604970409	Original	6/13/2021	0.00053826	0	0	0	0	0
606518225	Original	6/11/2021	0.00053826	0	0	0	0	0
624678718	Original	6/10/2021	0.00053826	3	2	2	3	0
641616454	Original	6/7/2021	0.00053826	0	0	0	0	0
130301448	Original	6/11/2021	0.00595	28	4	28	4	0
130306325	Original	6/11/2021	0.00595	21	10	30	1	0
130309542	Original	6/13/2021	0.00595	54	30	84	0	0
130310021	Original	6/12/2021	0.00595	22	13	33	2	0
130314658	Original	6/13/2021	0.00595	24	15	38	1	0
130315195	Original	6/8/2021	0.00595	24	14	31	7	0
130320929	Original	6/12/2021	0.00595	30	13	35	8	0
130326826	Original	6/8/2021	0.00595	135	40	168	7	0
611004677	Original	6/10/2021	0.00595	8	1	9	0	0
611005970	Original	6/8/2021	0.00595	84	24	92	16	0
611009251	Original	6/7/2021	0.00595	115	38	148	5	0
611012866	Original	6/10/2021	0.00595	59	30	89	0	0
619637622	Original	6/9/2021	0.00595	14	3	12	5	0
621121926	Original	6/9/2021	0.00595	144	58	199	3	0
625338589	Original	6/12/2021	0.00595	14	9	21	2	0

626692093	Original	6/7/2021	0.00595	165	40	193	12	0
635537076	Original	6/7/2021	0.00595	93	30	110	13	0
607714377	Original	6/11/2021	0.000002245	21	1	22	0	0
160336980	Original	6/9/2021	0.00004725	0	0	0	0	0
149002674	Original	6/13/2021	0.00004725	61	24	83	2	0
149003362	Original	6/13/2021	0.00004725	1	0	0	1	0
149005355	Original	6/13/2021	0.00004725	0	0	0	0	0
149011903	Original	6/7/2021	0.00004725	42	18	60	0	0
149022922	Original	6/11/2021	0.00004725	7	0	4	3	0
149023334	Original	6/10/2021	0.00004725	8	0	7	1	0
149027199	Original	6/12/2021	0.00004725	5	1	4	2	0
607713464	Original	6/8/2021	0.00004725	7	0	4	3	0
607730056	Original	6/11/2021	0.00004725	267	40	224	83	0
607752291	Original	6/7/2021	0.00004725	150	29	153	26	0
607765363	Original	6/12/2021	0.00004725	0	0	0	0	0
617964312	Original	6/10/2021	0.00004725	18	1	15	4	0
633093763	Original	6/9/2021	0.00004725	2	0	2	0	0
639002442	Original	6/8/2021	0.00004725	1	0	1	0	0
640696510	Original	6/10/2021	0.00004725	20	2	9	13	0
160334094	Original	6/11/2021	0.01715	6	2	6	2	0
160336972	Original	6/12/2021	0.01715	60	27	85	2	0
160337605	Original	6/13/2021	0.01715	101	53	154	0	0
160344999	Original	6/7/2021	0.01715	55	33	86	2	0
160345686	Original	6/8/2021	0.01715	54	37	91	0	0
160347161	Original	6/7/2021	0.01715	23	4	25	2	0
160348581	Original	6/10/2021	0.01715	2	0	2	0	0
160348895	Original	6/10/2021	0.01715	3	0	3	0	0
160349055	Original	6/10/2021	0.01715	2	0	2	0	0
160351946	Original	6/11/2021	0.01715	82	55	135	2	0
160353063	Original	6/13/2021	0.01715	5	2	4	3	0
160353822	Original	6/9/2021	0.01715	58	26	80	4	0
607001764	Original	6/12/2021	0.01715	4	2	6	0	0
607027600	Original	6/12/2021	0.01715	3	1	4	0	0
607028034	Original	6/12/2021	0.01715	10	3	6	7	0
607029627	Original	6/8/2021	0.01715	44	26	68	2	0
629141429	Original	6/9/2021	0.01715	31	15	44	2	0
149193090	Original	6/10/2021	0.00545	109	28	98	37	2
149201740	Original	6/11/2021	0.00545	41	21	54	8	0
149201930	Original	6/11/2021	0.00545	30	13	38	5	0
149202730	Original	6/11/2021	0.00545	33	29	55	7	0
149211215	Original	6/13/2021	0.00545	46	30	62	13	1
149216185	Original	6/8/2021	0.00545	132	20	106	46	0
611835705	Original	6/8/2021	0.00545	105	32	113	24	0
611870412	Original	6/7/2021	0.00545	18	3	9	12	0

611874198	Original	6/9/2021	0.00545	125	42	120	45	2
611879443	Original	6/9/2021	0.00545	124	32	118	34	4
612517261	Original	6/7/2021	0.00545	60	19	64	13	2
612522792	Original	6/12/2021	0.00545	17	12	29	0	0
612523438	Original	6/12/2021	0.00545	37	32	55	14	0
612523506	Original	6/13/2021	0.00545	23	8	21	10	0
612525148	Original	6/7/2021	0.00545	88	47	106	27	2
612525641	Original	6/10/2021	0.00545	75	11	44	42	0
614771184	Original	6/8/2021	0.00545	24	5	19	10	0
160436335	Original	6/8/2021	0.002666965	73	20	86	7	0
604830837	Original	6/7/2021	0.002666965	127	42	156	13	0
604831395	Original	6/11/2021	0.002666965	169	77	222	24	0
606895018	Original	6/10/2021	0.002666965	101	31	125	7	0
635826409	Original	6/12/2021	0.002666965	149	86	216	19	0
638080329	Original	6/13/2021	0.002666965	79	33	107	5	0
160424975	Original	6/13/2021	0.00488151	2	1	1	2	0
160427396	Original	6/12/2021	0.00488151	20	5	18	7	0
160433447	Original	6/10/2021	0.00488151	75	29	86	18	0
160434518	Original	6/11/2021	0.00488151	17	2	12	7	0
604821382	Original	6/11/2021	0.00488151	59	10	57	12	0
604823624	Original	6/12/2021	0.00488151	30	8	27	11	0
634659728	Original	6/9/2021	0.00488151	11	9	16	4	0
635549418	Original	6/7/2021	0.00488151	8	2	4	6	0
638072853	Original	6/9/2021	0.00488151	2	1	3	0	0
635549382	Original	6/8/2021	0.00488151	3	0	1	2	0
638522178	Original	6/10/2021	0.00488151	52	19	59	12	0
608774680	Original	6/10/2021	0.0006118	102	44	126	20	0
639689837	Original	6/9/2021	0.0006118	164	71	202	33	0
147401116	Original	6/7/2021	0.00455175	24	5	28	1	0
147403821	Original	6/11/2021	0.00455175	206	42	170	78	0
147404413	Original	6/10/2021	0.00455175	127	28	115	40	0
147410535	Original	6/8/2021	0.00455175	6	0	2	4	0
147411652	Original	6/8/2021	0.00455175	19	2	17	4	0
147413279	Original	6/10/2021	0.00455175	226	34	180	80	0
147419915	Original	6/7/2021	0.00455175	189	50	193	46	0
605374149	Original	6/9/2021	0.00455175	259	57	268	48	0
605388659	Original	6/13/2021	0.00455175	19	12	21	10	0
605396189	Original	6/12/2021	0.00455175	7	3	9	1	0
608774654	Original	6/7/2021	0.00455175	6	1	7	0	0
618572901	Original	6/12/2021	0.00455175	46	14	53	7	0
629142524	Original	6/9/2021	0.00455175	21	3	21	3	0
637972373	Original	6/11/2021	0.00455175	131	47	127	51	0
638535884	Original	6/8/2021	0.00455175	7	2	6	3	0
618327492	Original	6/7/2021	0.001504	442	102	370	174	0

618328108	Original	6/8/2021	0.001504	302	158	288	172	0
634704011	Original	6/12/2021	0.001504	430	228	448	210	0
637926770	Original	6/8/2021	0.001504	202	84	184	102	0
641433232	Original	6/8/2021	0.001504	334	160	370	124	0
149462214	Original	6/13/2021	0.003604	78	34	56	56	0
149462365	Original	6/13/2021	0.003604	98	48	86	60	0
149462690	Original	6/12/2021	0.003604	28	18	26	20	0
149475167	Original	6/9/2021	0.003604	48	24	46	26	0
149475533	Original	6/9/2021	0.003604	24	8	20	12	0
149498901	Original	6/10/2021	0.003604	8	0	8	0	0
149503682	Original	6/7/2021	0.003604	268	70	210	128	0
612218179	Original	6/7/2021	0.003604	166	22	106	82	0
618324746	Original	6/11/2021	0.003604	22	6	12	16	0
618324787	Original	6/11/2021	0.003604	144	24	108	60	0
618325371	Original	6/11/2021	0.003604	712	214	536	390	0
636258579	Alternate	6/10/2021	0.003604	50	14	46	18	0
130412723	Original	6/9/2021	0.0138	163	56	182	37	0
130415393	Original	6/12/2021	0.0138	134	110	218	26	0
130422037	Original	6/10/2021	0.0138	234	38	222	50	0
130422578	Original	6/8/2021	0.0138	148	52	178	22	0
130427569	Original	6/8/2021	0.0138	370	101	398	73	0
130435783	Original	6/9/2021	0.0138	400	121	457	64	0
130437592	Original	6/7/2021	0.0138	0	0	0	0	0
130437880	Original	6/7/2021	0.0138	79	39	103	15	0
130438888	Original	6/11/2021	0.0138	177	149	291	35	0
130441420	Original	6/11/2021	0.0138	57	24	74	7	0
130450400	Original	6/10/2021	0.0138	49	22	68	3	0
130450450	Original	6/11/2021	0.0138	86	59	136	9	0
235938924	Original	6/13/2021	0.0138	103	79	172	10	0
235940231	Original	6/12/2021	0.0138	80	63	127	16	0
618913726	Original	6/8/2021	0.0138	262	127	331	58	0
635879991	Original	6/13/2021	0.0138	164	138	257	45	0
637241907	Original	6/9/2021	0.0138	446	109	485	70	0
				21323	7932	23885	5322	48

Standard Error of Statewide Belt Use Rate[3]: 0.4 percent

Nonresponse Rate as provided in §1340.9 (f)

Nonresponse rate for the survey variable seatbelt use: 0.1801 percent

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[1]Identify if the observation site is an original observation site or an alternate observation site.

[2]Occupants refer to both drivers and passengers

[3]The standard error may not exceed 2.5 percent

Appendix H: SPSS Data Codes

SPSS Data Dictionary

```
GET
  FILE='E:\Wy SBU 21\SPSS Data Files\Occupants Wy 2021.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
DISPLAY DICTIONARY.
```

File Information

[DataSet1] E:\Wy SBU 21\SPSS Data Files\Occupants Wy 2021.sav

Variable Information

Variable	Position	Label	Measurement Level	Role	Column Width	Alignment
InclProbOfRoadType	1	InclProbOfRoadType	Scale	Input	12	Right
TLID	2	TLID	Scale	Input	12	Right
SRSWOR	3	SRSWOR	Scale	Input	12	Right
County	4	County	Nominal	Input	12	Right
Site#	5	Site #	Nominal	Input	12	Right
Population	6	Population Density	Nominal	Input	12	Right
Roadway	7	Roadway	Scale	Input	12	Right
weight	8	weight	Scale	Input	12	Right
day	9	Weekday	Nominal	Input	12	Right
observer	10	Observer	Nominal	Input	12	Right
weather	11	Weather	Nominal	Input	12	Right
lanes	12	Number of Lanes	Nominal	Input	12	Right
direction	13	Road Direction	Nominal	Input	12	Right
driverGender	14	Occupant Gender	Nominal	Input	12	Right
driverBelt	15	Occupant Seat Belt Use	Nominal	Input	12	Right
carType	16	Vehicle Type	Nominal	Input	12	Right
wyPlate	17	Wyoming License	Nominal	Input	12	Right
timeStamp	18	Time of Observation	Nominal	Input	8	Left
Roadway2	19	Roadway Type	Nominal	Input	10	Right
SRSWORinvert	20	SRSWORinvert	Scale	Input	14	Right
Weekend	21	Weekdays & Weekend	Nominal	Input	10	Right

Variable Values

Value		Label
County	1	Albany
	3	Big Horn
	5	Campbell
	7	Carbon
	9	Converse
	11	Crook
	13	Fremont
	19	Johnson
	21	Laramie
	23	Lincoln
	25	Natrona
	27	Niobrara
	29	Park
	31	Platte
	33	Sheridan
	37	Sweetwater
	39	Teton
Population	1	Urban
	2	Rural
day	1	Sunday
	2	Monday
	3	Tuesday
	4	Wednesday
	5	Thursday
	6	Friday
	7	Saturday
observer	1	Donna Lucas
	7	Bridget White: Wy Cor
	14	Vicky Peterson: QC2
	23	Monty Byers
	35	Kayla Schear
	44	Doug Peterson
	47	Dixie Elder
	48	Deb Eutsler
	50	Brooke Darden

Variable Information

Variable	Print Format	Write Format
InclProbOfRoadType	F12.5	F12.5
TLID	F12	F12
SRSWOR	F12.4	F12.4
County	F12	F12
Site#	F12	F12
Population	F12	F12
Roadway	F12	F12
weight	F12.9	F12.9
day	F12	F12
observer	F12	F12
weather	F12	F12
lanes	F12	F12
direction	F12	F12
driverGender	F12	F12
driverBelt	F12	F12
carType	F12	F12
wyPlate	F12	F12
timeStamp	A1	A1
Roadway2	F8	F8
SRSWORinvert	F8.4	F8.4
Weekend	F8	F8

Variables in the working file

Variable Values

Value		Label
County	1	Albany
	3	Big Horn
	5	Campbell
	7	Carbon
	9	Converse
	11	Crook
	13	Fremont
	19	Johnson
	21	Laramie
	23	Lincoln
	25	Natrona
	27	Niobrara
	29	Park
	31	Platte
	33	Sheridan
	37	Sweetwater
	39	Teton
Population	1	Urban
	2	Rural
day	1	Sunday
	2	Monday
	3	Tuesday
	4	Wednesday
	5	Thursday
	6	Friday
	7	Saturday
observer	1	Donna Lucas
	7	Bridget White: Wy Cor
	14	Vicky Peterson: QC2
	23	Monty Byers
	35	Kayla Schear
	44	Doug Peterson
	47	Dixie Elder
	48	Deb Eutsler
	50	Brooke Darden

Variable Values

Value		Label
	51	Susan Parkinson
	67	Skylar Elder
	69	Lori Cole
	75	Meredith Peak
	76	Walter Tampellini
	80	Bryan Shannon
	81	Sandra Gabel
	82	Ashley Ingerle
	83	Mindy McKinley
	84	Kendra Hughes
	85	Vickie Ingerle
weather	1	Clear & Sunny
	2	Cloudy
	3	Light Fog
	4	Light Rain
	5	Light Snow
lanes	1	One Lane Observed
	2	Two Lanes Observed
direction	1	North
	2	South
	3	East
	4	West
driverGender	1	Male
	2	Female
driverBelt	1	Belted
	2	Not Belted
	3	Unsure
carType	1	Auto
	2	Van
	3	SUV
	4	Pickup Truck
wyPlate	1	Yes
	2	No
	9	Unsure

Variable Values

Value		Label
timeStamp	1	7:30-9:30 AM
	2	9:30-11:30 AM
	3	11:30 AM-1:30 PM
	4	1:30 PM-3:30 PM
	5	3:30 PM-5:30 PM
Roadway2	11	S1100 Primary Road
	12	S1200 Secondary Road
	14	S1400 Local/Rural/City Street
Weekend	1	Weekdays
	2	Weekend

Report prepared by: