SEAT BELT OBSERVATION STUDY
Summer 2022

Lori Risley, Ed.D.
Associate Professor

Leann Laubach, Ph.D.
Associate Professor

University of Central Oklahoma
College of Education and Professional Studies
Department of Adult Education and Safety Sciences
Industrial Safety Program
100 N. University Dr., HES 200A
Edmond, Oklahoma 73034

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2022 EXECUTIVE SUMMARY

The 2022 Oklahoma statewide survey of safety belt use was conducted in 15 counties at 180 observation sites during June. This was the first year using a new survey design which was approved by NHTSA in 2022. The new survey uses the same procedures as previous surveys and is fully compliant with NHTSA guidelines.

In 2022, 12,984 drivers and front seat outboard passengers were observed. In only 29 cases (0.22%) were the surveyors unable to determine if the occupant was restrained. Overall, 80.0% of people were restrained compared to 84.4%, 84.7%, 85.6%, 86.9%, 86.6%, 84.4%, 86.3%, and 83.6% in the most recent previous surveys. There were significant variations in usage rates by vehicle type, by road type, and by individual counties.

Estimate of Seat Belt Use in Oklahoma Summer 2022				
	Number of Observations	Weighted Estimate (PERCENT)	Standard Error (PERCENT)	Confidence Interval* (PERCENT)
Statewide	12,955	80.0	1.8	+/- 3.6
Vehicle Type				
Car/Van/SUV	8,936	83.9	1.2	+/- 2.4
Pickup Truck	4,019	70.5	2.8	+/- 5.6
Occupant Type				
Drivers	11,032	79.9	1.8	+/- 3.6
Passengers	1,923	80.6	1.8	+/- 3.6
Roadway Type**				
S1100 Primary Roads	5,436	84.0	2.4	+/- 4.8
S1200 Secondary Roads	6,753	78.5	1.8	+/- 3.6
S1400 Local and Rural	766	83.9	1.5	+/- 3.0

***** Based on a 95 percent confidence level, the actual belt use for each category shown in the table is the estimated percentage use + or – the standard error (S.E.) multiplied by 1.96. Standard errors were calculated using SPSS v28 Complex Samples Module.

****** S1100 Primary Roads are generally divided, limited access highways within the interstate system. S1200 roads are main arteries in the State Highway or County Highway system. They have one or more lanes of traffic in each direction and often have a local name and a route number. S1400 Roads are paved, non-arterial streets, roads, or byways that usually have a single lane of traffic in each direction.

OKLAHOMA SEAT BELT OBSERVATION STUDY
SUMMER 2022

INTRODUCTION

In the spring of 2022, the Industrial Safety Program at the University of Central Oklahoma (UCO) contracted with the Oklahoma Highway Safety Office (OHSO) to perform the 2022 Oklahoma Seat Belt Observation Study.

The Oklahoma law requiring automobile drivers and front-seat passengers to buckle up became effective February 1, 1987. It was amended on February 1, 1989 to require drivers and front-seat passengers of pickup trucks and vans to also wear seat belts. Until the enactment of House Bill 1443 in 1997, Oklahoma's law permitted only "secondary enforcement," which meant an unbelted driver could be ticketed only after being stopped for another traffic violation. The 1997 law permitted primary enforcement, meaning a law enforcement officer could issue a citation solely for failure to buckle up.

The current seat belt survey is the third iteration of a survey method first approved in 2012. The initial survey design was used between 2012 and 2016. Consistent with NHTSA guidelines that require the sites to be resampled every five years, a second design was used between 2017 and 2021. The current design was approved for the period of 2022 to 2026.

The 2022 survey was conducted during June and July of 2022. For the survey, observers visited 180 sites in 15 counties. This approach was approved by the National Highway Traffic Safety Administration (NHTSA) in 2022. These observers collected data for 12,984 drivers and front-seat passengers. In only 29 cases were the surveyors unable to determine whether an occupant was belted. This represented only 0.22% of the total cases and is well below the NHTSA limit of 10%.

This report presents the results of the summer 2022 survey and makes some comparisons to recent statewide surveys.

STUDY METHODOLOGY

This section describes the process used to sample and allocate sites for observation and procedures for observation and data collection, weighting and data analysis, and observer selection and training. Survey findings are presented following the discussion of the study methodology.

Sample Design

The Oklahoma research design conforms to the requirements of the NHTSA "Uniform Criteria" and will generate annual estimates of occupant restraint use for adults and children using booster seats in the front seats of passenger vehicles. Oklahoma intends to update the sample of data collection sites every five years in order to have survey results that reflect geographic areas with more than 85% of crash-related fatalities. The sample design was provided to Oklahoma under a consultant agreement with Dr. William Bommer of California State University, Fresno. The design approach

includes a stratified systematic probability proportioned to size (PPS) sample of data collection sites and is described below:

1. All 77 counties in Oklahoma were listed in descending order of the average number of motor vehicle crash-related fatalities for the period of 2015 to 2019. Fatality Analysis Reporting System (FARS) data were used to determine the average number of crash-related fatalities per county. It was determined that 46 counties accounted for at least 85% (i.e., 87.1%) of Oklahoma's total crash-related fatalities. These 46 counties comprise the sample frame and will be represented by a subsample of counties. See Table 1 for a full listing of these 46 counties.

2. Based on Oklahoma's previous experience and to maximize the utility of the data collected, it was determined that the county level would be the first stage of sample selection (See Table 2). Further, based on the standard errors from previous years, it was determined that 15 counties would be adequate to represent the state. As a result, 15 counties were selected PPS from the 46 counties identified above (See Table 2).

3. Road segments were selected randomly and with PPS from all segments in the sampled counties. Road segment length was used as the measure of size (MOS). For each of the fifteen counties, twelve road segments were identified for selection. A random, systematic sample of road segments was selected PPS to road segment length within each sampled county. This represents the second stage of selection. This process resulted in the selection of 180 road segments (15 counties x 12 sites per county). Two additional sites per selected site were also selected to use as alternates should the need arise.

4. Additional stages of selection were and will be used to determine, travel direction, lane, and vehicles to be observed, at random and with known probability, as appropriate under the Uniform Criteria.

Table 1 – Oklahoma's Average Vehicle Crash-Related Fatalities by County 2015-2019*

County	Average Fatality Counts	Fatality Percentage Within Oklahoma	Cumulative Fatality Percentage
Oklahoma	43.2	9.7	9.7
Tulsa	34.6	7.8	17.5
Cleveland	12.2	2.7	20.2
Rogers	12.2	2.7	22.9
Creek	11.8	2.6	25.6
Canadian	11.4	2.6	28.2
Pottawatomie	11.0	2.5	30.6
Grady	10.6	2.4	33.0
Le Flore	10.4	2.3	35.3

Payne	10.2	2.3	37.6
Bryan	9.4	2.1	39.7
McClain	9.4	2.1	41.9
McCurtain	9.2	2.1	43.9
Lincoln	8.8	2.0	45.9
Mayes	8.6	1.9	47.8
Pontotoc	8.4	1.9	49.7
Comanche	8.2	1.8	51.5
Muskogee	8.2	1.8	53.4
Garvin	8.0	1.8	55.2
Caddo	7.4	1.7	56.8
Carter	7.4	1.7	58.5
Pittsburg	7.0	1.6	60.1
Cherokee	6.8	1.5	61.6
Wagoner	6.8	1.5	63.1
Osage	6.2	1.4	64.5
Seminole	6.2	1.4	65.9
Okmulgee	5.8	1.3	67.2
Ottawa	5.8	1.3	68.5
Choctaw	5.0	1.1	69.6
Kay	5.0	1.1	70.8
Logan	5.0	1.1	71.9
Delaware	4.4	1.0	72.9
Love	4.4	1.0	73.9
Stephens	4.4	1.0	74.9
Kingfisher	4.2	0.9	75.8
Murray	4.2	0.9	76.7
Sequoyah	4.2	0.9	77.7
Atoka	4.0	0.9	78.6
Beckham	4.0	0.9	79.5
Blaine	4.0	0.9	80.4
Custer	3.8	0.9	81.2
Mcintosh	3.8	0.9	82.1
Major	3.8	0.9	82.9
Noble	3.8	0.9	83.8
Texas	3.8	0.9	84.6
Washington	3.8	0.9	85.5
Woodward	3.8	0.9	86.3
Pawnee	3.6	0.8	87.2
Adair	3.4	0.8	87.9

Johnston	3.4	0.8	88.7
Marshall	3.4	0.8	89.4
Garfield	3.0	0.7	90.1
Jackson	3.0	0.7	90.8
Pushmataha	3.0	0.7	91.5
Haskell	2.6	0.6	92.1
Kiowa	2.6	0.6	92.6
Nowata	2.6	0.6	93.2
Okfuskee	2.6	0.6	93.8
Washita	2.6	0.6	94.4
Beaver	2.4	0.5	94.9
Craig	2.2	0.5	95.4
Hughes	2.2	0.5	95.9
Cotton	2.0	0.4	96.4
Latimer	2.0	0.4	96.8
Grant	1.8	0.4	97.2
Dewey	1.6	0.4	97.6
Greer	1.4	0.3	97.9
Harper	1.4	0.3	98.2
Alfalfa	1.2	0.3	98.5
Cimarron	1.2	0.3	98.7
Jefferson	1.2	0.3	99.0
Woods	1.2	0.3	99.3
Roger Mills	1.0	0.2	99.5
Ellis	0.8	0.2	99.7
Tillman	0.8	0.2	99.9
Harmon	0.4	0.1	100.0
Coal	0.2	0.0	100.0

*Fatality data from the Fatality Analysis Reporting System (FARS) 2015-2019

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 1999, Oklahoma has conducted the Oklahoma Annual Seat Belt Use Study and has historically obtained standard errors below this threshold. The most recent surveys have had standard errors generally under 1.0%. To conduct a more cost-effective survey, the number of sites selected was 180 (15 counties with 12 sites per county). This number was derived by running multiple simulations using historical data to compute standard errors given different combinations of counties and sites per county. If the precision objective 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

Table 1 lists the counties and their average number of motor vehicle crash-related fatalities for the period 2015-2019 as reported in the Fatality Analysis Reporting System (FARS). Of these 77 counties, 46 counties accounted for 85.5% of the total fatalities and represented the first stage of sampling. The sampled counties, their measure of size (MOS), and probabilities of selection are shown in Table 3. It should be noted that the non-MSA exclusion was utilized in the MOS so that counties that did not contain an MSA excluded local roads from the overall MOS calculation.

The sampled counties, their measure of size (MOS), and probabilities of selection are shown in Table 2.

Table 2 - Population and Measure of Size and Probability of Selection, for County Selection

County	Miles of Road (Used as MOS)	Cumulative Miles of Road	Probability of Selection for Selected Counties
Oklahoma	5059.94	5059.94	1.00**
Tulsa	4224.86	9284.8	1.00**
Canadian	2337.6	11622.4	1.00**
Osage	2320.52	13942.92	0.988942**
Cleveland	2241.94	16184.86	0.955453**
Grady	2074.14	18259	0.883941
Comanche	1979.22	20238.22	0.843489**
Lincoln	1964.25	22202.47	0.837109**
Creek	1811.86	24014.33	0.772165**
Rogers	1768.48	25782.81	0.753677**
Logan	1739.28	27522.09	0.741233**
Wagoner	1466.72	28988.81	0.625076
Okmulgee	1419.78	30408.59	0.605071**
Sequoyah	1332.44	31741.03	0.567849
McClain	1199.96	32940.99	0.511390**
Le Flore	354.23	33295.22	0.150963
Beckham	319.16	33614.38	0.136017
Pittsburg	301.29	33915.67	0.128401
Muskogee	297.13	34212.8	0.126629
Caddo	290.22	34503.02	0.123684**
McCurtain	264.96	34767.98	0.112919
Mayes	261.98	35029.96	0.111649
Noble	259.5	35289.46	0.110592

Bryan	254.46	35543.92	0.108444
Texas	254.21	35798.13	0.108337
Pottawatomie	252.38	36050.51	0.107557
Carter	245.61	36296.12	0.104672
Garvin	239.9	36536.02	0.102239
Seminole	231.03	36767.05	0.098459
Delaware	227.94	36994.99	0.097142**
Custer	224.34	37219.33	0.095608
Payne	222.71	37442.04	0.094913
Kay	221.19	37663.23	0.094265
Mcintosh	216.88	37880.11	0.092428
Ottawa	202.94	38083.05	0.086487
Atoka	199.03	38282.08	0.084821
Blaine	184.73	38466.81	0.078727
Stephens	180.49	38647.3	0.076920
Pontotoc	168.88	38816.18	0.071972
Choctaw	168.72	38984.9	0.071904
Major	165.20	39150.1	0.070404**
Cherokee	154.15	39304.25	0.065694
Love	144.84	39449.09	0.061727
Kingfisher	122.59	39571.68	0.052244
Murray	106.14	39677.82	0.045234
Washington	102.2	39780.02	0.043555

** Denotes selected counties using PPS

After all certainty counties were identified (Oklahoma, Tulsa, and Canadian), a sampling interval (I) was calculated as the total (i.e., remaining) fatalities across all counties not selected with certainty within the region divided by the number of counties still needed to be selected within each region. A random start (RS) was selected between 0 and the calculated sampling interval (I), which determines the first county selected. Subsequent counties selected were determined by adding multiples of I to the RS until the desired number of counties was selected and/or the end of the sorted list was reached.

Road Segment Selection

Oklahoma employed the Census TIGER data for the selection of road segments. Oklahoma 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, cul-de-sacs, roads on military bases, and service drives from the dataset.

The list of eligible road segments within each selected county was sorted by segment length to obtain an ordered list. Road segments were selected with PPS using road length as the MOS. A sampling interval (I) was calculated as the total length across all remaining road segments within the county divided by the number of road segments to select within each county (i.e. 12). A random start (RS) was selected between 0 and the calculated I, which determined the first road segment selected. Subsequent road segments selected were determined by adding multiples of I to the RS until the desired number of road segments was selected and/or the end of the sorted list was reached.

Appendix A presents the selected road segments within each county and their probabilities of selection.

Reserve Sample

If an original road segment is permanently unavailable, a reserve road segment will be used. The reserve road segment sample consists of two additional road segments per original road segment selected, resulting in a reserve sample of 360 road segments. These appropriate reserve segments were identified and selected as the road segments immediately preceding and immediately following the original road segment actually selected, and thus are implicitly stratified by segment length to correspond to the original road segment actually selected. Thus, these are considered selected with PPS using road segment length as MOS by the same approach as described earlier. With this in mind, for the purposes of data weighting, the reserve road segment inherits all probabilities of selection and weighting components up to and including the road segment stage of selection from the original road segment actually selected. Probabilities and weights for any subsequent stages of selection (e.g., the sampling of vehicles) will be determined by the reserve road segment itself.

Observation and Data Collection Procedures

Site Selection

Road segments were mapped according to the latitude and longitude of their midpoints. The selected road segment was identified by an intersection or interchange that occurred within or just beyond the segment. If no intersection or interchange occurred within the segment, then any point on that road could be used for observation. Data collection sites were deterministically selected such that traffic would be moving during the observation period. Therefore, sites were assigned to locations within the segment that were approximately 50 yards from any controlled intersections. For interstate highways, data collection will occur on a ramp carrying traffic that is exiting or entering the highway in some controlled manner. The observed direction of travel will be randomly assigned for each road segment. The locations of the data collection sites will be described on Site Assignment Sheets for each county and maps were developed to aid the Data Collectors and QC Monitors in travelling to the assigned locations.

Training

Oklahoma will recruit and hire 4-6 Data Collectors. Oklahoma will also utilize 1 QC Monitor who is responsible for reviewing all Data Collectors.

The criteria used in selecting observers and QC Monitors required that each person be at least 21 years of age, hold a valid driver's license, and be able to maintain the assigned schedule and research protocol for the observations. Each observer was trained on the types of vehicles to count, how to record the belted/not belted occupants, and other information necessary to complete their assignment. They also were provided an observer manual with specific instructions regarding the process for collecting data as well as a troubleshooting guide. The training session provided the observers with information on: (1) identifying eligible vehicles; (2) counting procedures for limited access roads; and, (3) completing the observation record sheet.

The training session also included explicit directions on counting an improperly used shoulder belt as "not using" and determining the number of lanes to be observed when traffic volume was high. During the survey period, on-site audits were conducted by the Institute for Public Affairs to ensure compliance and quality data collection by all observers.

Data Collector and QC Monitor training will be conducted at the University of Central Oklahoma between May 1 and June 3 of each year. It will include lecture and classroom and field exercises. The syllabus is shown as Figure 1.

Figure 1 – Training Syllabus

Day 1

Welcome and distribution of equipment

Survey overview

Data collection techniques
- Definitions of belt/booster seat use, passenger vehicles
- Observation protocol
- Weekday/weekend/rush hour/non-rush hour
- Weather conditions
- Duration at each site

Scheduling and rescheduling
- Site Assignment Sheet
- Daylight
- Temporary impediments such as weather
- Permanent impediments at data collection sites

Site locations
- Locating assigned sites
- Interstate ramps and surface streets

Direction of travel/number of observed lanes
Non-intersection requirement
Alternate site selection

Day 2

Data collection forms
Cover sheet
Recording observations
Recording alternate site information

Assembling forms for shipment

Safety and security

Timesheet and expense reports

Field practice at ramps and surface streets

At the conclusion of the training, Data Collectors and QC Monitors will be given a quiz to ensure that they understand the survey terminology, the data collection protocols, and reporting requirements.

QC Monitors will be given an additional half day training focusing on their specific duties. These include conducting unannounced site visits to each Data Collector at a minimum of 8 sites (or 5% of all sites) and reviewing the field protocol during the visit. The QC Monitor will also be available during the survey to respond to questions and assist Data Collectors as needed.

Observation Periods and Quality Control

All seat belt and booster seat use observations will be conducted during weekdays and weekends between 8 a.m. and 8:00 p.m. The schedule will include rush hour (before 9:30 AM and after 3:30 PM) and non-rush hour observations. Data collection will be conducted for 60 minutes at each site, and a minimum of 6 sites will be scheduled each day. Start times will be staggered to ensure that a representative number of weekday/weekend/ rush hour/non-rush hour sites are included.

Maps showing the location of all observation sites and Site Assignment Sheets will be provided to the Data Collectors and QC Monitor. These will indicate the observed road name, the crossroad included within the road segment (or nearest crossroad), assigned date, assigned time, and assigned direction of travel. 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. Next, all other sites within a cluster will be assigned to the same day to minimize travel costs. They will be scheduled by geographic proximity to maximize the efficiency of travel within the cluster.

Data Collection

All passenger vehicles, including commercial vehicles weighing less than 10,000 pounds, will be eligible for observation. The data collection cover sheet and observation form are shown as Appendix C. The cover sheet was designed to allow for documentation of descriptive site information, including: date, site location, site number, alternate site data, assigned traffic flow, number of lanes available and observed, start and end times for observations, and weather conditions. This cover form will be completed by the Data Collector at each site.

The observation form will be used to record seat belt use by drivers and front seat passengers. Additional observation forms can be used when more than 40 vehicles are observed at a site. The forms will be labeled as 1 of 2, and 2 of 2, etc.

The data collector will observe as many lanes of traffic as s/he can comfortably monitor while obtaining data on 99% of the vehicles. Only one direction of traffic will be observed at any given site. This direction is pre-determined.

Observations will be made of all drivers and right front seat occupants. This includes children riding in booster seats. *The only right front seat occupants excluded from this study are child passengers who are traveling in child seats with harness straps.* The codes in Table 3 will be used to record seat belt use.

Table 3 - Seat Belt Use Codes and Definitions

Code	Meaning	Definition
Y	Yes, belted	The shoulder belt is in front of the person's shoulder.
N	No, unbelted	The shoulder belt is not in front of the person's shoulder.
U	Unknown	It cannot reasonably be determined whether the driver or right front passenger is belted.
NP	No passenger	There is no right front passenger present.

According to the codes above, both a vacancy for the right front passenger or a child, restrained in a car seat with harnesses would be coded as NP since harnessed children are not observed in this study.

Alternate Sites and Rescheduling

When a site is temporarily unavailable due to a crash, road construction, or inclement weather, data collection will be rescheduled for a similar time of day and type of day of week. If that site is permanently unworkable, such as being located within a gated community, then an alternate site, selected as part of the reserve sample, will be used as a permanent replacement. The two alternates for each site will be clearly identified and listed on the Site Assignment Sheet. Data Collectors will pick one of the reserve sites at random. If the selected reserve is also permanently unworkable, then the Data Collector will use the other reserve site.

Quality Control Procedures

A QC Monitor will make unannounced visits to at least 5% of the data collection sites. During these visits, the QC Monitor will first evaluate the Data Collector's performance from a distance (if possible), and then work alongside the Data Collector. The QC Monitor will ensure that the Data Collector is following all survey protocol including: being on time at assigned sites, completing the cover sheet and observation forms, and making accurate observations of seat belt use. The QC Monitor will prepare a site visit report highlighting any problems with data collection site locations and Data Collector performance.

In the event it is discovered that a Data Collector has falsified data, the Data Collector will be replaced by the back-up Data Collector. The back-up Data Collector will revisit all sites proven to be or suspected to be falsified and recollect all data.

At the end of each day, the Data Collector will mail the forms to the project coordinator. The QC Monitor will review the forms. If the rate of unknowns exceeds 10% for any site (potentially leading to an overall nonresponse rate of 10% or more), then the Data Collector will be sent back to that site for an additional observation period.

2022 RESULTS OF THE SURVEY

During June of 2022, observers visited 180 sites in 15 counties. This approach was approved by the National Highway Traffic Safety Administration (NHTSA) in 2022. These observers collected data for 12,984 drivers and front-seat passengers. In only 29 cases were the surveyors unable to determine whether an occupant was belted. This represented only 0.22% of the total cases and is well below the NHTSA limit of 10%.

Table 1 shows the estimates of safety belt use and confidence intervals for the state, and roadway types (major and local). The statewide seat belt usage rate for drivers and front-seat passengers was 80.0 percent (the last nine surveys had rates of 84.4%, in 2021, 84.7% in 2019, 85.6% in 2018, 86.9% in 2017, 86.6% in 2016, 84.4% in 2015, 86.3% in 2014, and 83.6% in 2013).

Overall, usage rates in 2022 decreased significantly from previous recent surveys. This decrease was seen for drivers as well as passengers. In addition, usage rates decreased for both categories of vehicles, and across the road types as well. The gap between pickup tracks and other vehicles increased notably in 2022. Previous surveys had shown a generally declining gap between pickups and other vehicles with restraint usage being 78.3% for pickups and 86.0% for other vehicles in 2021 for a gap of 7.7%. In 2022, this gap increased to 13.4% with occupants of pickup trucks being much less likely to be restrained than their counterparts in other vehicles.

Drivers and passengers observed traveling on primary and local roads were more likely to be restrained (84.0 and 83.9 percent) than those observed on secondary roads (78.5%). This pattern remains the same from the previous survey that was conducted, although the rates dropped across all road types.

Table 4 Estimate of Seat Belt Use in Oklahoma Summer 2022				
	Number of Observations	Weighted Estimate (PERCENT)	Standard Error (PERCENT)	Confidence Interval* (PERCENT)
Statewide	12,955	80.0	1.8	+/- 3.6
Vehicle Type				
Car/Van/SUV	8,936	83.9	1.2	+/- 2.4
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Occupant Type				
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Roadway Type**				
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***** Based on a 95 percent confidence level, the actual belt use for each category shown in the table is the estimated percentage use + or – the standard error (S.E.) multiplied by 1.96. Standard errors were calculated using SPSS v25 Complex Samples Module.
****** S1100 Primary Roads are generally divided, limited access highways within the interstate system. S1200 roads are main arteries in the State Highway or County Highway system. They have one or more lanes of traffic in each direction and often have a local name and a route number. S1400 Roads are paved, non-arterial streets, roads, or byways that usually have a single lane of traffic in each direction.

In addition to analyzing the data by vehicle type, occupant type, and by roadway type, the data was analyzed for differences by county. An examination of Table 2 shows significant variance by county with more rural areas generally having lower usage rates than the more urban counties. In 2022, three counties (Lincoln, Creek, and Okmulgee) were observed to have usage rates below 70%. In contrast, two counties (Rogers and Osage) had usage rates at 90% or above.

Table 5 Estimate of Seat Belt Use in Oklahoma by County: Summer 2022 Percent	
	Weighted Combined
Rogers	91.6
Osage	90.0
Oklahoma	86.5
Canadian	86.1
Comanche	84.9
Tulsa	84.8

Table 5 Estimate of Seat Belt Use in Oklahoma by County: Summer 2022 Percent	
Delaware	82.2
Major	78.8
Logan	76.2
Caddo	75.9
Cleveland	73.8
McClain	70.3
Lincoln	69.7
Creek	68.7
Okmulgee	64.0

Comparisons to Previous Surveys

Comparing overall usage rates in 2022 to previous years provides useful comparisons. The overall usage rate in 2022 was 80.0% which was a significant decrease from recent surveys. This decrease appears to be broadly-based with virtually every category examined being lower than recent years.

SUMMARY AND RECOMMENDATIONS

The results of the summer 2022 survey can be summarized as follows:

- The 2022 survey results report that statewide safety belt use was 80.0%. This was down significantly from all recent surveys (recent results have ranged from a low of 83.6% in 2013 to a high of 86.9% in 2017).

- In 2022, two counties had usage rates of 90% or higher, while three counties were below 70%. This showed a large amount of variation by county across the counties sampled.

- In 2022, drivers were analyzed separately from passengers. Consistent with recent results, drivers (79.9%) were less likely to be restrained than were their passengers (80.6%). This same general pattern has held for the last six years with 2022 reporting significant decreases for both groups.

- Like recent surveys, the 2022 survey separately examined pickup trucks for their usage rates. Consistent with national data and other Oklahoma data, pickup trucks showed a significantly lower rate of usage (70.5% in 2022, 78.3% in 2021, 76.8% in 2019, 79.8% in 2018, 81.3% in 2017, 79.0% in 2016, 78.2% in 2015, and 79.4% in 2014) than other vehicle types (83.9% in 2022, 86.0% in 2021, 87.0% in 2019; 87.3% in 2018, 88.7% in 2017, 89.0% in 2016, 86.8% in 2015, and 88.6% in 2014).

Two factors have been demonstrated to play key roles in determining a state's use rate: 1) the nature of the state's seat belt law, and 2) media campaigns conducted to raise use. An analysis conducted for this study of the usage rates from 2010 finds that states with higher fines have higher usage rates (r = .49). The 2009 NHTSA survey found that those states with stronger belt enforcement laws (primary enforcement) continue to exhibit generally higher buckled rates than states with weaker laws (secondary enforcement) or no laws.

With respect to public education, the main theme of the national advertising campaign promoted by NHTSA has been *Click It or Ticket*. It conveys a message that it is illegal not to use safety belts, law enforcement officers are looking for nonuse, and offenders will be ticketed. The campaign is viewed as a success with safety belt use increases coincident with the advertising campaign.

A recent study assessing *Click It or Ticket* programs confirms that primary law states had substantially higher seat belt use and higher levels of enforcement than secondary states. They also noted that *Click It or Ticket* programs aimed at the general driving population and supplemented by more targeted programs directed at low use groups (e.g., occupants of pickups and rural residents) are key to increasing seat belt use. However, media programs without enforcement are not nearly as successful. Thus, enforcement is important. The more seat belt laws are enforced, the higher the seat belt use rate.

Considering the data collected as part of the 2022 observation study, the following recommendations are presented:

- Focusing upon specific counties with low usage rates (i.e., low use counties) would likely have a positive impact on rates in those areas.

- Consider customized initiatives to address the low usage rates among the occupants of pickup trucks. A large proportion of vehicle travel in Oklahoma takes place in pickup trucks and the usage rates of pickup truck occupants significantly lags other vehicle types. A rise in usage rates among pickup truck occupants would create significant positive impact on the state's overall usage rate.

- Continue to encourage law enforcement agencies to *vigorously* enforce the Oklahoma mandatory Seat Belt Use Act on a consistent basis.

- Collect county-level data on enforcement of the use of seat belts to document the relationship between enforcement efforts and safety restraint use.

- Continue to pursue a multimedia strategy for educating the public about the benefits of using seat belts and the consequences of non-compliance with the state seat belt law.

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APPENDIX A: Seatbelt Observation Sites –2022

County	Road Type	Road Name	Longitude	Latitude	Length in Miles	Probability of Selection
Caddo	S1100	I- 40	-98.44945751	35.52905961	1.237515	0.16416290
Caddo	S1100	I- 44	-98.13515995	34.86945238	0.918414	0.12183245
Caddo	S1100	I- 44	-98.15253952	34.8606316	0.779344	0.10338417
Caddo	S1100	I- 40	-98.41939099	35.52920279	0.589885	0.07825135
Caddo	S1100	I- 40	-98.52154377	35.52939849	0.421198	0.05587418
Caddo	S1100	I- 40	-98.347947	35.5292335	0.102882	0.01364778
Caddo	S1200	State Hwy 58	-98.60512624	35.28268512	0.873278	0.02138641
Caddo	S1200	US Hwy 281	-98.36069591	35.42441942	0.527988	0.01293032
Caddo	S1200	N2460 Rd	-98.60207484	35.20194413	0.381445	0.00934152
Caddo	S1200	State Hwy 152	-98.4377205	35.29076609	0.245916	0.00602244
Caddo	S1200	N Baskett	-98.2060085	34.9419761	0.134429	0.00329214
Caddo	S1200	S Mission St	-98.251429	35.064242	0.033788	0.00082746
Canadian	S1100	I- 40	-97.67804149	35.46037473	0.732047	0.03039000
Canadian	S1100	I- 40	-98.06459154	35.52985573	0.396762	0.01647108
Canadian	S1100	I- 40	-97.77106413	35.49243581	0.264944	0.01099882
Canadian	S1100	I- 40	-97.9011265	35.500794	0.049501	0.00205497
Canadian	S1200	State Hwy 3	-97.83839041	35.64428258	0.532781	0.01070569
Canadian	S1200	US Hwy 81	-97.93768214	35.48694324	0.347417	0.00698100
Canadian	S1200	State Hwy 3	-97.93134399	35.68233651	0.178662	0.00359004
Canadian	S1200	E Main St	-97.7151075	35.511704	0.035339	0.00071010
Canadian	S1400	N Fort Reno Rd	-98.06569875	35.6046421	0.671539	0.00131534
Canadian	S1400	Edmond Rd NW	-98.1125855	35.65289302	0.353374	0.00069215
Canadian	S1400	S Holly Ave	-97.74603943	35.47952726	0.170788	0.00033452
Canadian	S1400	S Barker Ave	-97.9515345	35.5272955	0.061565	0.00012059
Cleveland	S1100	I- 35	-97.48539858	35.22718448	0.581360	0.06247776
Cleveland	S1100	I- 35	-97.4899663	35.29946945	0.387964	0.04169383
Cleveland	S1100	I- 44	-97.5788641	35.36751798	0.261192	0.02806985
Cleveland	S1100	I- 44	-97.58604951	35.349612	0.158643	0.01704914
Cleveland	S1200	State Hwy 9	-97.24012038	35.19977538	0.294331	0.01306930
Cleveland	S1200	12th Ave NE	-97.42370435	35.26345348	0.168009	0.00746016
Cleveland	S1200	State Hwy 39	-97.244145	35.0149385	0.089572	0.00397730
Cleveland	S1200	State Hwy 9	-97.4815995	35.19804	0.011587	0.00051448
Cleveland	S1400	York Dr	-97.48194217	35.27811017	0.442697	0.00083739
Cleveland	S1400	Hickory Creek Rd	-97.573198	35.3456095	0.206891	0.00039135

Cleveland	S1400	Summit Cross Pkw	-97.396077	35.2118523	0.121257	0.00022937
Cleveland	S1400	Woodcrest Creek Cir	-97.435001	35.254898	0.059845	0.00011320
Comanche	S1100	I- 44	-98.20002594	34.83420206	1.091288	0.07381435
Comanche	S1100	I- 44	-98.39310327	34.57628923	0.558588	0.03778268
Comanche	S1100	I- 44	-98.40924279	34.54946785	0.327010	0.02211885
Comanche	S1100	I- 44	-98.38837063	34.62393519	0.155264	0.01050202
Comanche	S1200	SE Lee Blvd	-98.27202929	34.59398803	0.828467	0.01616054
Comanche	S1200	Lake Rd	-98.5904245	34.79703108	0.461711	0.00900638
Comanche	S1200	NW Quannah Parker Trl	-98.4768745	34.6309031	0.247980	0.00483723
Comanche	S1200	NW Cache Rd	-98.39293278	34.62319054	0.095947	0.00187159
Comanche	S1400	Trail Rd	-98.26453374	34.54695406	0.518696	0.00120976
Comanche	S1400	Indian Trail Rd	-98.38787962	34.63383432	0.248922	0.00058056
Comanche	S1400	SW 6th St	-98.39747581	34.61627838	0.100890	0.00023531
Comanche	S1400	Shady Brook	-98.64501	34.623714	0.010346	0.00002413
Creek	S1100	I- 44	-96.33896972	35.88193311	0.785068	0.03652846
Creek	S1100	I- 44	-96.07603405	36.05193019	0.491496	0.02286883
Creek	S1100	I- 44	-96.15178981	36.00018685	0.290591	0.01352092
Creek	S1100	I- 44	-96.3846335	35.850371	0.036348	0.00169126
Creek	S1200	State Hwy 51	-96.44504504	36.10485021	0.506070	0.00982480
Creek	S1200	State Hwy 48	-96.3871575	35.77387199	0.249581	0.00484535
Creek	S1200	State Hwy 99	-96.583961	35.994023	0.143414	0.00278423
Creek	S1200	State Hwy 51	-96.596866	36.119221	0.072204	0.00140176
Creek	S1400	S 283rd West Ave	-96.30884932	35.94036047	0.362350	0.00095364
Creek	S1400	W 61st St S	-96.30378972	36.0757864	0.197293	0.00051924
Creek	S1400	W Orleans Ave	-96.11663327	35.97167099	0.111053	0.00029227
Creek	S1400	W 211th St S	-96.3765015	35.857269	0.042551	0.00011199
Delaware	S1100	Cherokee Tpke	-94.82409266	36.21447116	1.057576	0.18161012
Delaware	S1100	Cherokee Tpke	-94.87806588	36.21184632	0.976774	0.16773449
Delaware	S1100	Cherokee Tpke	-94.96648024	36.21502403	0.704280	0.12094105
Delaware	S1100	Cherokee Tpke	-94.71858454	36.19092373	0.402503	0.06911909
Delaware	S1100	Cherokee Tpke	-94.92517065	36.21233519	0.301214	0.05172542
Delaware	S1100	Cherokee Tpke	-94.72276229	36.19240875	0.139051	0.02387832
Delaware	S1200	State Hwy 20	-94.93811675	36.41654086	0.887642	0.02759508
Delaware	S1200	State Hwy 85	-94.96336189	36.60894702	0.495659	0.01540908
Delaware	S1200	US Hwy 412 Alt	-94.8181621	36.205183	0.313863	0.00975739
Delaware	S1200	S Hi Lo	-94.71137945	36.603611	0.222447	0.00691546

Delaware	S1200	State Hwy 116	-94.70390617	36.2658063	0.141785	0.00440782
Delaware	S1200	US Hwy 59	-94.78007949	36.29404781	0.079978	0.00248636
Lincoln	S1100	I- 44	-97.00185152	35.69378039	0.766279	0.05037169
Lincoln	S1100	I- 44	-96.94237516	35.70713254	0.474796	0.03121092
Lincoln	S1100	I- 44	-96.63173902	35.76629403	0.305265	0.02006671
Lincoln	S1100	I- 44	-97.14018248	35.65197242	0.129009	0.00848046
Lincoln	S1200	US Hwy 62	-96.87223061	35.50283452	0.491265	0.00908614
Lincoln	S1200	US Hwy 377	-96.68279863	35.53362544	0.261974	0.00484532
Lincoln	S1200	US Hwy 377	-96.66277498	35.66079005	0.145122	0.00268409
Lincoln	S1200	US Hwy 62	-96.65259649	35.49173863	0.039060	0.00072242
Lincoln	S1400	Jog Line Rd	-96.76177204	35.89861441	0.577912	0.00137017
Lincoln	S1400	E850 Rd	-96.65089093	35.78240537	0.349923	0.00082963
Lincoln	S1400	S 3460 Rd	-96.841347	35.4937025	0.197800	0.00046896
Lincoln	S1400	Klabzuba Ave	-96.684583	35.487098	0.071015	0.00016837
Logan	S1100	I- 35	-97.41638756	35.74704001	1.000793	0.10615572
Logan	S1100	I- 35	-97.39304728	35.90850348	0.723912	0.07678652
Logan	S1100	I- 35	-97.3940628	35.86679568	0.462455	0.04905333
Logan	S1100	I- 35	-97.410792	35.8245985	0.047621	0.00505127
Logan	S1200	US Hwy 77	-97.40249785	36.07728221	0.775580	0.01988542
Logan	S1200	State Hwy 51	-97.36771206	36.11560319	0.453271	0.01162161
Logan	S1200	State Hwy 74C	-97.5751125	35.95665952	0.250309	0.00641778
Logan	S1200	W University Ave	-97.520097	35.8710575	0.100954	0.00258841
Logan	S1400	Macarthur Blvd	-97.6216996	36.1112405	0.661976	0.00171322
Logan	S1400	W Charter Oak	-97.51717103	35.75462585	0.359535	0.00093049
Logan	S1400	E College Ave	-97.33410502	35.88459952	0.185783	0.00048081
Logan	S1400	E Broadway	-97.67352747	35.79646727	0.067439	0.00017454
Major	S1200	US Hwy 412	-98.64691101	36.36208408	0.757299	0.05500963
Major	S1200	US Hwy 412	-98.23112603	36.39099814	0.132009	0.00958906
Major	S1200	State Hwy 58	-98.476571	36.2015215	0.083923	0.00609608
Major	S1200	E State Rd	-98.4712675	36.2751735	0.031856	0.00231399
Major	S1200	US Hwy 60	-98.89540259	36.21650133	0.540435	0.03925681
Major	S1200	US Hwy 281	-98.88891398	36.398422	0.477013	0.03464989
Major	S1200	US Hwy 60	-98.70252516	36.21705599	0.392684	0.02852423
Major	S1200	US Hwy 412	-98.49355678	36.36239504	0.323111	0.02347054
Major	S1200	State Hwy 8	-98.37013549	36.27519111	0.274137	0.01991313
Major	S1200	US Hwy 412	-98.77547516	36.4134648	0.247891	0.01800658
Major	S1200	US Hwy 412	-98.62499988	36.36203586	0.212634	0.01544553

Major	S1200	US Hwy 412	-98.428048	36.39074551	0.173402	0.01259581
McClain	S1100	I- 35	-97.33762845	34.88715984	0.671803	0.03827390
McClain	S1100	H E Bailey Turnpike	-97.61389683	35.18504171	0.453305	0.02582567
McClain	S1100	I- 35	-97.43530044	35.10816748	0.271882	0.01548965
McClain	S1100	I- 35	-97.4915865	35.1858295	0.062910	0.00358408
McClain	S1200	State Hwy 74	-97.40631591	34.92071898	1.002318	0.01871131
McClain	S1200	State Hwy 59	-97.243517	34.91328308	0.495458	0.00924923
McClain	S1200	Harvest Ave	-96.9660462	34.864095	0.309375	0.00577543
McClain	S1200	State Hwy 74B	-97.5498415	35.10239801	0.151763	0.00283311
McClain	S1400	240th St	-97.60615597	35.05881044	0.543216	0.00237344
McClain	S1400	NW 14th St	-97.60625259	35.25826007	0.317247	0.00138613
McClain	S1400	Ladderback Ln	-97.64044353	35.13741842	0.161189	0.00070427
McClain	S1400	Gallamore Ave	-97.336234	34.949461	0.049772	0.00021747
Oklahoma	S1100	I- 40	-97.15121851	35.38413131	0.901923	0.01261564
Oklahoma	S1100	Airport Rd	-97.60974539	35.42293562	0.388191	0.00542982
Oklahoma	S1100	Lake Hefner Pkwy	-97.57907592	35.53019652	0.256817	0.00359222
Oklahoma	S1100	I- 40	-97.3741281	35.43300754	0.130656	0.00182754
Oklahoma	S1200	N Portland Ave	-97.58464657	35.71541095	0.584802	0.02570216
Oklahoma	S1200	E 2nd St	-97.36538504	35.65263409	0.212155	0.00932424
Oklahoma	S1200	NW 39th Expy	-97.6509815	35.5152065	0.122953	0.00540382
Oklahoma	S1200	NW 39th Expy	-97.605643	35.51146148	0.062126	0.00273044
Oklahoma	S1400	SW 38th St	-97.57252754	35.42637731	0.230007	0.00019646
Oklahoma	S1400	Moran Rd	-97.23470236	35.44875908	0.127145	0.00010860
Oklahoma	S1400	N Robinson Ave	-97.5160005	35.4818135	0.073718	0.00006297
Oklahoma	S1400	SE 2nd St	-97.1927215	35.661116	0.007797	0.00000666
Okmulgee	S1100	I- 40	-95.89848555	35.43013326	1.391766	0.17042635
Okmulgee	S1100	I- 40	-96.0319493	35.43284681	0.702470	0.08601977
Okmulgee	S1100	I- 40	-95.91299436	35.43029439	0.255173	0.03124678
Okmulgee	S1100	Indian Nation Tpke	-95.97359624	35.41215432	0.129951	0.01591297
Okmulgee	S1200	State Hwy 56	-96.01914221	35.61558087	0.590952	0.01493409
Okmulgee	S1200	US Hwy 75	-95.95519444	35.50482512	0.332136	0.00839349
Okmulgee	S1200	US Hwy 75 Alt	-96.0687185	35.79329598	0.209324	0.00528987
Okmulgee	S1200	State Hwy 16	-96.038053	35.74081115	0.086686	0.00219067
Okmulgee	S1400	Gun Club Rd	-95.7737476	35.65319079	0.537651	0.00175012
Okmulgee	S1400	Dentonville Rd	-96.1219061	35.6163335	0.277781	0.00090421
Okmulgee	S1400	N Collins Ave	-95.97755821	35.62910448	0.132305	0.00043067
Okmulgee	S1400	S 6th St	-95.98829842	35.4351565	0.052741	0.00017168

Osage	S1100	Keystone Expy	-96.25490901	36.16812488	0.666578	0.56276021
Osage	S1100	L L Tisdale Pkwy	-96.00461272	36.18512575	0.496569	0.41922966
Osage	S1100	Keystone Expy	-96.26051282	36.1746312	0.428251	0.36155230
Osage	S1100	L L Tisdale Pkwy	-96.00363451	36.193051	0.181328	0.15308709
Osage	S1200	State Hwy 99	-96.41019451	36.35337758	0.639362	0.01044148
Osage	S1200	State Hwy 99	-96.2061234	36.92637287	0.391904	0.00640022
Osage	S1200	Bartlesville Rd	-96.23297498	36.75680644	0.218690	0.00357145
Osage	S1200	Bartlesville Rd	-96.00579547	36.75236888	0.070207	0.00114655
Osage	S1400	Water Tower Rd	-96.20485452	36.19061765	0.738302	0.00142608
Osage	S1400	W 88th St N	-96.05716006	36.28166544	0.376834	0.00072788
Osage	S1400	S Lenapah Ave	-96.03137855	36.35684298	0.190038	0.00036707
Osage	S1400	N Dotson Dr	-96.23032409	36.22482109	0.062348	0.00012043
Rogers	S1100	I- 44	-95.55201188	36.31845511	1.103121	0.08080661
Rogers	S1100	I- 44	-95.49531221	36.34085261	0.728460	0.05336168
Rogers	S1100	I- 44	-95.62595517	36.27717282	0.334512	0.02450388
Rogers	S1100	I- 44	-95.75548057	36.16339471	0.091237	0.00668337
Rogers	S1200	US Hwy 412	-95.663651	36.1647039	0.993399	0.01750357
Rogers	S1200	S Hwy 66	-95.51506654	36.44047603	0.443453	0.00781359
Rogers	S1200	E Will Rogers Blvd	-95.55885401	36.30729556	0.242732	0.00427692
Rogers	S1200	S Hwy 66	-95.5212	36.43425	0.116124	0.00204609
Rogers	S1400	S 4200 Rd	-95.52534108	36.53356006	0.561299	0.00151002
Rogers	S1400	S 4200 Rd	-95.52508454	36.354675	0.254430	0.00068448
Rogers	S1400	S 4170 Rd	-95.5830215	36.169792	0.144518	0.00038879
Rogers	S1400	E Browning Ave	-95.68597618	36.30249633	0.068324	0.00018381
Tulsa	S1100	Mingo Valley Expy	-95.85961033	36.11249812	0.441321	0.00656808
Tulsa	S1100	Mingo Valley Expy	-95.84824452	36.269188	0.287385	0.00427708
Tulsa	S1100	Mingo Valley Expy	-95.859285	36.0766605	0.174263	0.00259352
Tulsa	S1100	I- 44	-96.02766	36.0890245	0.020079	0.00029883
Tulsa	S1200	US Hwy 75	-95.92209125	36.34965594	1.819718	0.05521188
Tulsa	S1200	State Hwy 97	-96.11810359	36.09407443	0.525066	0.01593097
Tulsa	S1200	S Sheridan Rd	-96.1214559	36.1211281	0.316968	0.00961709
Tulsa	S1200	E Rogers Blvd	-95.9926635	36.3684749	0.143029	0.00433962
Tulsa	S1400	S Sheridan Rd	-95.9083935	35.8680315	0.317909	0.00033252
Tulsa	S1400	E 19th St	-95.952486	36.13508201	0.144749	0.00015140
Tulsa	S1400	E Oklahoma St	-95.98138683	36.17515407	0.086010	0.00008996
Tulsa	S1400	E Virgin St	-95.985193	36.1842285	0.053157	0.00005560