

**Kansas**  
**Occupant Protection Observational Survey**  
**Supplementary Analyses**

**2019 Child Study**

Submitted To:  
Kansas Department of Transportation  
Bureau of Transportation Safety and Technology

Prepared by:  
DCCCA  
3312 Clinton Parkway  
Lawrence, KS 66049

June 13, 2019

**Table of Contents:**

Summary Fact Sheet ..... 3

Method ..... 4

Results ..... 5

    Multi-Year, Weighted Data ..... 5

        General Statewide Child Safety Belt Trends ..... 5

        Statewide Child Safety Belt Trends by Age Group ..... 6

        Belt Use Rates by County ..... 7

    2019 Unweighted Data ..... 9

        Types of Vehicles in the 2018 Survey ..... 9

        Differences in Child Restraint Use Rates by Vehicle Type..... 9

        Belt Use Rate Among Drivers of Vehicles Carrying Children ..... 10

        Driver Gender of Vehicles Carrying Children ..... 10

        Child Restraint by Driver Gender ..... 10

        Types of Restraint Observed..... 11

        Ages Groups Observed ..... 11

        Child Position in Vehicle ..... 12

        Child Restraint by Vehicle Position..... 12

        Percentage of 0-17 Year Old Children Driving Observed Vehicle ..... 13

        Percentage of High School Aged Youth Driving Observed Vehicle..... 13

        Child Restraint when Child is Driver..... 13

        Percentage of Young Drivers Distracted While Driving ..... 14

        Restraint Rate if Driver is Belted..... 14

## Summary Fact Sheet

Statewide seatbelt use among Kansas children (0-17) as observed in 2018-2019 is an estimated 90.5%.

The preschool age group is buckled up at the highest rate, at about 98%. Elementary aged children have a belted rate of 88%, middle school aged children have a belted rate of 87%, and high school aged children are belted the least frequently at 86%.

Seatbelt use among all Kansas children has continued to increase since 2008:

Belt use within the preschool age group has increased by about 2.8 percentage points.  
Belt use within the elementary age group has increased by nearly 14.9 percentage points.  
Belt use within the middle school age group has increased by about 20.4 percentage points.  
Belt use within the high school age group has increased by nearly 25.6 percentage points.

Excluding the high school-year-old age group added to the study in 2008 allows for a more extended period for comparison. In 2018-2019, the state-wide estimate for 0-14 year-olds is 91%, as compared to the first child survey, conducted in 2002-2003, which found the belt use rate among 0-14 year-olds at approximately 55%.

Data indicates that, in general, children in urban counties are buckled up at a higher rate than children in rural counties. In the 2018-2019 study, the average rate of child seatbelt use in urban counties increased to about 90%, while the average in rural counties increased to approximately 87%.

This study has found that children are *much* more likely to be buckled up if the driver is belted. If the driver is belted, about 96.6% of children in the vehicle are also belted. If the driver is not belted, only about 30% of the observed children are belted.

Results show a continued decline in observed distractions over previous years. About 4% of high school aged old drivers were observed to be distracted in some way (cell phone use, texting, and other distractions), while about 96% were observed as having no obvious distractions.

## Method

The Child Occupant Protection Observational Survey is conducted annually and includes sites located in 20 Kansas counties. Fifteen of the observed counties were randomly selected in 2002 using National Highway Transportation Safety Administration (NHTSA) approved Uniform Criteria methodology.

Five of the original counties were replaced in 2018 to more closely align the survey with the current sample of the Kansas Summer Occupant Protection Observational Survey that measures belt use across drivers and passengers of all ages.

Three primary groups have been observed since 2002: preschool aged children (estimated ages 0-4), elementary aged children (estimated ages 5-9), middle school aged children (estimated ages 10-14). Beginning in 2008, high school aged children (estimated ages 15-17) were added to the survey when Kansas statute changed, making drivers in this age group subject to a primary safety belt law.

Observation sites are selected within neighborhoods where children of these age groups are likely to be observed. This includes areas located near grocery and general-purpose stores, day-care/preschools, elementary school neighborhoods, middle-school/junior high neighborhoods, and high school neighborhoods.

The number of actual observation sites varies from year to year due to school consolidation, business closings, and the highly fluid nature of licensed daycares.

For purposes of data stability, data from the two most recent years are combined to produce the annual state-wide estimate.

Data are corrected for over and under reporting by age group using census figures which weight the age groups by the proportions they represent in the general population of the observed counties, by the proportions they represent in the urban/rural counties, and by the proportions these age groups represented in the counties that contain 85% of the state population.

The 2019 study is comprised of 33,627 child observations at 387 unique sites.

<b>Number of Observations</b>			
Age Group	Year		
	<b>2018</b>	<b>2019</b>	<b>2018+2019</b>
0-4	2,096	1,776	3,782
5-9	4,512	4,049	8,561
10-14	4,282	4,222	8,504
15-17	6,568	6,122	12,690
<b>Totals</b>	<b>17,458</b>	<b>16,169</b>	<b>33,627</b>

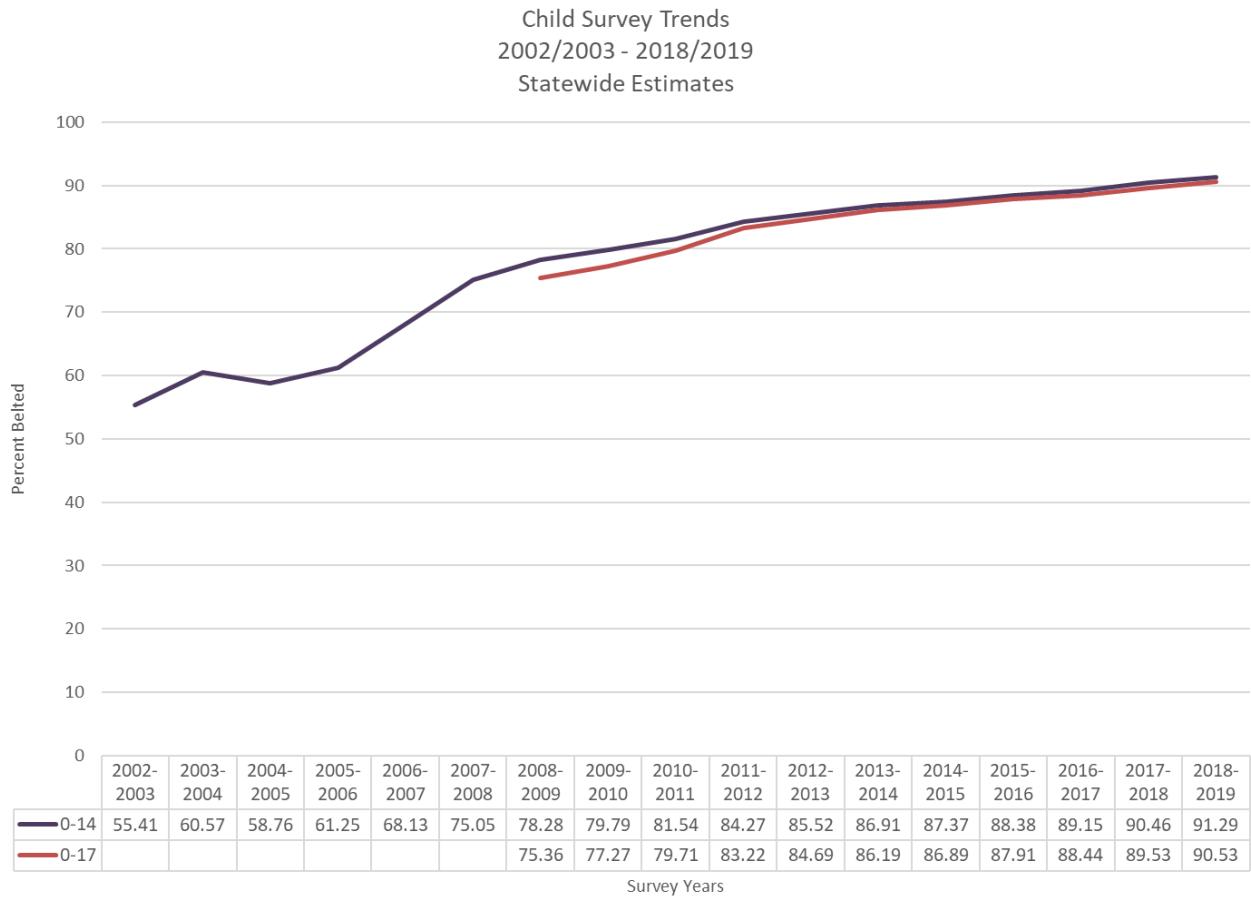
# Results

## Multi-Year, Weighted Data

### General Statewide Child Safety Belt Trends

There has been a general increase in child restraint use since 2002. Estimated safety belt usage among those 0-14 years old is 91.29 percent, an increase of nearly 36 percent since 2002.

Safety belt usage among all children 0-17 years old is an estimated 90.53 percent, an increase of 15 percent since the age range of the study was expanded in 2008 to include high school aged youth.

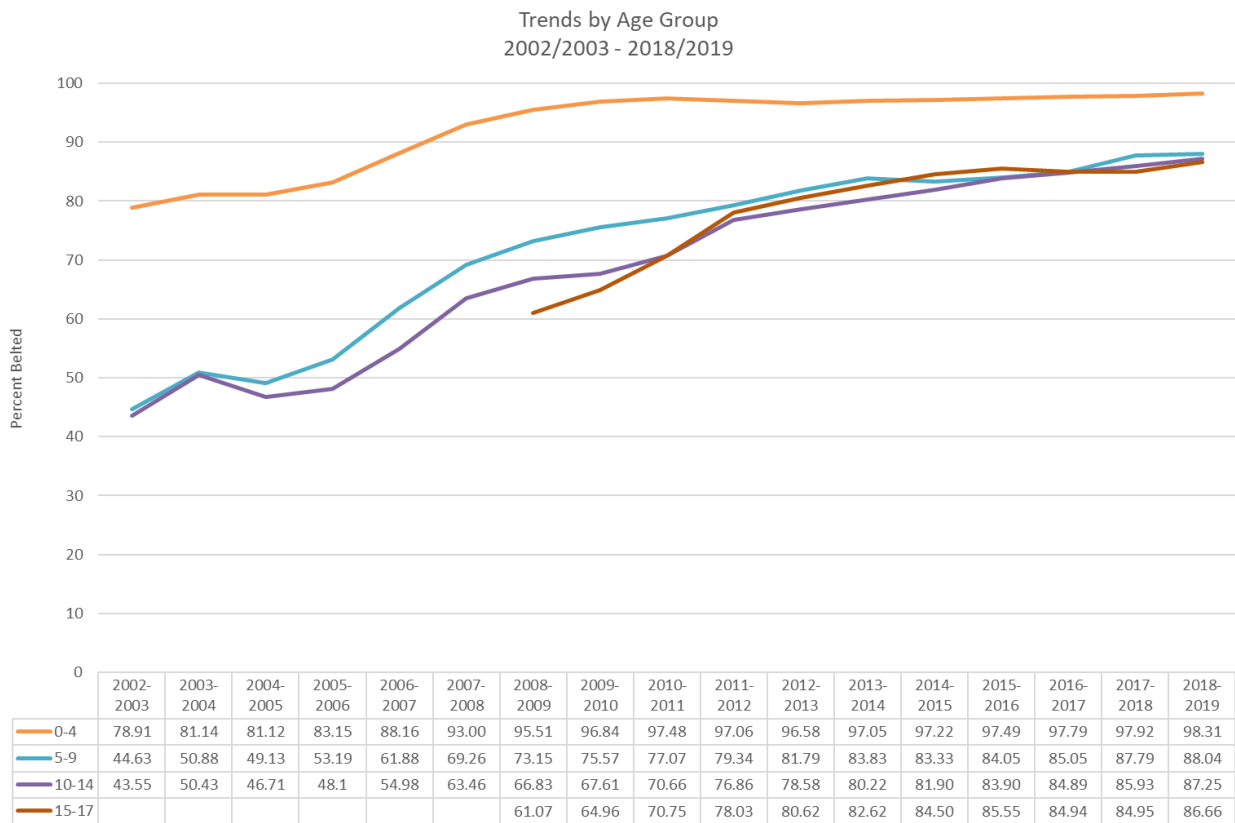


## Statewide Child Safety Belt Trends by Age Group

Historically, the younger the child, the more likely they are to be observed belted. Preschool aged children have always produced the highest rate of restraint which, since 2009-2010, has remained relatively stable between approximately 96 and 98 percent.

Belt use rates among the other age groups has converged to between an estimated 86 and 88 percent.

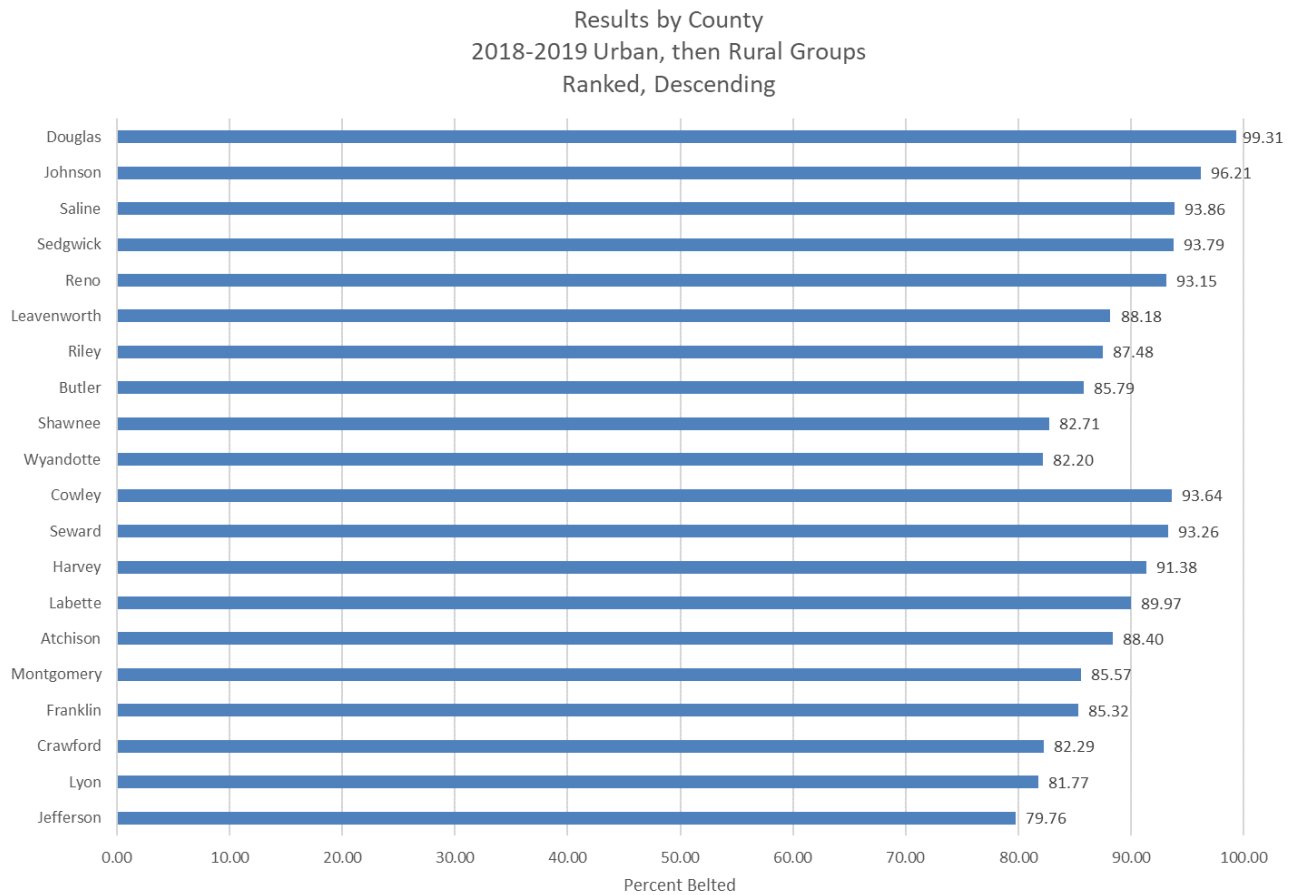
The group showing the most movement over last year is high school aged youth. Belt use has increased two points to 86.6 percent.



## Belt Use Rates by County

In general, children in urban counties are buckled up at a higher rate than in rural counties. The average among urban counties is about 90 percent, while the average among rural counties is about 87 percent.

Among urban counties, Douglas County children were buckled at the highest rate (99%), while children in Wyandotte County were buckled at the lowest rate (82%). Among rural counties, Cowley County children were buckled at the highest rate (93%), while children in Jefferson County were buckled at the lowest rate (79%).



**Child Restraint Use  
Ranked, Rural/Urban then Ascending**

		2014 plus 2015	2015 plus 2016	2016 plus 2017	2017 plus 2018	2018 plus 2019
Urb/Rur		<i>Age Prop Weighted</i>	<i>Age Prop Weighted</i>	<i>Age Prop Weighted</i>	<i>Age Prop Weighted</i>	<i>Age Prop Weighted</i>
R	Jefferson					79.76
R	Lyon	72.19	74.17	75.78	78.64	81.77
R	Crawford	86.94	84.74	86.53	84.04	82.29
R	Franklin					85.32
R	Montgomery	90.68	90.97	85.16	82.73	85.57
R	Atchison	96.49	92.78	85.21	83.82	88.40
R	Labette					89.97
R	Harvey	67.17	72.36	77.95	84.29	91.38
R	Seward	90.94	93.00	92.17	89.47	93.26
R	Cowley	88.73	91.38	91.67	92.31	93.64
U	Wyandotte	75.80	76.11	79.89	81.03	82.20
U	Shawnee	72.48	73.47	76.26	81.33	82.71
U	Butler					85.79
U	Riley	85.37	86.92	91.88	86.13	87.48
U	Leavenworth	85.31	88.10	87.91	89.24	88.18
U	Reno	92.97	93.95	91.90	92.94	93.15
U	Sedgwick	91.95	94.03	93.78	93.21	93.79
U	Saline					93.86
U	Johnson	95.97	97.52	97.98	97.21	96.21
U	Douglas	97.78	95.45	92.87	96.93	99.31
	<b>Average</b>	<b>86.05</b>	<b>87.00</b>	<b>87.13</b>	<b>87.55</b>	<b>88.70</b>
	<b>SD</b>	<b>9.71</b>	<b>8.75</b>	<b>6.96</b>	<b>5.94</b>	<b>5.50</b>

<b>Average Rural</b>	<b>87.20</b>	<b>88.19</b>	<b>89.06</b>	<b>89.75</b>	<b>90.27</b>
<b>Average Urban</b>	<b>84.73</b>	<b>85.63</b>	<b>84.92</b>	<b>85.04</b>	<b>87.14</b>



## 2019 Unweighted Data

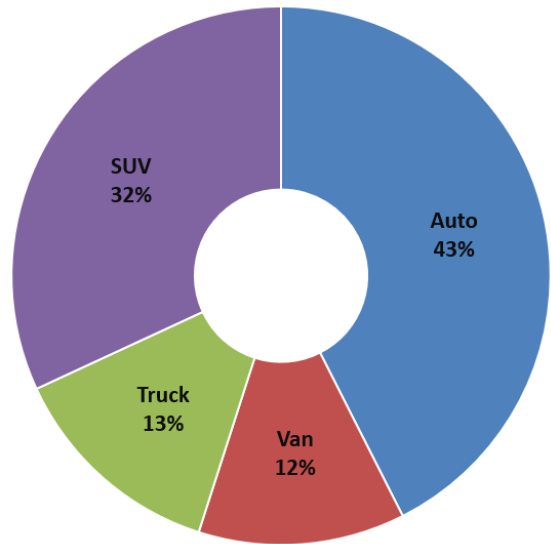
Unweighted results only include data collected in 2019. They are not statistically adjusted for over or under representation and include all 0-17 age groups.

### Types of Vehicles in the 2018 Survey

Children are most often observed in automobiles (43%), followed by SUV's (32%) trucks (13%), and vans (12%).

Vans are continuing to decline in numbers on the road, replaced by trucks and SUVs.

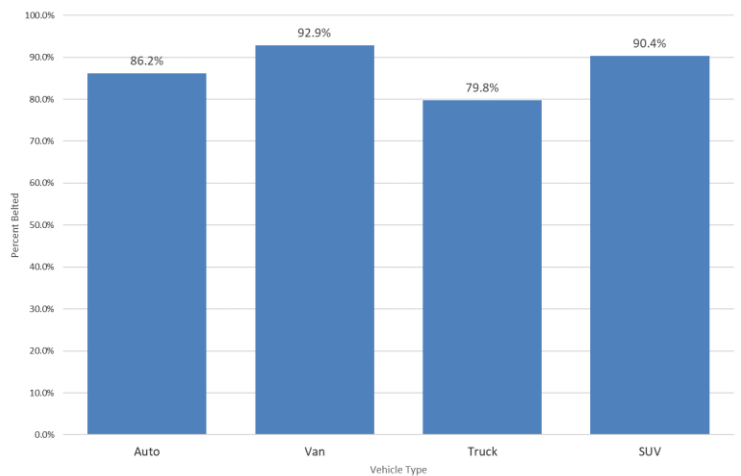
2019 Child Survey  
Proportions of Vehicles Observed



### Differences in Child Restraint Use Rates by Vehicle Type

Children are buckled up at the highest rate in vans (93%), followed by SUVs (90%), then automobiles (86%), and finally, trucks (80%).

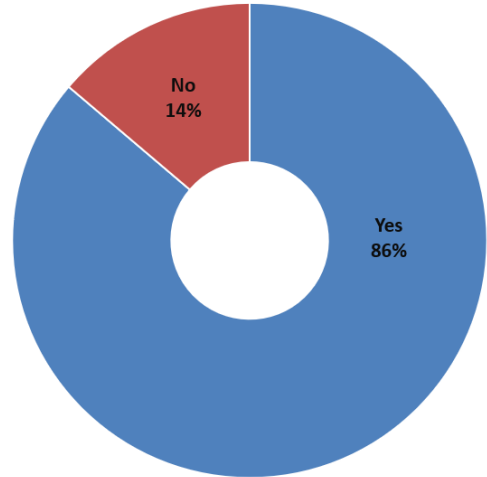
2019 Child Survey  
Child Belt Use by Vehicle Type



### Belt Use Rate Among Drivers of Vehicles Carrying Children

About 86% of drivers in vehicles carrying children were belted, while about 14% of drivers were not belted, virtually no change compared to the previous year's findings.

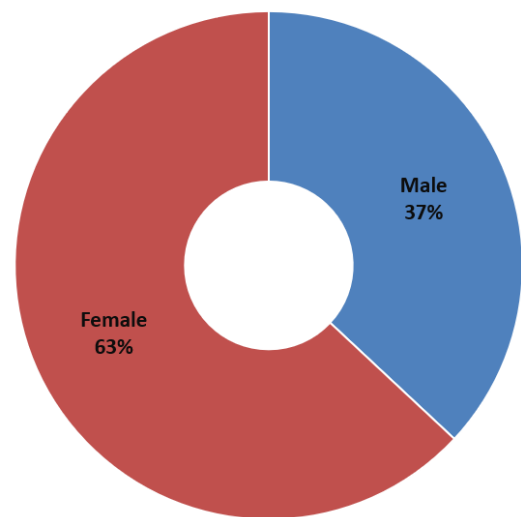
2019 Child Survey  
Percent of Drivers Belted



### Driver Gender of Vehicles Carrying Children

Women (63%) are more likely to be driving the vehicle carrying children. Men were driving about 37% of observed vehicles.

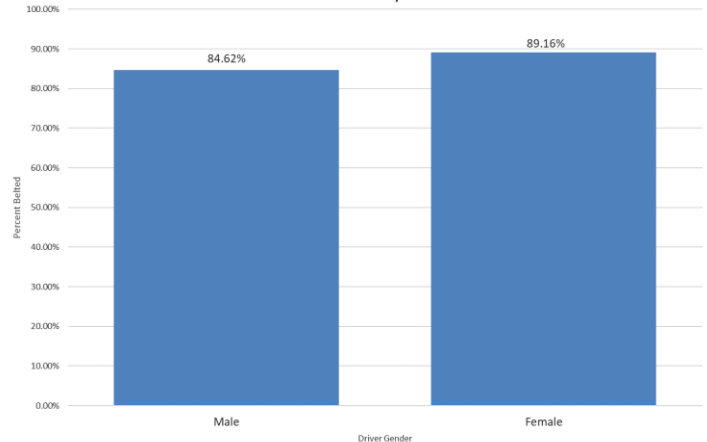
2019 Child Survey  
Driver Gender



### Child Restraint by Driver Gender

Children are more likely to be buckled up while riding with female drivers (89%) than when riding with a male driver (85%).

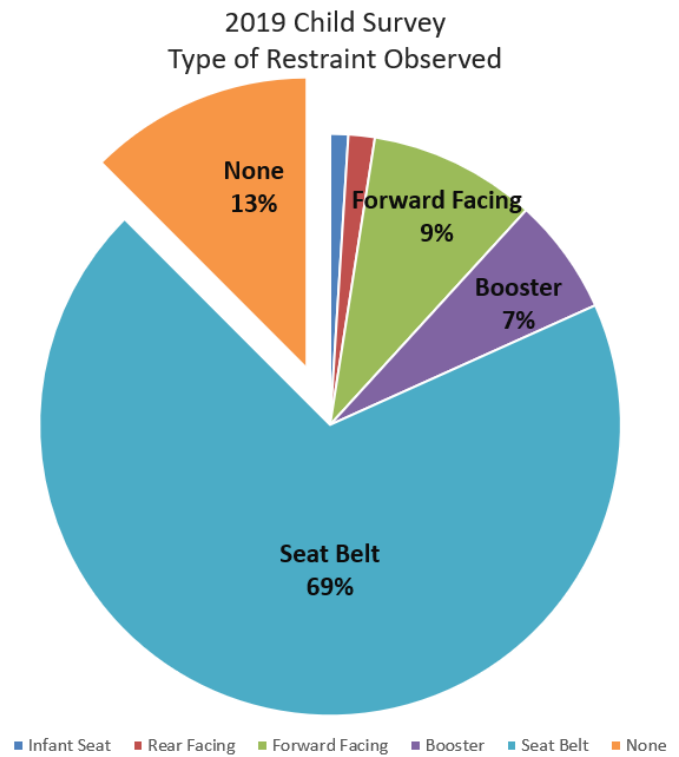
2019 Child Survey  
Child Belt Use by Driver Gender



### Types of Restraint Observed

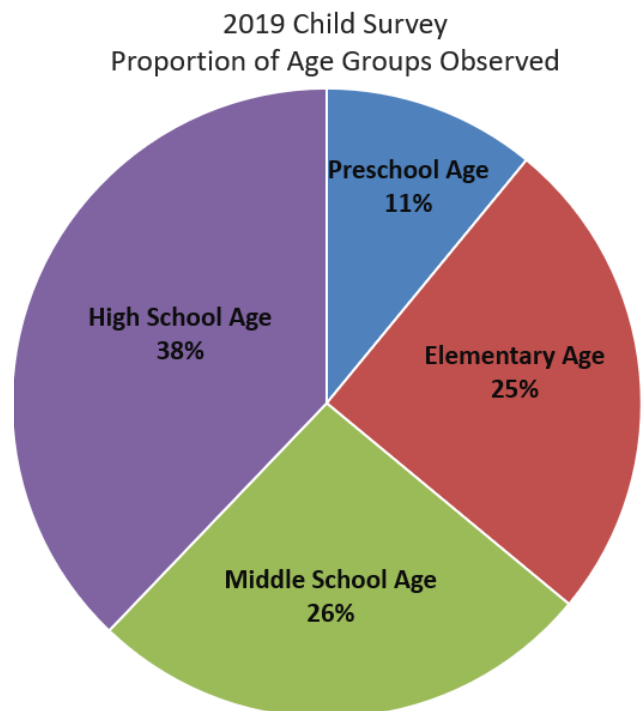
1% of observed children were in infant seats. About 1.5% were in rear-facing seats. About 9% were observed in front-facing seats, while about 6.5% were in booster seats. About 69% were observed in safety belts.

Approximately 13 percent of children observed were not restrained. About 87.5% were using some type of restraint (all seat types combined).



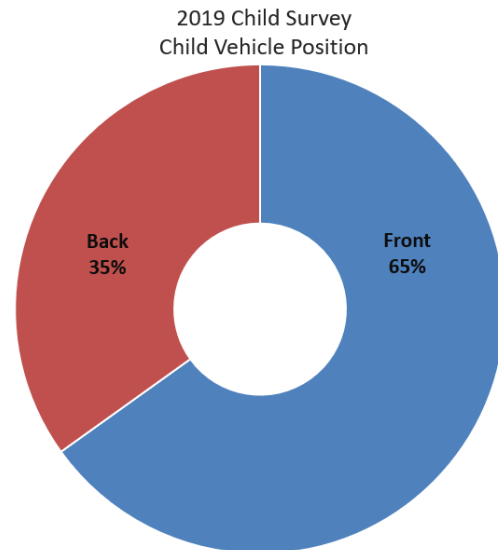
### Ages Groups Observed

About 11% of the children observed were in the preschool age group. The elementary school age group contributed about 25% of the observed children. The middle school age group contributed about 26% of the observed children, while the high school age group was the largest group observed and comprised about 38% of the total.



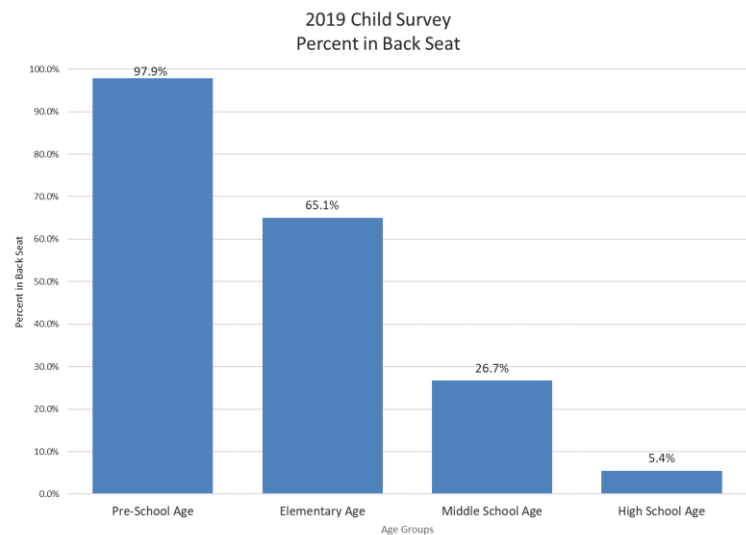
## Child Position in Vehicle

About 61% of observed children were riding in the front seat, while about 39% of observed children were riding in the back of the vehicle.



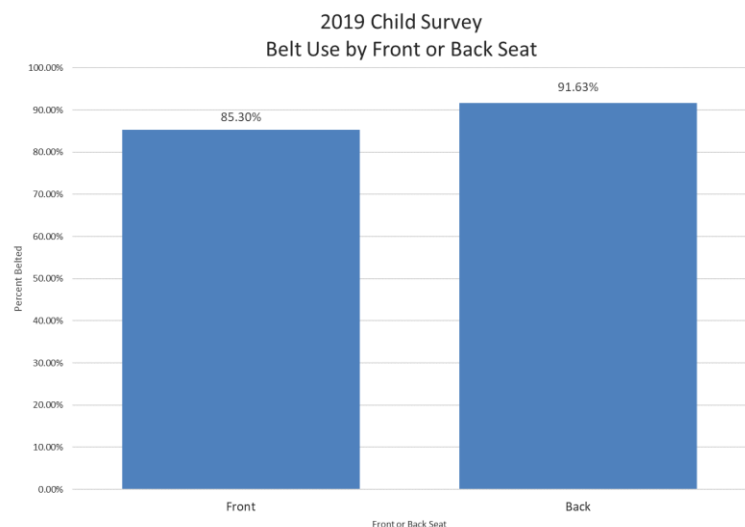
The percentage of children observed in the back seat decreases with age.

About 98% of the preschool age group are observed in the back seat, followed by the elementary (65%), middle (27%), and high school aged groups (5%).



## Child Restraint by Vehicle Position

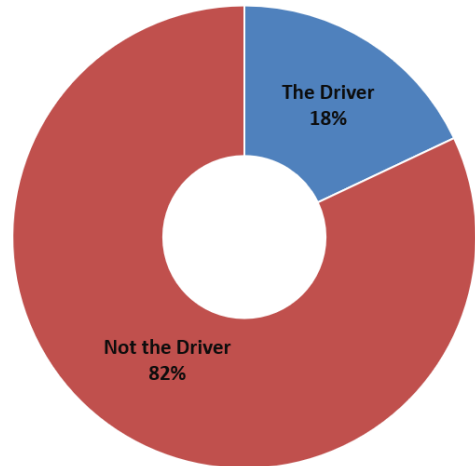
About 85% of children observed in the front seat were buckled up, while about 92% of those observed in the back seat were buckled. As has been found in previous surveys, child belt use while positioned in a front seat is lower than belt use while positioned in a rear seat.



### Percentage of 0-17 Year Old Children Driving Observed Vehicle

About 18% of 0-17 year old children were driving the observed vehicle, while most children observed (82%) were passengers.

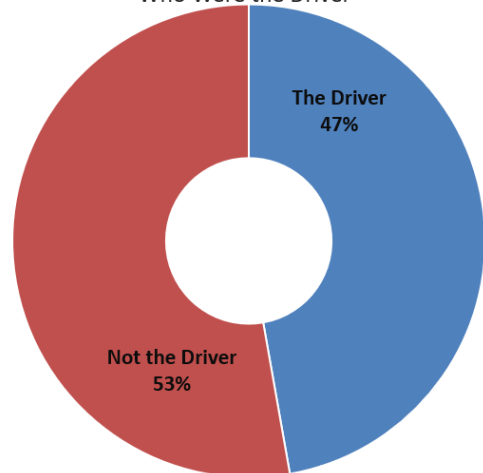
2019 Child Survey  
Percent of Observed Children (0-17)  
Who Were the Driver



### Percentage of High School Aged Youth Driving Observed Vehicle

About 47% of the observed high school aged youth were driving the observed vehicle, while 53% were not the driver.

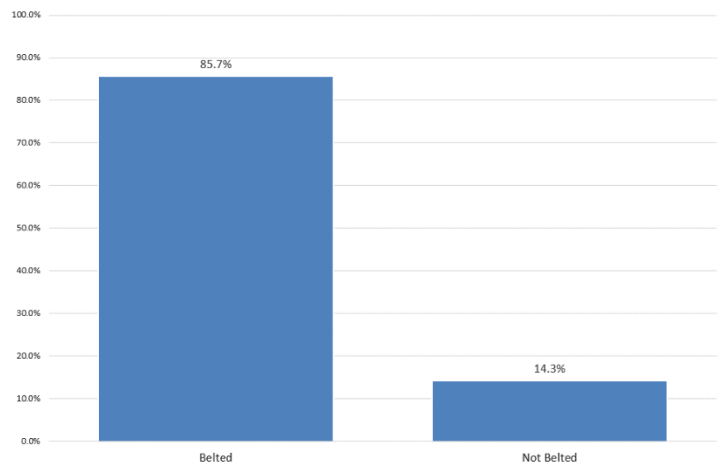
2019 Child Survey  
Percent of Observed Children (15-17)  
Who Were the Driver



### Child Restraint when Child is Driver

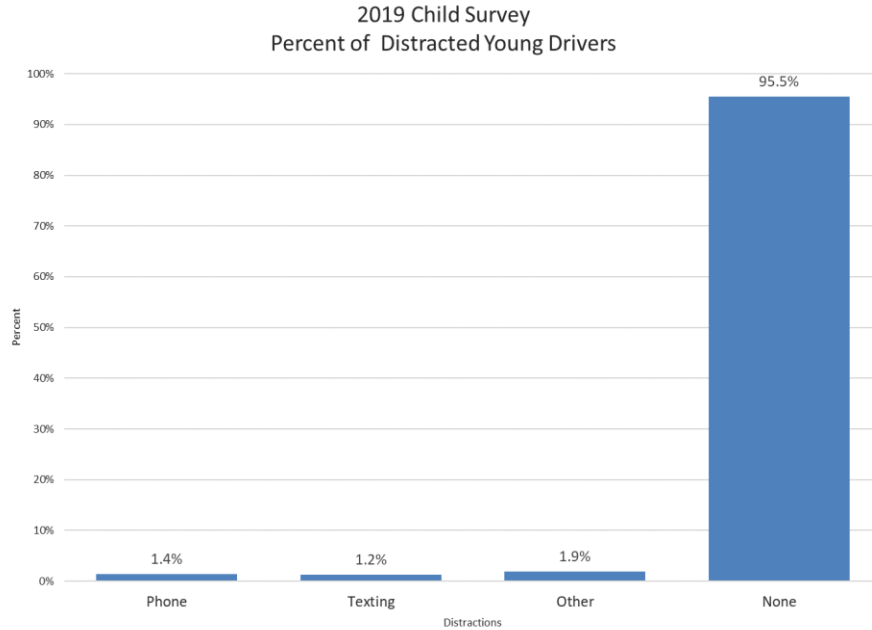
When the observed child was also the driver of the vehicle, they were found to be belted approximately 86% of the time.

2019 Child Survey  
Child Belt Use, Child is Driver



## Percentage of Young Drivers Distracted While Driving

About 4.5% of young drivers were observed to be distracted while driving. About 95.5% of young drivers were observed to have “No Distractions,” about a 3% decrease in distractions over the previous year’s findings



## Restraint Rate if Driver is Belted

Children are *much* more likely to be buckled up if the driver is also belted. If the driver is belted, about 96.6% of the children are also belted. If the driver is not belted, only about 30% of the observed children were belted.

