

Kansas
Occupant Protection Observational Survey
Supplementary Analyses

2022 Child Study

Submitted To:
Kansas Department of Transportation
Bureau of Transportation Safety

Prepared by:
DCCCA
3312 Clinton Parkway
Lawrence, KS 66049

June 6, 2022

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

 2022 Weighted Results 9

 2022 Statewide Child Safety Belt Trends 9

 2022 Unweighted Data 11

 Types of Vehicles in the 2022 Survey 11

 Differences in Child Restraint Use Rates by Vehicle Type..... 11

 Belt Use Rate Among Drivers of Vehicles Carrying Children..... 12

 Child Restraint by Driver Gender 12

 Types of Restraint Observed..... 13

 Ages Groups Observed 13

 Child Position in Vehicle 14

 Child Restraint by Vehicle Position..... 14

 Percentage of 0-17 Year Old Children Driving Observed Vehicle 15

 Percentage of High School Aged Youth Driving Observed Vehicle..... 15

 Child Restraint when Child is Driver..... 15

 Percentage of Young Drivers Distracted While Driving 16

 Restraint Rate if Driver is Belted..... 16

Summary Fact Sheet

Statewide seatbelt use among Kansas children (0-17), as observed in 2019-2022, is an estimated 90.1%.

The pre-school 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 86%, and high school-aged children are belted the least frequently at 85.6%.

Seatbelt use among all Kansas children has increased since 2008:

Belt use within the pre-school age group has increased by about 2.8 percentage points.
Belt use within the elementary age group has increased by nearly 14.8 percentage points.
Belt use within the middle school age group has increased by about 19.5 percentage points.
Belt use within the high school age group has increased by nearly 25.5 percentage points.

Data indicate that, in general, children in urban counties are buckled up at a higher rate than children in rural counties. In the 2019-2022 study, the average rate of child seatbelt use in urban counties remained relatively stable at about 90%, while the average in rural counties fell to approximately 86%.

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 96.5% of children in the vehicle are also belted. If the driver is not belted, only about 28% of the observed children are belted.

Results show a slight increase in observed distractions over previous years. About 6% of high school-aged old drivers were observed to be distracted in some way (cell phone use, texting, and other distractions), an increase of 2 percentage points.

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: pre-school-aged children (estimated ages 0-4), elementary-aged children (estimated ages 5-9), and 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, daycare/pre-schools, elementary school neighborhoods, middle-school/junior high neighborhoods, and high school neighborhoods.

For purposes of data stability, data from the two most recent years are combined to produce the annual statewide estimate. The Child Survey was not conducted in 2020 or 2021 due to COVID-19 and resulting school closures. The 2022 Child Survey combines data collected in 2019 with 2022 as well as highlights findings from only 2022.

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 2022 study is comprised of 326,805 child observations at 378 unique sites.

Number of Observations			
Age Group	Year		
	2019	2022	2019+2022
Pre-school (0-4)	1,776	949	2,725
Elementary (5-9)	4,049	2,595	6,644
Middle school (10-14)	4,222	2,629	6,851
High School (15-17)	6,122	4,463	10,585
Totals	16,169	10,636	26,805

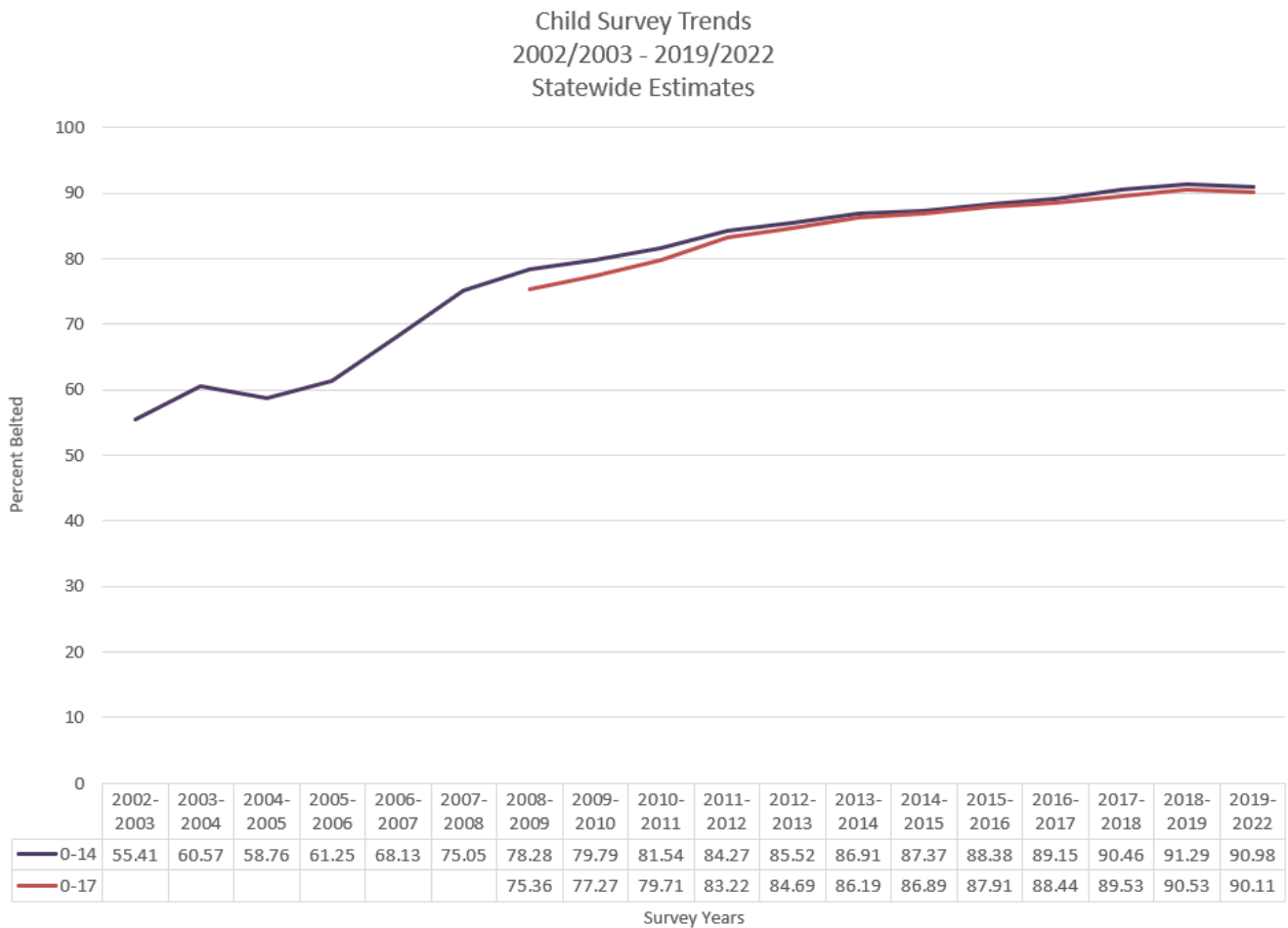
Results

Multi-Year, Weighted Data

General Statewide Child Safety Belt Trends

There remains a general increase in child restraint use since 2002 though this survey has observed a small decrease in belt use in 2019-2022. Estimated safety belt usage among those 0-14 years old is 90.98 percent, a decrease of nearly a half percentage point. While this is the first observed decrease in child belt use since 2004-2005, overall child belt use has still increased by more than 35 percentage points since 2002.

Safety belt usage among all children 0-17 years old is an estimated 90.11 percent, an increase of 14.75 percentage points since the age range of the study was expanded in 2008 to include high school-aged youth.

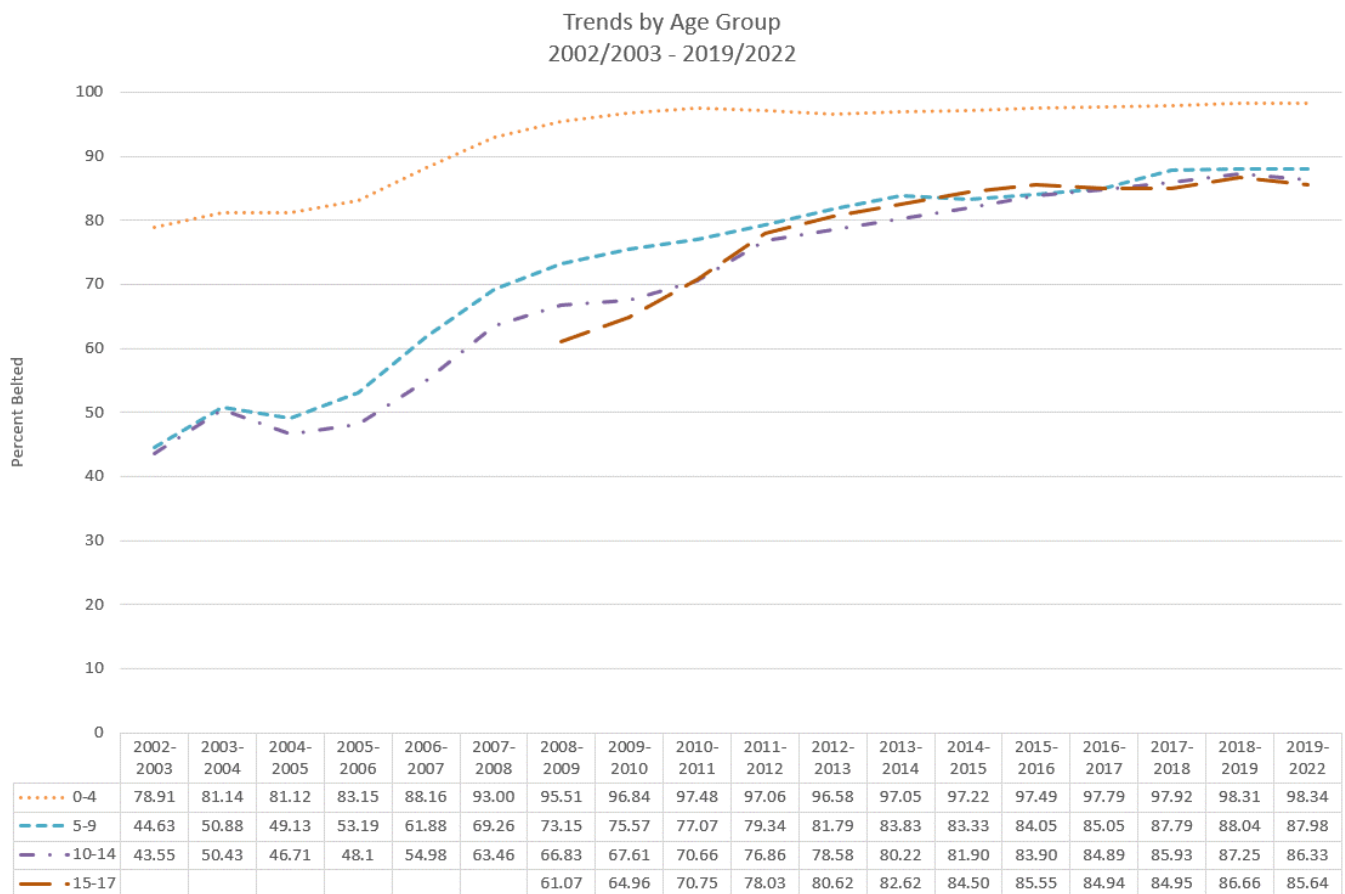


Statewide Child Safety Belt Trends by Age Group

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.

While belt use rates among pre-school and elementary school-aged children was observed to be nearly unchanged in 2019-2022, rates among older children decreased slightly.

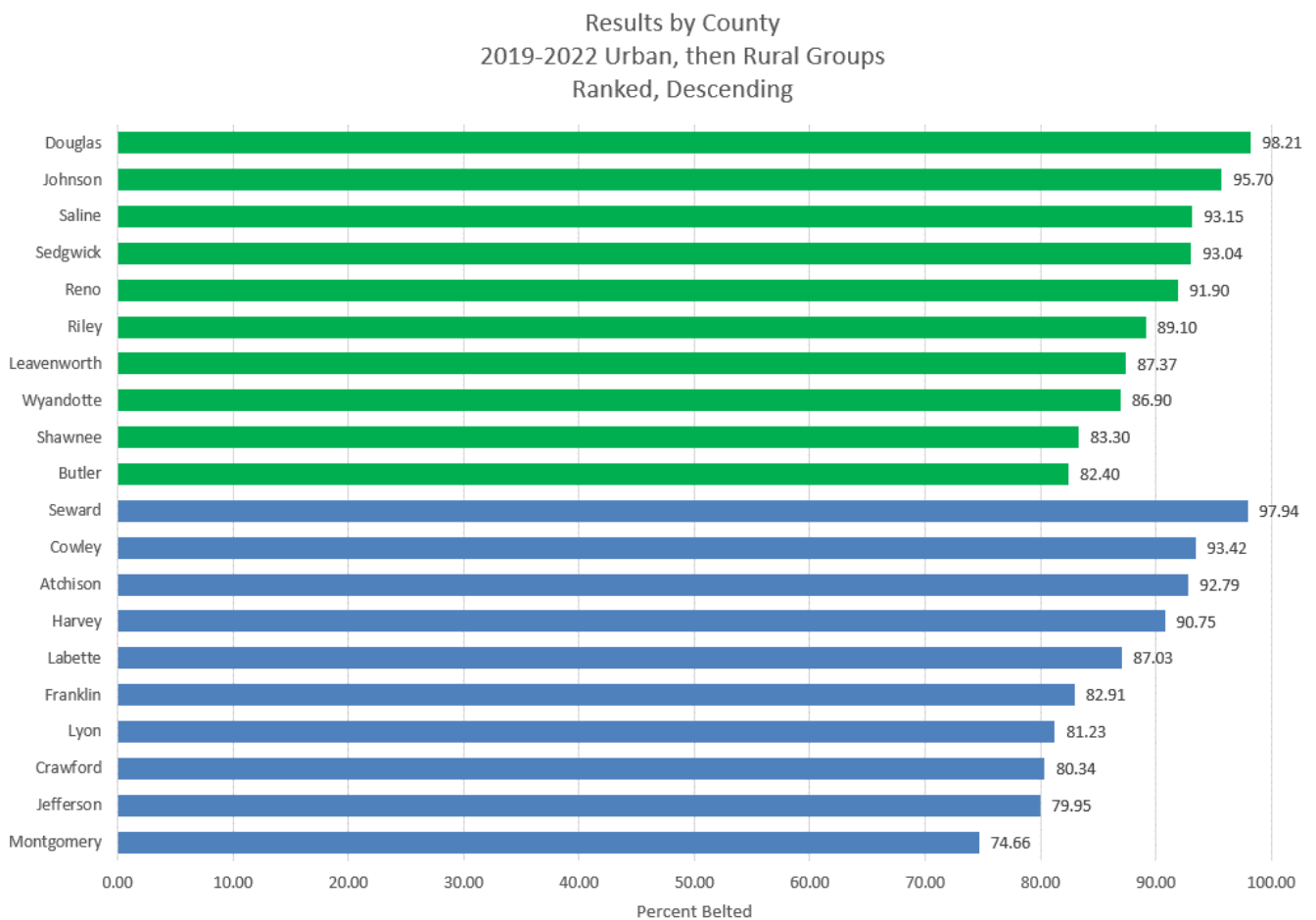
Observed belt use among middle and high school-aged children has dropped nearly one percentage point since the last survey was conducted.



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 remained virtually unchanged since the last survey, at about 90 percent, while the average among rural counties decreased a percentage point to about 86 percent.

Among urban counties, Douglas County children were buckled at the highest rate (98%), while children in Butler County were buckled at the lowest rate (82%). Among rural counties, Seward County children were buckled at the highest rate (97%), while children in Montgomery County were buckled at the lowest rate (75%).



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

		2015 plus 2016	2016 plus 2017	2017 plus 2018	2018 plus 2019	2019 plus 2022
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	Montgomery	90.97	85.16	82.73	85.57	74.66
R	Jefferson				79.76	79.95
R	Crawford	84.74	86.53	84.04	82.29	80.34
R	Lyon	74.17	75.78	78.64	81.77	81.23
R	Franklin				85.32	82.91
R	Labette				89.97	87.03
R	Harvey	72.36	77.95	84.29	91.38	90.75
R	Atchison	92.78	85.21	83.82	88.40	92.79
R	Cowley	91.38	91.67	92.31	93.64	93.42
R	Seward	93.00	92.17	89.47	93.26	97.94
U	Butler				85.79	82.40
U	Shawnee	73.47	76.26	81.33	82.71	83.30
U	Wyandotte	76.11	79.89	81.03	82.20	86.90
U	Leavenworth	88.10	87.91	89.24	88.18	87.37
U	Riley				87.48	89.10
U	Reno	86.92	91.88	86.13	93.15	91.90
U	Sedgwick	93.95	91.90	92.94	93.79	93.04
U	Saline	94.03	93.78	93.21	93.86	93.15
U	Johnson	97.52	97.98	97.21	96.21	95.70
U	Douglas	95.45	92.87	96.93	99.31	98.21
	Average	86.05	87.00	87.13	87.55	88.70
	SD	9.71	8.75	6.96	5.94	5.50

Average Rural	88.19	89.06	89.75	90.27	90.11
Average Urban	85.63	84.92	85.04	87.14	86.10

2022 Weighted Results

Since 2002, observational data from the two most recent Child Surveys have been combined to produce an annual statewide estimate. The Child Survey was not conducted in 2020 or 2021 due to COVID-19 and resulting school closures. While 2022 results are previously presented combined with 2019 following the established methodology, it is also relevant to highlight findings from only 2022.

While data collection methods remained unchanged in 2022, the number of observations obtained decreased by 52% compared to 2019. While the decrease was observed across all age groups, the pre-school age group saw the greatest decline at -87%.

Flexibility in parent work schedules, remote learning, decreased licensed daycare facilities, online shopping, and drive-through store pickup options are just some of the COVID-related changes in day-to-day schedules that may play a role in fewer children being observed in vehicles during traditionally held times and locations.

Number of Observations			
Age Group	Year		
	2019	2022	% Change
Pre-school (0-4)	1,776	949	-87%
Elementary (5-9)	4,049	2,595	-56%
Middle school (10-14)	4,222	2,629	-61%
High School (15-17)	6,122	4,463	-37%
Totals	16,169	10,636	-52%

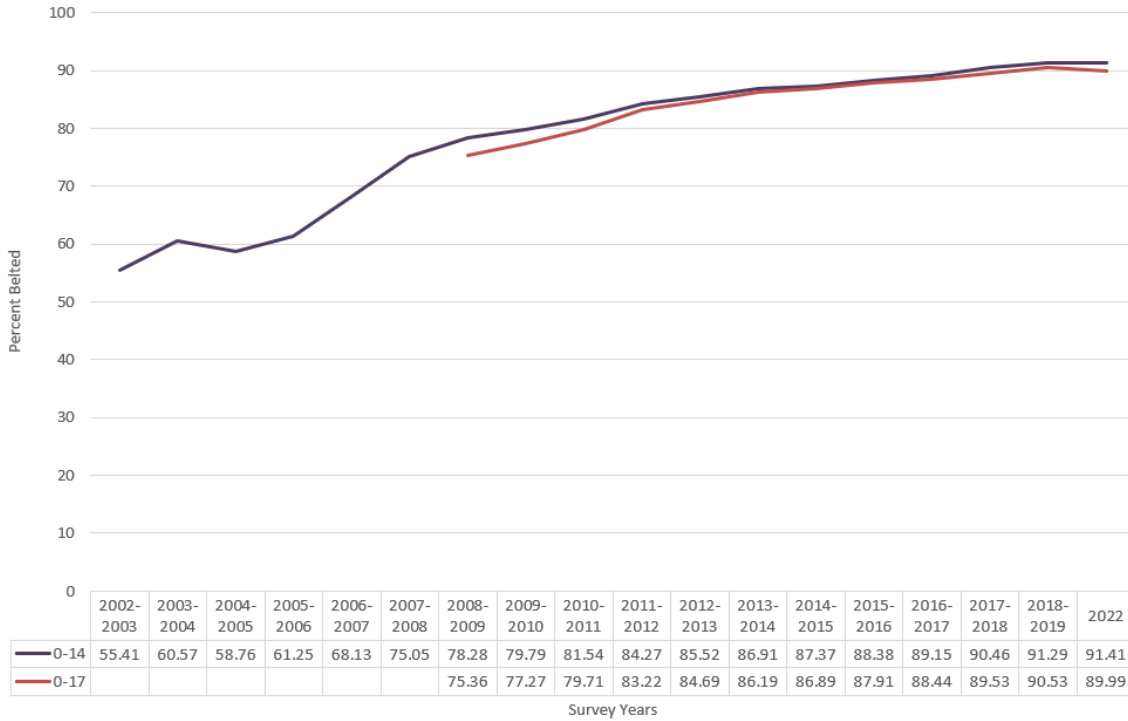
2022 Statewide Child Safety Belt Trends

Taking only weighted 2022 results into consideration, observed belt use among youth 0-14 has remained relatively stable, increasing only slightly from 91.3% to 91.4%. Belt use among youth 0-17 has decreased slightly by half a percentage point from 90.5% to 90.0%.

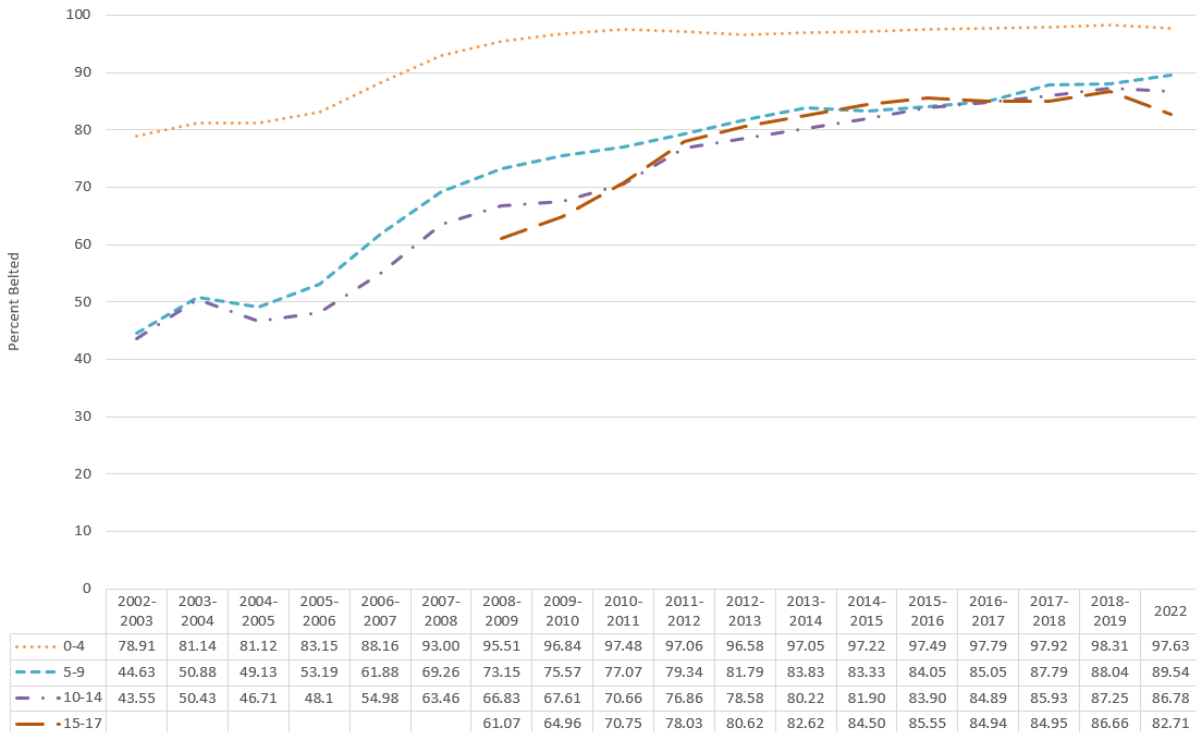
Change in belt use by age group is starker, with belt use increasing among elementary-aged children but decreasing across all other age groups. The decrease is most noticeable in high school-aged youth, with a decrease in observed belt use of 3.9 percentage points.

Age Group	2018-2019	2022	Change
Pre-school (0-4)	98.31%	97.63%	-0.7%
Elementary (5-9)	88.04%	89.54%	1.5%
Middle school (10-14)	87.25%	86.78%	-0.5%
High School (15-17)	86.66%	82.71%	-3.9%

Child Survey Trends
2002/2003 - 2022
Statewide Estimates



Trends by Age Group
2002/2003 - 2022



2022 Unweighted Data

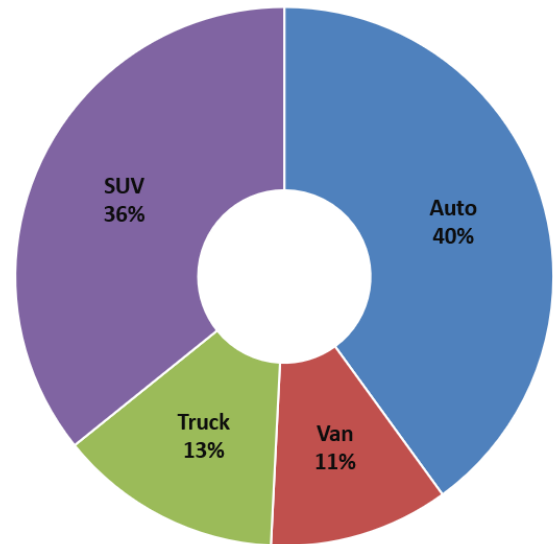
Unweighted results only include data collected in 2022. They are not statistically adjusted for over or under representation and include all 0-17 age groups.

Types of Vehicles in the 2022 Survey

Children are most often observed in automobiles (40%), followed by SUVs (36%), trucks (13%), and vans (11%).

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

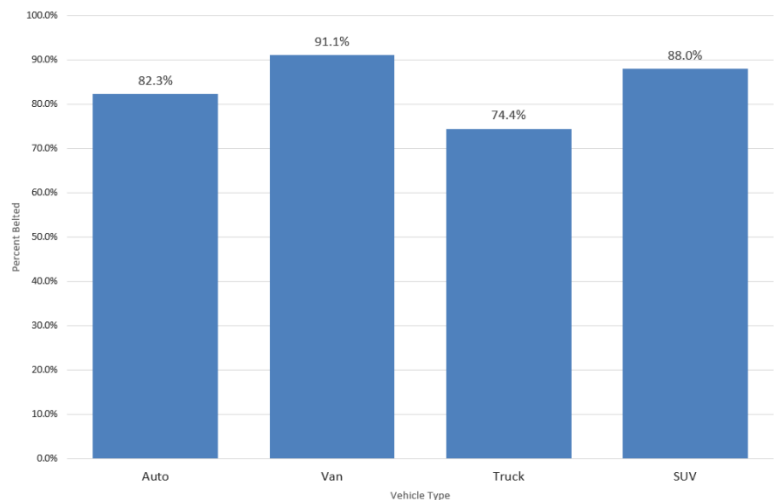
2022 Child Survey
Proportions of Vehicles Observed



Differences in Child Restraint Use Rates by Vehicle Type

Children are buckled up at the highest rate in vans (91%), followed by SUVs (88%), then automobiles (82.3%), and finally, trucks (74%).

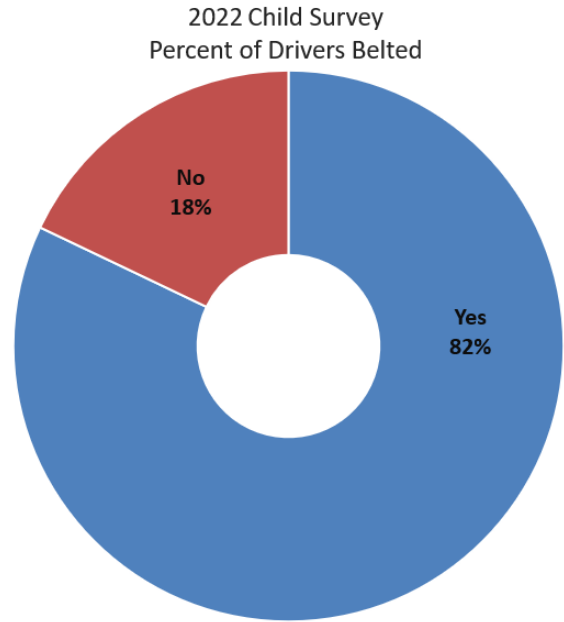
2022 Child Survey
Child Belt Use by Vehicle Type



Belt Use Rate Among Drivers of Vehicles Carrying Children

About 82% of drivers in vehicles carrying children were belted, while about 18% of drivers were not belted.

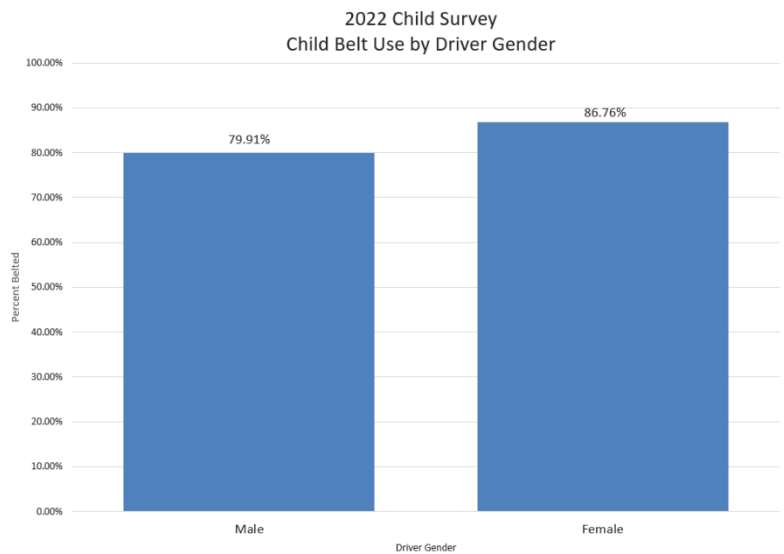
This represents a large decrease since the 2019 survey, where 86% of drivers of vehicles carrying children were observed to be belted.



Child Restraint by Driver Gender

Children are more likely to be buckled up while riding with female drivers (87%) than when riding with a male driver (80%).

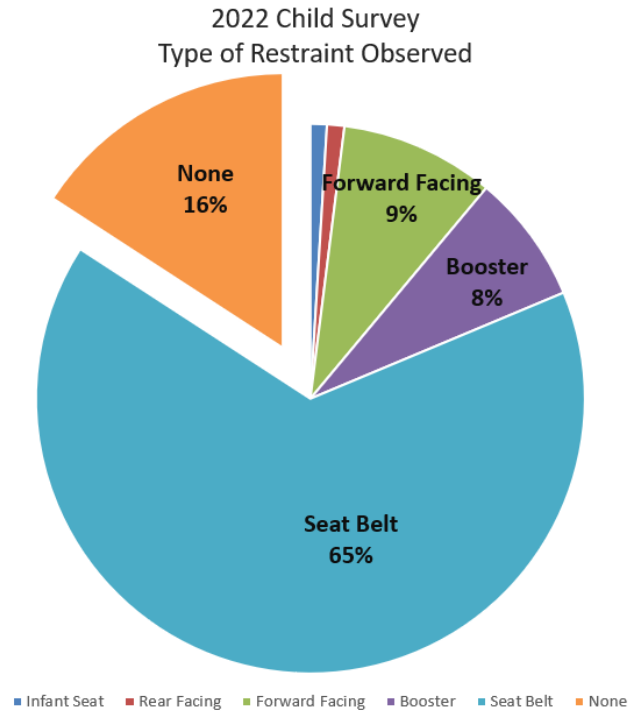
Observed belt use in vehicles carrying children with male drivers has decreased 5 percentage points since 2019, while observed belt use among female drivers has decreased nearly 3 percentage points.



Types of Restraint Observed

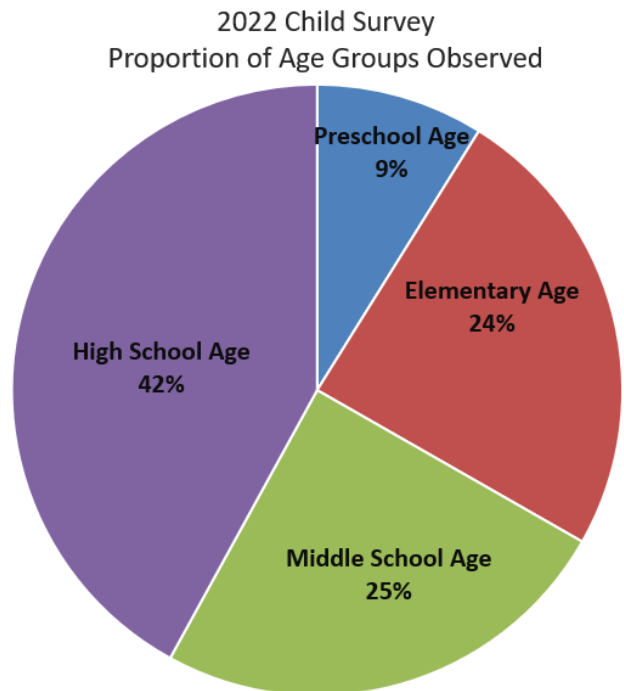
1% of observed children were in infant seats. About 1% were in rear-facing seats. About 9% were observed in front-facing seats, while about 8% were in booster seats. About 65% were observed in safety belts.

Approximately 16 percent of children observed were not restrained. About 87.5% were using some type of restraint (all seat types combined).



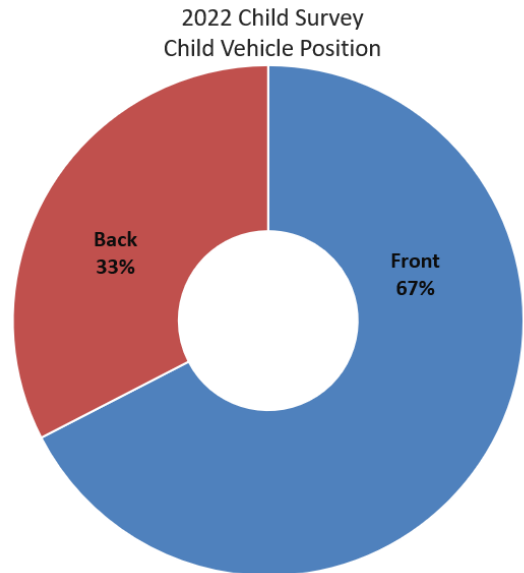
Ages Groups Observed

About 9% of the children observed were in the pre-school age group. The elementary school-age group contributed about 24% of the observed children. The middle school age group contributed about 25% of the observed children, while the high school age group was the largest group observed and comprised about 42% of the total.



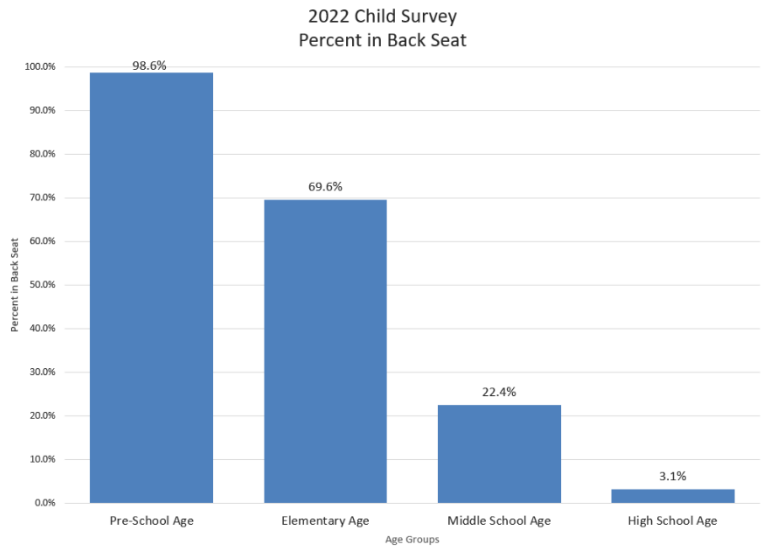
Child Position in Vehicle

About 67% of observed children were riding in the front seat, while about 33% of observed children were riding in the back of the vehicle.



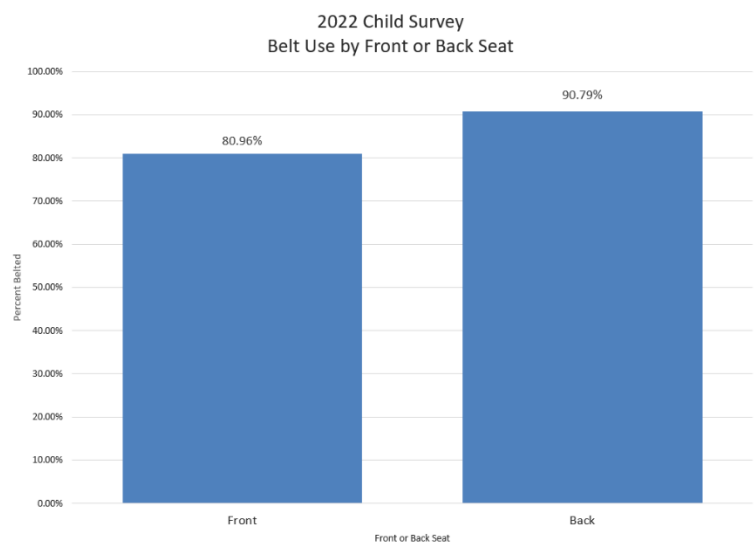
The percentage of children observed in the back seat decreases with age.

About 98% of the pre-school age group are observed in the back seat, followed by the elementary (69%), middle (22%), and high school-aged groups (3%).



Child Restraint by Vehicle Position

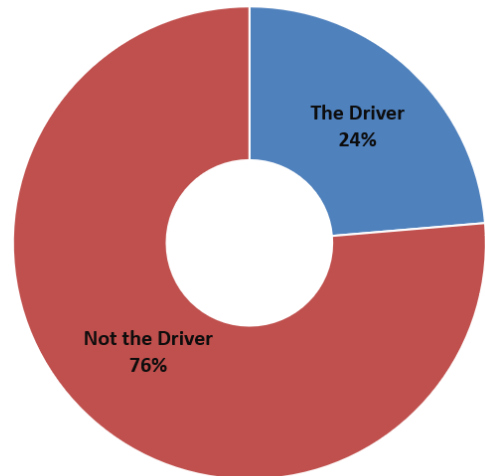
About 81% of children observed in the front seat were buckled up, while about 91% of those observed in the back seat were buckled. As has been found in previous surveys, child belt use while positioned in a front seat is lower than belt use while positioned in a rear seat.



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

About 24% of 0-17-year-old children were driving the observed vehicle, while most children observed (76%) were passengers.

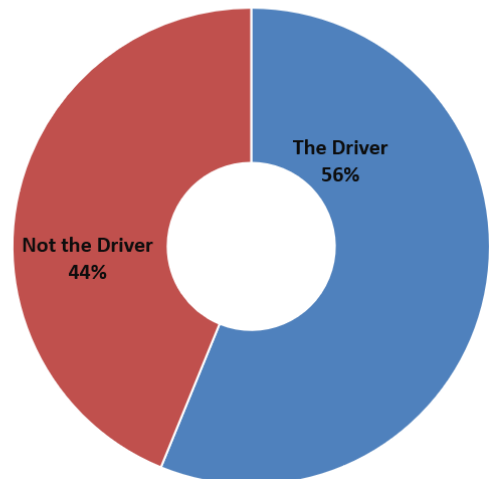
2022 Child Survey
Percent of Observed Children (0-17)
Who Were the Driver



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.

2022 Child Survey
Percent of Observed Children (15-17)
Who Were the Driver

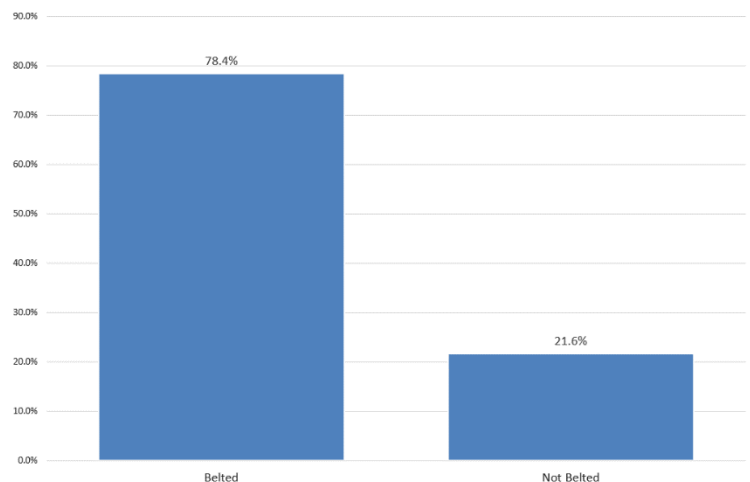


Child Restraint when Child is Driver

When the observed child was also the driver of the vehicle, they were found to be belted approximately 78% of the time.

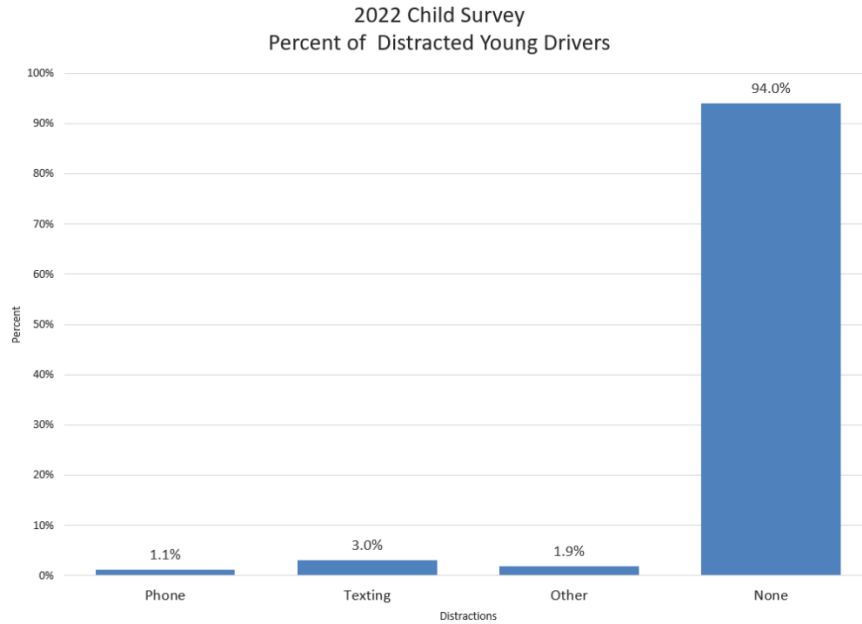
This finding is a substantial decrease from 2019 findings which observed an 86% belted rate among child was also the driver of the vehicle.

2022 Child Survey
Child Belt Use, Child is Driver



Percentage of Young Drivers Distracted While Driving

About 6% of young drivers were observed to be distracted while driving. About 94% of young drivers were observed to have “No Distractions,” about a 2% increase in observed distractions over the previous survey’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 96.5% of the children are also belted. If the driver is not belted, only about 28% of the observed children were belted.

