

Iowa Child Passenger Safety Survey

2024

*Conducted by the
Iowa State University Center for Survey Statistics &
Methodology – Survey Research Services
Under contract to Iowa Governor’s Traffic Safety Bureau*



Background

Since 1985, Iowa has had a law requiring all young children riding in motor vehicles to be properly protected through the use of child seats, booster seats, and/or seat belts. In 2004 and again in 2009, the Iowa Legislature revised the requirements of the child passenger safety law. Iowa's current child passenger safety law requires that:

<i>Children must ride in an appropriate rear-facing child safety seat until one year of age and at least 20 pounds.</i>
<i>Children must ride in a child safety seat or a booster seat through the age of 5 years.</i>
<i>Children ages 6 through 17 must ride in a booster seat or be secured by a seat belt.</i>

In order to measure compliance with these laws and to direct educational efforts, observational child restraint usage surveys have been conducted annually since 1988. The surveys are funded by the Governor's Traffic Safety Bureau (GTSB) within the Iowa Department of Public Safety. The GTSB contracted with Iowa State University's Center for Survey Statistics & Methodology- Survey Research Services for this annual data collection in 2024.

Introduction and Methods

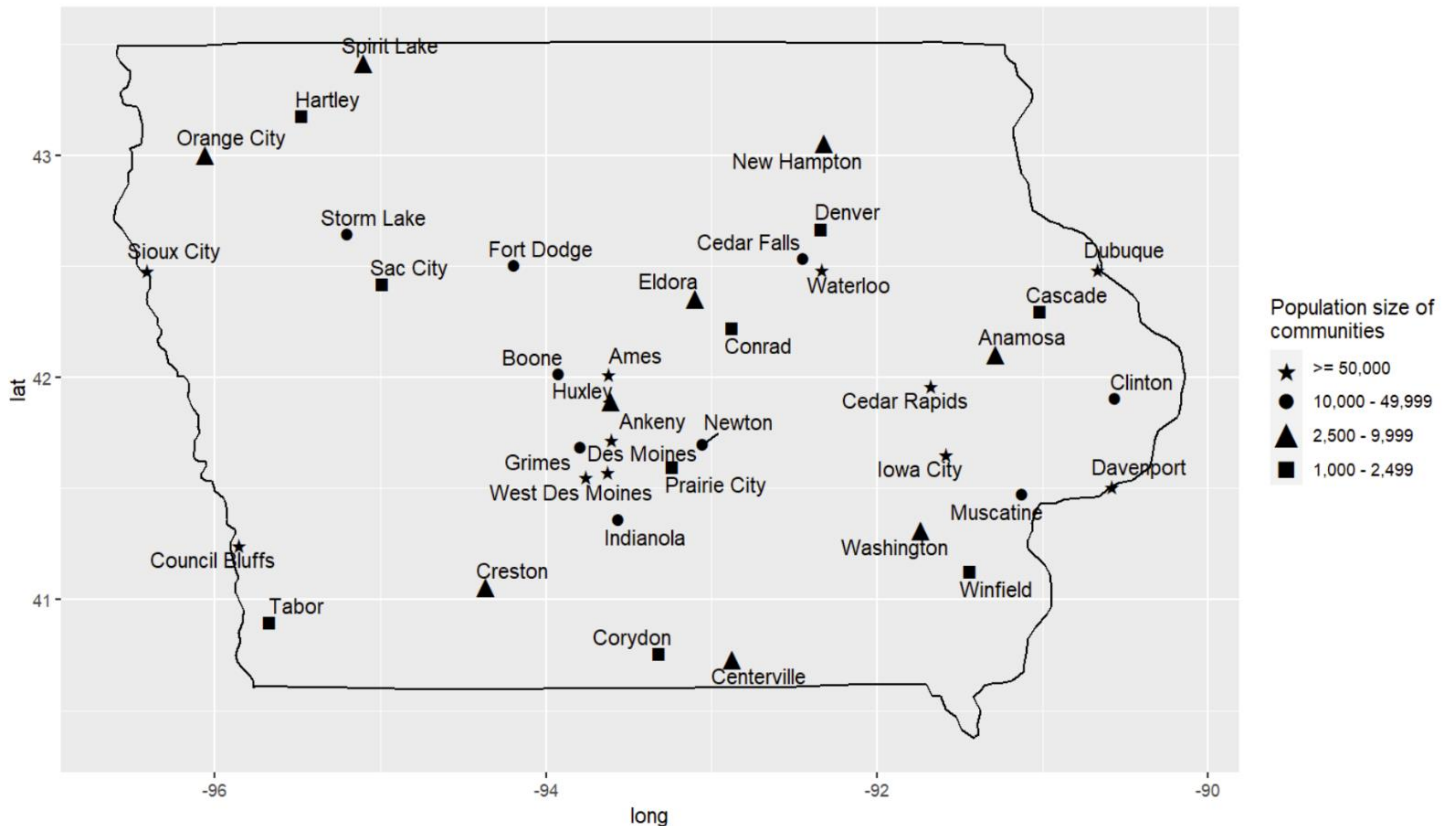
Since 2005 the data collection protocol has been an in-person approach to ensure statistically valid representation of Iowa's total population mix. Statisticians determined that to best represent Iowa's population the survey needed to be conducted in 38 communities across the state ranging in size from 1,014 people in Tabor to Des Moines with 214,133 people. Figure 1 identifies the communities on a map of Iowa. The list of communities, their size range, and the number of children needed to be observed at each location is listed in Table 1.

Table 1. Iowa Child Passenger Restraint Survey Locations, 2024

Communities 1,000 – 2,499 A minimum of 35 children were to be observed at each location. An average of 38 children were observed at these locations	Cascade Conrad Corydon Denver Hartley	Prairie City Sac City Tabor Winfield
Communities 2,500 – 9,999 A minimum of 75 children were to be observed at each location. An average of 70 children were observed at these locations.	Anamosa Centerville Creston Eldora Huxley	New Hampton Orange City Spirit Lake Washington
Communities 10,000 – 49,999 A minimum of 100 children were to be observed children at each location. An average of 106 children were observed at these locations	Boone Cedar Falls Clinton Fort Dodge Grimes	Indianola Muscatine Newton Storm Lake
Communities 50,000+ A minimum of 125 children were to be observed at each location. An average of 127 children were observed at these locations.	Ames Ankeny Cedar Rapids Council Bluffs Davenport Des Moines	Dubuque Iowa City Sioux City Waterloo West Des Moines

Data was collected in parking lots of local convenience stores, grocery stores, aquatic centers, libraries, and other family centered locations where the surveyor could approach the motor vehicle and quickly collect the desired information. Well-identified surveyors position themselves where they can see vehicles pull up carrying passengers who appear to be younger than seventeen years of age. Surveyors approached vehicles and asked drivers if they would be willing to participate in a child and youth passenger safety survey. If the drivers agreed, the surveyors asked for the age of the passenger(s) in the vehicle and noted restraint use. No identifying information, such as names or license plate was collected.

Figure 1. 2024 Iowa Child Passenger Survey Locations



CSSM hired three Certified Technicians as temporary part-time employees. Data collection was carried out across the state during the months of July, August, and September, 2024. All observations were of children and youth from birth through age seventeen and accompanying adult or teen (aged 16 or 17) drivers.

Results

Observations were attempted with a total of 1,651 drivers, of which 1399 (84.7%) drivers agreed to participate. These drivers were carrying a total of 3329 children. The breakdown of missing and/or incomplete data (due to surveyor error or refusal) is as follows:

- 415 (12.5%) child passenger observations were missing child age
- 14 (0.4%) child passenger observations were missing Seating Position (Front or Back) values

The observable values of those who refused to give their age or child's ages were still collected (e.g., restraint use, seating position) when possible, given they have historically been more likely to have unrestrained children/passengers. The following results include these observable values in the totals. Table 2 lists the number of infants (< 2 yr.), toddlers (2-5 yrs.), youth (6-13 yrs.), and teens (14-17) included in the survey.

Table 2. Number of Children Observed by Age

Age	Number of Children Observed / Percent
< 2	257 / 7.7%
2-5	798 / 24.0%
6-13	1589 / 47.7%
14-17	685 / 20.6%
Total	3329 / 100%

Table 3 identifies the number of restrained versus unrestrained passengers in each age range (regardless of whether the type of restraint use was appropriate for the child's age). In 2024, 100% of children observed under age 2 were restrained by some means. From this information, it is clear that lowans understand the importance of securing infants in child safety seats. While the majority of children are being restrained in motor vehicles, as the child's age increases, they are less likely to be restrained. 98.7% of toddlers (2-5), 98.2% of youth (6-13), and 93.3% of teens (14-17) were restrained. Overall, 97.0% of all children observed were restrained (by any means).

Table 3. Restraint Use by Child's Age

Age	Not Restrained Number / Percent	Restrained Number / Percent	Total
< 2	0 / 0.0%	257 / 100%	257
2-5	10 / 1.3%	788 / 98.7%	798
6-13	45 / 2.8%	1544 / 98.2%	1589
14-17	46 / 6.7%	639 / 93.3%	685
Total	101 / 3.0%	3,228 / 97.0%	3329

The numbers contained in Table 3 for each age group represent children who were restrained by any means including a seat belt alone, which for infants and toddlers is neither safe nor legal under Iowa's Child Passenger Safety law. Table 4 displays type of restraint use by age of the child. Of the 798 toddlers (2-5 years old) observed, 42 (5.3%) were restrained only by a seat belt,

Table 4. Type of Restraint Use by Child's Age

Age	Child Safety Seat with Seat belt	Booster Seat with Seat belt	Seat belt only	Not Restrained	Total
< 2	255 / 99.2%	2 / 0.8%	0 / 0.0%	0 / 0.0%	257
2-5	596 / 74.7 %	150 / 18.8 %	42 / 5.3 %	10 / 1.3 %	798
6-13	36 / 2.3%	452/ 28.4%	1056 / 66.5%	45 / 2.8%	1,589
14-17	0 / 0.0%	9 / 1.3%	630 / 92.2%	46 / 6.7%	685
Total	887 / 26.6%	613 / 18.4%	1728 / 51.9%	101 / 3.0%	3329

Table 5 displays rates of proper restraint compared with rates of restraint by any means and rates of no restraint. Note that “properly restrained” means being restrained in accordance with Iowa’s child passenger restraint law.

Technical measures of correct restraint use typically checked in a child seat clinic, e.g., belt tightness, were not evaluated. In the most rural communities (1,000-2,499) 92.7% of the children were restrained by some means compared to 97.8% in the urban areas.

Table 5. Restraint Use by Community Size

Community Size	Number / % Restrained (by any means)	Number / % Restrained Properly*	Number / % Not Restrained	Total
1,000-2,499	318/ 92.7%	314 / 91.5%	25 / 7.3%	343
2,500-9,999	613 / 97.0%	589 / 93.2%	19 / 3.0%	632
10,000-49,999	936/ 97.3%	903 / 93.9%	26 / 2.7%	962
≥ 50,000	1361 / 97.8%	1316 / 94.5%	31 / 2.2%	1392
Total	3228 / 97.0%	3122 / 93.8%	101 / 3.0%	3329

* Properly means in compliance with Iowa law.

Table 6 displays type of restraint use type by size of the community. This table includes information of observations where age information was not confirmed.

Table 6. Type of Restraint Use by Community Size

Community Size	Child Safety Seat with Seat belt	Booster Seat with Seat belt	Seat belt only	Not Restrained	Total
1,000-2,499	97 / 28.3%	41 / 12.0%	180 / 52.5%	25/ 7.3%	343
2,500-9,999	177 / 28.0%	109 / 17.2%	327 / 51.7%	19 / 3.0%	632
10,000-49,999	267 / 27.8%	230 / 23.9%	439 / 45.6%	26 / 2.7%	962
≥ 50,000	346 / 24.9%	233 / 16.7%	782 / 56.2%	31 / 2.2%	1392
Total	887 / 26.6%	613 / 18.4%	1728 / 51.9%	101 / 3.0%	3329*

Information on the number of children by age and restraint use observed at each individual location can be found in Table 7 including the number of toddlers (2-5 years) restrained by only a seat belt. Table 8 presents the restraint use by age as percentages for each location. Table 8 includes the percentage of children restrained by any means and also those children who are restrained in compliance with Iowa’s law for each survey location. Table 9 lists the percentage of children properly restrained sorted by community size, ranging from 60.5% to 100%.

Table 7. Restraint Use by Child Age and Survey Location, 2024

	Total children	Age < 2				Age 2 - 5				Age 6-13				Age 14-17				
		CSS	Booster	Belt Only	None	CSS	Booster	Belt Only	None	CSS	Booster	Belt Only	None	CSS	Booster	Belt Only	None	
Ames	127	1	0	0	0	12	10	1	0	0	29	45	3	0	0	0	24	2
Anamosa	75	2	0	0	0	9	1	0	1	0	9	30	3	0	0	0	20	0
Ankeny	127	9	0	0	0	27	2	1	0	0	12	39	0	0	0	0	37	0
Boone	112	1	0	0	0	13	5	0	0	0	31	32	0	0	0	0	28	2
Cascade	36	2	0	0	0	0	5	0	0	0	7	12	0	0	0	0	10	0
Cedar Falls	140	6	0	0	0	11	8	1	0	0	8	80	5	0	0	0	19	2
Cedar Rapids	127	15	0	0	0	35	7	0	0	3	7	37	1	0	0	0	21	1
Centerville	82	4	1	0	0	11	1	1	0	0	16	23	2	0	0	0	22	1
Clinton	100	9	0	0	0	25	5	0	0	1	5	37	1	0	0	0	17	0
Conrad	41	3	0	0	0	7	1	0	0	0	1	23	0	0	0	0	6	0
Corydon	37	4	0	0	0	4	2	1	2	0	5	10	1	0	0	0	8	0
Council Bluffs	138	18	0	0	0	36	1	0	0	7	26	31	0	0	0	0	17	2
Creston	77	13	0	0	0	14	4	2	0	0	9	17	0	0	0	0	14	4
Davenport	126	11	0	0	0	16	9	0	1	1	15	33	0	0	0	0	40	0
Denver	35	4	0	0	0	7	3	0	0	0		12	0	0	0	0	9	0
Des Moines	130	2	0	0	0	12	1	0	0	1	23	41	5	0	0	0	45	0
Dubuque	127	11	0	0	0	22	11	0	0	0	12	45	2	0	0	0	24	0
Eldora	30	0	0	0	0	5	2	0	0	0	0	13	2	0	0	0	6	2
Fort Dodge	83	4	0	0	0	18	8	1	0	0	0	38	0	0	0	0	13	1
Grimes	106	18	0	0	0	39	9	1	0	0	8	12	0	0	0	0	16	3
Hartley	40	0	0	0	0	7	2	1	1	0	0	27	1	0	0	0	1	0
Huxley	79	11	1	0	0	14	6	1	0	0	10	8	0	0	0	0	25	3
Indianola	105	14	0	0	0	20	3	3	0	0	16	20	0	0	0	0	26	3
Iowa City	129	3	0	0	0	15	2	2	0	1	12	75	0	0	0	0	19	0
Muscatine	101	5	0	0	0	8	5	0	0	0	11	59	1	0	0	0	10	2
New Hampton	28	2	0	0	0	4	1	0	0	1	3	13	0	0	0	0	4	0
Newton	103	11	0	0	0	26	2	2	0	1	11	14	3	0	0	0	30	3
Orange City	104	10	0	0	0	25	7	3	0	2	10	39	0	0	0	0	7	1
Prairie City	40	3	0	0	0	7	2	6	0	0	0	11	1	0	0	0	10	0
Sac City	38	7	0	0	0	20	4	0	1	0	2	3	1	0	0	0	0	0
Sioux City	129	23	0	0	0	32	12	10	0	4	13	25	3	0	0	0	5	2
Spirit Lake	81	7	0	0	0	18	3	1	0	9	13	22	0	0	0	0	8	0
Storm Lake	112	11	0	0	0	24	7	6	0	2	15	29	0	0	0	0	18	0
Tabor	38	4	0	0	0	9	3	0	1	0	16	0	1	0	0	0	4	0
Washington	76	2	0	0	0	14	2	0	0	0	8	30	0	0	0	0	20	0
Waterloo	104	3	0	0	0	13	3	2	0	2	6	46	0	0	0	0	28	1
West Des Moines	128	1	0	0	0	10	5	3	0	0	15	62	4	0	0	0	24	4
Winfield	38	1	0	0	0	3	1	0	3	0	2	12	5	0	0	0	4	7
TOTAL	3,329	225	2	1	0	592	165	48	10	35	386	1,105	45	0	0	639	46	

Table 8. Percent Restraint Use by Child Age and Survey Location, 2024

	% All Kids Properly Restrained	% All kids Restrained (by any means)	% < 2 Properly Restrained	% 2-5 Properly Restrained	% 6-13 Restrained	% 14-17 Restrained
Ames	93.7%	96.0%	100%	95.7%	96.1%	92.3%
Anamosa	93.3%	94.6%	100%	90.9%	90.4%	100%
Ankeny	97.6%	97.6%	100%	93.3%	98.0%	100%
Boone	98.4%	98.2%	100%	100%	100%	93.3%
Cascade	97.2%	100%	100%	100%	94.8%	100%
Cedar Falls	91.4%	87.9%	100%	95.0%	90.3%	93.3%
Cedar Rapids	96.9%	98.4%	100%	100%	97.9%	95.2%
Centerville	89.0%	96.3%	100%	92.3%	95.1%	95.7%
Clinton	97.0%	99.0%	100%	100%	95.4%	100%
Conrad	97.6%	100%	100%	100%	95.8%	100%
Corydon	89.2%	91.9%	100%	62.5%	93.8%	100%
Council Bluffs	97.1%	98.6%	94.1%	97.3%	100%	89.5%
Creston	92.2%	94.8%	100%	90.0%	100%	77.8%
Davenport	98.4%	99.2%	100%	92.3%	100%	100%
Denver	100%	100%	100%	100%	100%	100%
Des Moines	92.3%	96.2%	100%	92.3%	92.9%	100%
Dubuque	94.4%	98.4%	100%	100%	96.6%	100%
Eldora	86.7%	86.7%	100%	94.7%	86.7%	75.0%
Fort Dodge	97.6%	98.8%	100%	89.9%	100%	92.9%
Grimes	97.2%	97.2%	100%	100%	100%	84.2%
Hartley	92.5%	95.0%	100%	81.8%	96.4%	100%
Huxley	96.2%	96.2%	100%	100%	100%	89.3%
Indianola	85.7%	97.1%	100%	92.3%	80.5%	89.7%
Iowa City	99.2%	100%	100%	100%	100%	100%
Muscatine	93.2%	97.0%	100%	100%	98.6%	83.3%
New Hampton	100%	100%	100%	100%	100%	100%
Newton	91.2%	94.2%	100%	93.3%	96.6%	90.9%
Orange City	92.3%	99.0%	90%	83.3%	100%	87.5%
Prairie City	97.5%	97.5%	100%	100%	91.7%	100%
Sac City	94.7%	94.7%	100%	95.8%	80.0%	n/a
Sioux City	89.1%	96.1%	100%	85.1%	93.3%	71.4%
Spirit Lake	95.0%	100%	100%	98.8%	96.3%	100%
Storm Lake	92.8%	100%	100%	78.3%	100%	100%
Tabor	94.8%	94.8%	100%	90.9%	94.1%	100%
Washington	96.1%	100%	100%	100%	100%	100%
Waterloo	93.3%	98.3%	100%	88.9%	100%	96.6%
West Des Moines	85.1%	93.8%	100%	83.3%	95.1%	85.7%
Winfield	60.5%	60.5%	100%	57.1%	73.7%	36.4%
AVERAGE	93.3%	95.9%	99.6%	92.5%	95.3%	92.4%

Table 9. Percent of Children Properly Restrained by Community Size, 2024

Communities 1,000 - 2,499	Cascade	97.2%
	Conrad	97.6%
	Corydon	89.2%
	Denver	100.0%
	Hartley	92.5%
	Prairie City	97.5%
	Sac City	94.7%
	Tabor	94.7%
	Winfield	60.5%
Communities 2,500 - 9,999	Anamosa	93.3%
	Centerville	89.0%
	Creston	92.2%
	Eldora	86.7%
	Huxley	96.2%
	New Hampton	100.0%
	Orange City	91.3%
	Spirit Lake	95.1%
	Washington	96.1%
Communities 10,000 - 49,999	Boone	98.2%
	Cedar Falls	91.4%
	Clinton	97.0%
	Fort Dodge	96.3%
	Grimes	97.2%
	Indianola	85.7%
	Muscatine	96.0%
	Newton	88.3%
	Storm Lake	92.9%
Communities 50,000+	Ames	93.7%
	Ankeny	97.6%
	Cedar Rapids	96.8%
	Council Bluffs	97.1%
	Davenport	98.4%
	Des Moines	92.3%
	Dubuque	94.5%
	Iowa City	99.2%
	Sioux City	89.1%
	Waterloo	96.2%
	West Des Moines	85.2%

The survey also collected information on child placement within the vehicle—front seat vs. back seat. Safety experts strongly recommend placing all children in the rear seat regardless of their age. Table 10 displays the number and percentage of children in each location by type of restraint use. Overall, 79.3% of all children and youth were observed in the back seat. Almost all the children in child safety seats (99.5%) and booster seats (97.2%) were placed in the backseat, as recommended.

Table 10. Type of Restraint Use by Location in the Vehicle, 2024

Restraint Type	Front Seat	Back Seat	Not recorded	Total
Child Safety Seat with Seat belt	0 / 0.5%	883 / 99.5%	4 / 0.5%	887
Booster Seat with Seat belt	11 / 1.8%	596 / 97.2%	6 / 0.98%	613
Seat belt only	619 / 35.8%	1105 / 63.9%	4 / 0.2%	1728
Not Restrained	50 / 49.5%	51 / 50.5%	0 / 0.0%	101
Total	680 / 20.4%	2635 / 79.2%	14 / 0.4%	3329

The surveyors also noted whether the motor vehicle drivers were wearing their seat belts. 90.7% of the drivers observed were wearing a seat belt. Tables 11 and 12 list observed driver seat belt use by community size and for each community, respectively.

Table 11. Driver Seat Belt Use by Community Size, 2024

Community Size	Driver Belted	Driver Not Belted	Total
1,000-2,499	156 / 86.2%	25 / 13.8%	181
2,500-9,999	283 / 88.2%	38 / 11.8%	321
10,000-49,999	386 / 91.0%	38 / 9.0%	424
≥ 50,000	672 / 92.7%	53 / 7.3%	725
Total	1,497 / 90.7%	154 / 9.3%	1,651

Table 12. Driver Seat Belt Use, 2024

	Total Drivers Observed	Number Drivers Belted	% Drivers Belted	Number Drivers Not Belted	% Drivers Not belted
Ames	57	52	91.2%	5	8.8%
Anamosa	32	31	96.9%	1	3.1%
Ankeny	48	43	89.6%	5	10.4%
Boone	48	45	93.8	3	6.2%
Cascade	15	15	100	0	0
Cedar Falls	69	59	85.5%	10	14.5%
Cedar Rapids	81	78	96.3%	3	3.7%
Centerville	33	27	81.8%	6	18.2%
Clinton	42	41	97.7%	1	2.3%
Conrad	24	22	91.7%	2	8.3%
Corydon	15	13	86.7%	2	13.3%
Council Bluffs	80	73	91.2%	7	8.8%
Creston	36	31	86.1%	5	13.9%
Davenport	81	79	97.5%	2	2.5%
Denver	21	18	85.7%	3	14.3%
Des Moines	57	48	84.2%	9	15.8%
Dubuque	72	72	100	0	0
Eldora	25	18	72.0%	7	28.0%
Fort Dodge	39	35	89.8%	4	10.2%
Grimes	39	36	92.3%	3	7.7%
Hartley	17	15	88.2%	2	11.8%
Huxley	30	28	93.3%	2	6.7%
Indianola	42	37	88.0%	5	12%
Iowa City	57	56	98.2%	1	1.8%
Muscatine	42	41	97.6%	1	2.4%
New Hampton	17	15	88.2%	2	11.8%
Newton	45	38	84.4%	7	15.6%
Orange City	60	53	88.3%	7	11.7%
Prairie City	18	17	94.4%	1	5.6%
Sac City	24	20	83.3%	4	16.7%
Sioux City	76	69	90.8%	7	9.2%
Spirit Lake	47	40	85.1%	7	14.9%
Storm Lake	58	54	93.1%	4	6.9%
Tabor	20	15	75.0%	5	25.0%
Washington	41	40	97.6%	1	2.4%
Waterloo	60	56	93.3%	4	6.7%
West Des Moines	56	46	82.1%	10	17.9%
Winfield	27	21	77.8%	6	22.2%
Total	1,651	1,497	90.7%	154	9.3%

Conclusions

Results from the 2024 survey indicate that the majority of Iowans understand the importance of restraining their children and that most restrain their children properly. This is especially true for infants, with 100% being restrained by some means and 99.6% being properly restrained in a child safety seat or booster seat. Among children aged 2-5, 98.8% were restrained by some means (92.5% properly restrained). On average, 95.9% of all children under age 18 were restrained by some means and 93.3% were restrained properly. 90.7% of drivers were belted in 2024.

The results also revealed there are still some areas with room for improvement. Drivers (9.3%) and teenagers aged 14-17 (6.7%) were the groups least likely to be restrained in the vehicle. It remains pertinent that even older youth and drivers in Iowa be informed on the importance of proper safety belt use in accordance with Iowa law.

The 2024 survey results indicate lower rates of restraint use in smaller communities. Restraint use by any means among all children was highest (97.8%) in the largest communities ($\geq 50,000$), compared to smaller community sizes. In 2024, the lowest level of restraint use (92.8%) was observed in communities with a population between 1,000-2,499. Also in 2024, the rate of belted drivers corresponded with community size, decreasing as communities grew smaller (92.7% in communities with $\geq 50,000$ residents vs. 86.2% in communities with 1,000-2,499 residents).

The survey also collects information on child placement within the vehicle—front seat vs. back seat. Safety experts strongly recommend placing all children in the rear seat regardless of their age. Overall, 79.2% of all children and youth were observed in the back seat. Almost all the children in child safety seats (99.5%) and booster seats (97.2%) were placed in the back seat, while 63.9% of those restrained only with a seat belt were secured in the back seat. Of the passengers riding unrestrained, the percentage riding in the back seat was lowest, at 50.5%. This emphasizes a continued need to reach out to drivers on the importance of child restraint use in all seating positions within a vehicle and encouraging placement of children in the back seat whenever possible.

The 2024 Iowa Child Passenger Restraint Survey was successfully completed and will continue to provide valuable comparison information for years to come.