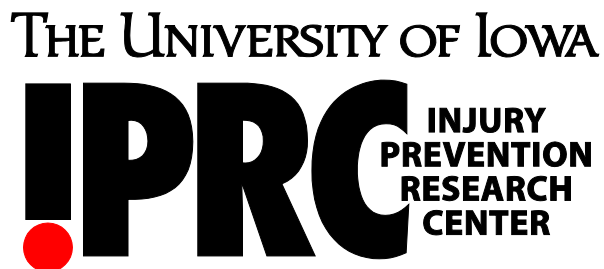# Iowa Child Passenger Safety Survey

# 2020

*Conducted by the*
*University of Iowa Injury Prevention Research Center*
*Under contract to Iowa Governor's Traffic Safety Bureau*

THE UNIVERSITY OF IOWA

!PRC INJURY PREVENTION RESEARCH CENTER

**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:

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

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 has contracted with The University of Iowa Injury Prevention Research Center (UI IPRC) to conduct these child passenger safety surveys since 1996.

**Introduction and Methods**

In an effort to accurately determine compliance with Iowa's child passenger safety law, in particular the requirement for use of child safety and booster seats, observers must be able to obtain a clear view into the vehicle. Starting with the 2005 survey, the basic protocol was changed from the previous "drive-by" observational methodology to a more "in-person" approach. The original survey design had not been updated since the 1980s, so the entire Iowa Child Passenger Restraint Survey protocol was also reassessed to ensure statistically valid representation of Iowa's total population mix. A workgroup consisting of UI IPRC faculty and staff and colleagues from the GTSB and Blank Children's Hospital was convened in early 2005 and charged with redesigning the survey methodology.

Researchers determined that to best represent Iowa's population the survey needed to be conducted in 36 communities across the state ranging in size from 1,424 persons in Wellman to Des Moines with 217,521 persons. Figure 1 identifies the communities on a map of Iowa. The list of communities, their size range, and the number of children needing to be observed at each location is listed in Table 1. Note that as a result of the 2010 Census, the town of Hawarden's population increased to 2,546 thus bumping them into the second tier of community size and increasing their sample size from 50 to 75 observations.

The workgroup decided that the survey would best be implemented at sites such as gas stations or fast food restaurants where the surveyor could approach the motor vehicle and quickly collect the desired information. The protocol calls for a well-identified surveyor to position themselves where they can see vehicles pull up carrying passengers who appear to be up to seventeen years of age. The surveyor approaches the vehicle and politely asks the driver if they would be willing to participate in a child and youth passenger safety survey. If the driver agrees, the surveyor confirms the age of the passenger(s) in the vehicle and quickly notes restraint use. No identifying information is collected (e.g. names or license plate numbers). The surveyor thanks the occupants and offers the adult a card describing Iowa's child passenger safety law and identifying who to contact for additional information.

Given the pandemic, surveyors this year wore face masks and maintained as much physical distance as practicable in order to complete the survey.
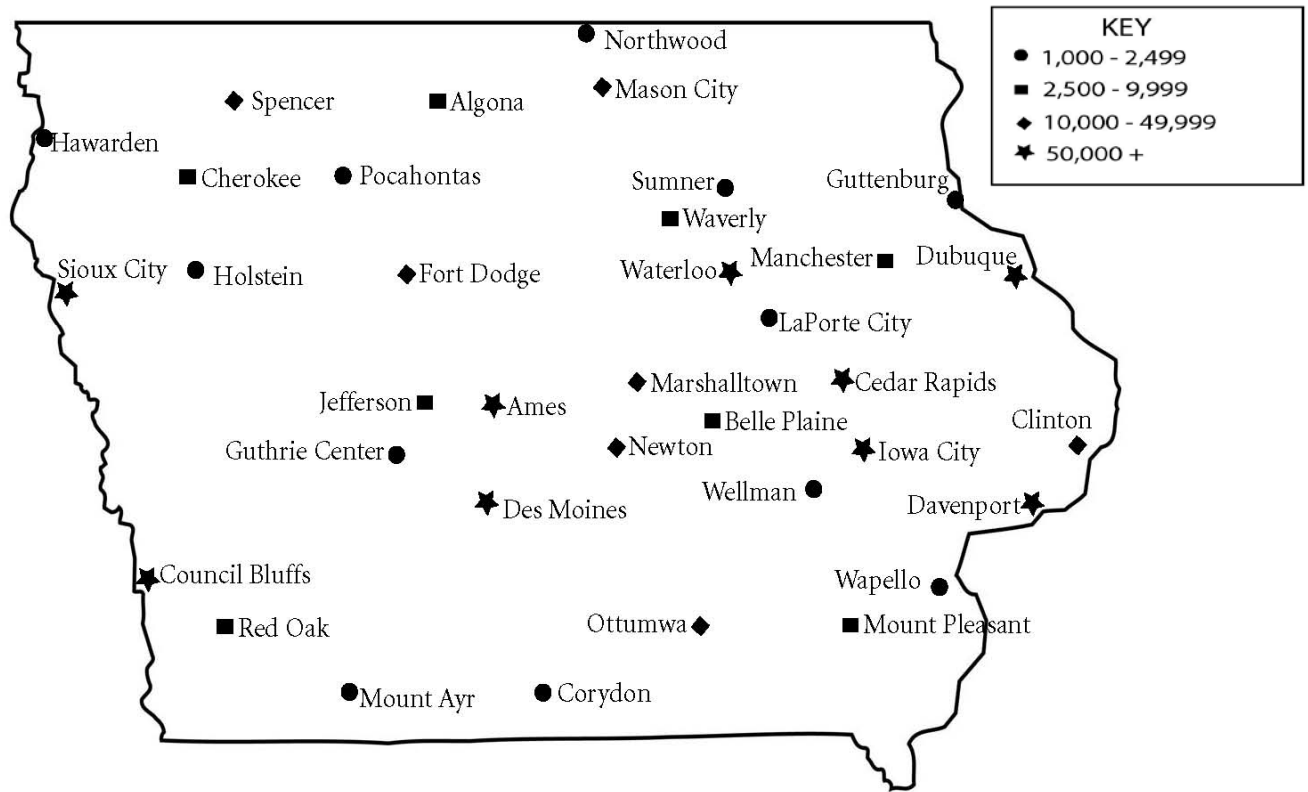
**Figure 1. 2020 Iowa Child Passenger Survey Locations**

KEY
● 1,000 - 2,499
■ 2,500 - 9,999
◆ 10,000 - 49,999
★ 50,000 +

Northwood
Spencer
Algona
Mason City
Hawarden
Cherokee
Pocahontas
Sumner
Guttenburg
Waverly
Sioux City
Holstein
Fort Dodge
Waterloo
Manchester
Dubuque
LaPorte City
Jefferson
Ames
Marshalltown
Cedar Rapids
Belle Plaine
Clinton
Guthrie Center
Newton
Iowa City
Des Moines
Wellman
Davenport
Council Bluffs
Wapello
Red Oak
Ottumwa
Mount Pleasant
Mount Ayr
Corydon

**Table 1. Iowa Child Passenger Restraint Survey Locations, 2020**

| | |
|---|---|
| **Communities 1,000 – 2,499**<br>Minimum of 50 kids observed at each location | 1. Corydon<br>2. Guthrie Center<br>3. Guttenberg<br>4. Holstein<br>5. Laporte City<br>6. Mount Ayr<br>7. Northwood<br>8. Pocahontas<br>9. Sumner<br>10. Wapello<br>11. Wellman |
| **Communities 2,500 – 9,999**<br>Minimum of 75 kids observed at each location | 1. Algona<br>2. Belle Plaine<br>3. Cherokee<br>4. Hawarden<br>5. Jefferson<br>6. Manchester<br>7. Mount Pleasant<br>8. Red Oak<br>9. Waverly |
| **Communities 10,000 – 49,999**<br>Minimum of 100 observed kids at each location | 1. Clinton<br>2. Fort Dodge<br>3. Marshalltown<br>4. Mason City<br>5. Newton<br>6. Ottumwa<br>7. Spencer |
| **Communities 50,000+**<br>Minimum of 125 observed kids at each location | 1. Ames<br>2. Cedar Rapids<br>3. Council Bluffs<br>4. Davenport<br>5. Des Moines<br>6. Dubuque<br>7. Iowa City<br>8. Sioux City<br>9. Waterloo |

The IPRC hired two temporary, part-time surveyors and trained them in proper survey protocol. The survey was then carried out across the state during the months of July through September, 2020, which was slightly later this year due to COVID-19 shutdowns. All observations were of children and youth from birth through age seventeen and accompanying adult drivers.

**Results**
A total of 2,404 observations were attempted, of which 2,332 (97%) drivers agreed to participate (69 refused, 2.9%) and provide ages (driver and child). The breakdown of missing and/or incomplete data (due to surveyor error or refusal) is as follows:
- 72 (3%) observations were missing child age
- 33 (1.3%) observations were missing Seating Position (Front or Back) values
- 31 (1.2%) observations were missing Driver Age values
- 31 (1.2%) observations were missing Restraint Use by Child/Passenger values
- 43 (1.8%) observations were missing Driver Belted values
- 17 (0.7%) observations were missing Vehicle Type value.

The observable values of those who refused to give their age or child's ages were still collected (e.g., restraint use, seating position), given they have historically been more likely to have unrestrained children/passengers. The following results include these observable values in the totals, when possible, otherwise the missing data or refusals are noted with each table. 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 | 157 / 6.7% |
| 2-5 | 595 / 25.5% |
| 6-13 | 1154 / 49.5% |
| 14-17 | 426 / 18.3% |
| Total | 2332* / 100% |

*72 missing data on age not included*

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). From this information, it is clear that Iowans understand the importance of securing infants in child safety seats, with 100% of children age one year or younger being properly restrained. Note that "properly restrained" means observing proper use of a child safety seat secured by the vehicle's seat belt. More technical measures of correct restraint use typically checked in a child seat clinic, e.g. belt tightness, were not evaluated. While the majority of children are being restrained in motor vehicles, as the child's age increases, they are less likely to be restrained ($p<0.01$). Nearly ninety-nine percent of toddlers (2-5), 93.9% of the youth (6-13), and 85.5% of teens (14-17) were restrained. Overall, 94% of all children observed were restrained; a decrease of 2.3% from the 2019 survey total of 96.3%.

**Table 3. Restraint Use by Child's Age**

| Age | Not Restrained Number / Percent | Restrained Number / Percent | Total |
|---|---|---|---|
| < 2 | 0 / 0.0% | 157 / 100% | 157 |
| 2-5 | 8/ 1.3% | 587 / 98.7% | 595 |
| 6-13 | 71 / 6.2% | 1083 / 93.9% | 1154 |
| 14-17 | 62 / 14.6% | 364 / 85.5% | 426 |
| Total | 141 / 6.1% | 2191 / 94.0% | 2332* |

*72 missing data*

The numbers contained in Table 3 for each age group represent children who were restrained by any means including a seatbelt 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 751 toddlers observed, 22 (2.9%) were restrained only by a seatbelt, which is a decrease from 2019 (5.3%). This increase in proper restraint is promising and reflects how Iowans are better understanding the importance of using booster seats. If Iowa's statewide restraint use is re-calculated without including the improperly restrained children, the statewide average drops slightly from 94% to 93%.

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

| Age | Child Safety Seat with Seatbelt | Booster Seat with Seatbelt | Seatbelt only | **Not** Restrained | Total |
|---|---|---|---|---|---|
| < 2 | 156 / 99.4% | 0 / 0.0% | 1 / 0.6% | 0 / 0.0% | 157 |
| 2-5 | 347 / 58.4% | 218 / 36.7% | 21 / 3.5% | 8 / 1.4% | 594 |
| 6-13 | 26 / 2.3% | 245 / 21.4% | 802 / 70.1% | 71 / 6.2% | 1144 |
| 14-17 | 0 / 0.0% | 1 / 0.2% | 362 / 85.2% | 62 / 14.6% | 425 |
| Total | 529 / 22.8% | 464 / 20.0% | 1186 / 51.1% | 141 / 6.1% | 2320* |

*84 missing data*

The trend in previous observational surveys of restraint use in Iowa has been that persons in the metropolitan areas restrain their children at a higher rate than those in the rural communities. As displayed in Table 5, this remained true in the 2020 survey. In the most rural communities (1,000-2,499) 88.8% of the children were restrained by some means compared to 96.9% in the urban areas. The same relationship holds true when rates of properly (i.e., legally) restrained children are compared across small towns (88.0%) and cities (96.5%).

## 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 | 475 / 88.8% | 471 / 88.0% | 60 / 11.2% | 535 |
| 2,500-9,999 | 492 / 93.0% | 485 / 91.7% | 37 / 7.0% | 529 |
| 10,000-49,999 | 412 / 95.8% | 404 / 94.0 % | 18 / 4.2% | 430 |
| ≥ 50,000 | 800 / 96.9% | 797 / 96.5 % | 26 / 3.2% | 826 |
| Total | 2178 / 93.9% | 2157 / 93.0% | 141 / 6.1% | 2319** |

\* Properly means in compliance with Iowa law.
*\*85 missing data*

Table 6 displays type of restraint use type by size of the community. This table includes information of observations where age information was not available, and it highlights the lack of restraint use (11.2%) among the smallest communities included in the survey.

## Table 6. Type of Restraint Use by Community Size

| Community Size | Child Safety Seat with Seatbelt | Booster Seat with Seatbelt | Seatbelt only | **Not** Restrained | Total |
|---|---|---|---|---|---|
| 1,000-2,499 | 94 / 17.3% | 99 / 18.2% | 291 / 53.4% | 61 / 11.2% | 545 |
| 2,500-9,999 | 133 / 24.6% | 102 / 18.9% | 263 / 48.6% | 43 / 8.0% | 541 |
| 10,000-49,999 | 97 / 21.7% | 98 / 21.9% | 223 / 79.8% | 30 / 6.7% | 448 |
| ≥ 50,000 | 215 / 25.6% | 168 / 20.0% | 425 / 50.7% | 31 / 3.7% | 839 |
| Total | 539 / 22.7% | 467 / 19.7% | 1202 / 50.7% | 165 / 7.0% | 2373* |

*\*31 missing data*

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 restrained by only a seatbelt. Table 8 presents the restraint use 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 kids properly restrained sorted by community size, ranging from 77% to 100%.

## Table 7. Restraint Use by Child Age and Survey Location, 2020

| | Total Kids | Age < 2 | | | | Age 2 - 5 | | | | Age 6-13 | | | | Age 14-17 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CSS | Booster | Belt | None | CSS | Booster | Belt Only | None | CSS | Booster | Belt Only | None | CSS | Booster | Belt Only | None |
| Algona | 40 | 5 | 0 | 0 | 0 | 6 | 4 | 1 | 0 | 0 | 4 | 12 | 2 | 0 | 0 | 6 | 0 |
| Ames | 78 | 3 | 0 | 0 | 0 | 9 | 8 | 0 | 0 | 0 | 7 | 32 | 2 | 0 | 0 | 16 | 1 |
| Belle Plaine | 47 | 1 | 0 | 0 | 0 | 13 | 2 | 0 | 0 | 2 | 7 | 10 | 0 | 0 | 0 | 9 | 3 |
| Cedar Rapids | 103 | 13 | 0 | 0 | 0 | 20 | 4 | 0 | 2 | 2 | 14 | 35 | 2 | 0 | 0 | 10 | 1 |
| Cherokee | 75 | 10 | 0 | 0 | 0 | 8 | 14 | 1 | 0 | 0 | 8 | 22 | 1 | 0 | 0 | 10 | 1 |
| Clinton | 56 | 4 | 0 | 1 | 0 | 10 | 2 | 2 | 0 | 0 | 8 | 16 | 3 | 0 | 0 | 10 | 0 |
| Corydon | 50 | 2 | 0 | 0 | 0 | 7 | 4 | 0 | 0 | 0 | 5 | 11 | 5 | 0 | 0 | 11 | 4 |
| Council Bluffs | 74 | 8 | 0 | 0 | 0 | 9 | 11 | 0 | 0 | 0 | 3 | 27 | 1 | 0 | 0 | 15 | 0 |
| Davenport | 83 | 2 | 0 | 0 | 0 | 13 | 5 | 2 | 0 | 2 | 11 | 33 | 1 | 0 | 0 | 14 | 0 |
| Des Moines | 94 | 7 | 0 | 0 | 0 | 14 | 10 | 0 | 0 | 0 | 20 | 30 | 2 | 0 | 1 | 9 | 1 |
| Dubuque | 125 | 11 | 0 | 0 | 0 | 24 | 7 | 0 | 0 | 2 | 17 | 41 | 1 | 0 | 0 | 21 | 1 |
| Fort Dodge | 64 | 7 | 0 | 0 | 0 | 10 | 12 | 0 | 1 | 0 | 6 | 18 | 1 | 0 | 0 | 9 | 0 |
| Guthrie Center | 50 | 4 | 0 | 0 | 0 | 5 | 8 | 0 | 0 | 0 | 5 | 19 | 2 | 0 | 0 | 3 | 4 |
| Guttenberg | 51 | 2 | 0 | 0 | 0 | 9 | 3 | 0 | 0 | 0 | 6 | 23 | 0 | 0 | 0 | 9 | 0 |
| Hawarden | 75 | 4 | 0 | 0 | 0 | 8 | 7 | 2 | 0 | 0 | 3 | 29 | 6 | 0 | 0 | 7 | 9 |
| Holstein | 45 | 4 | 0 | 0 | 0 | 2 | 8 | 0 | 0 | 0 | 2 | 16 | 0 | 0 | 0 | 9 | 4 |
| Iowa City | 27 | 1 | 0 | 0 | 0 | 3 | 2 | 0 | 0 | 0 | 1 | 9 | 3 | 0 | 0 | 8 | 0 |
| Jefferson | 45 | 4 | 0 | 0 | 0 | 6 | 4 | 1 | 0 | 0 | 5 | 9 | 0 | 0 | 0 | 10 | 6 |
| LaPorte City | 50 | 1 | 0 | 0 | 0 | 5 | 1 | 2 | 0 | 0 | 9 | 16 | 0 | 0 | 0 | 14 | 2 |
| Manchester | 39 | 1 | 0 | 0 | 0 | 3 | 5 | 0 | 0 | 0 | 6 | 13 | 0 | 0 | 0 | 10 | 1 |
| Marshalltown | 52 | 4 | 0 | 0 | 0 | 7 | 8 | 3 | 0 | 1 | 4 | 19 | 0 | 0 | 0 | 4 | 2 |
| Mason City | 56 | 5 | 0 | 0 | 0 | 6 | 7 | 1 | 0 | 0 | 7 | 21 | 1 | 0 | 0 | 7 | 1 |
| Mount Ayr | 50 | 2 | 0 | 0 | 0 | 3 | 3 | 1 | 2 | 0 | 4 | 24 | 8 | 0 | 0 | 3 | 0 |
| Mount Pleasant | 68 | 2 | 0 | 0 | 0 | 14 | 3 | 0 | 0 | 2 | 5 | 23 | 0 | 0 | 0 | 16 | 3 |
| Newton | 52 | 3 | 0 | 0 | 0 | 7 | 8 | 0 | 1 | 0 | 7 | 16 | 2 | 0 | 0 | 7 | 1 |
| Northwood | 50 | 2 | 0 | 0 | 0 | 5 | 5 | 1 | 0 | 0 | 7 | 16 | 4 | 0 | 0 | 8 | 2 |
| Ottumwa | 94 | 2 | 0 | 0 | 0 | 18 | 7 | 1 | 0 | 1 | 7 | 44 | 3 | 0 | 0 | 10 | 1 |
| Pocahontas | 44 | 2 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 3 | 16 | 7 | 0 | 0 | 6 | 3 |
| Red Oak | 60 | 5 | 0 | 0 | 0 | 11 | 5 | 2 | 0 | 0 | 5 | 25 | 1 | 0 | 0 | 4 | 2 |
| Sioux City | 115 | 9 | 0 | 0 | 0 | 16 | 19 | 0 | 1 | 0 | 12 | 29 | 1 | 0 | 0 | 25 | 3 |
| Spencer | 56 | 4 | 0 | 0 | 0 | 6 | 8 | 0 | 0 | 0 | 6 | 17 | 0 | 0 | 0 | 14 | 1 |
| Sumner | 46 | 1 | 0 | 0 | 0 | 6 | 3 | 0 | 0 | 1 | 4 | 22 | 2 | 0 | 0 | 6 | 1 |
| Wapello | 48 | 1 | 0 | 0 | 0 | 8 | 3 | 0 | 0 | 3 | 0 | 16 | 3 | 0 | 0 | 13 | 1 |
| Waterloo | 127 | 11 | 0 | 0 | 0 | 29 | 7 | 1 | 0 | 4 | 8 | 48 | 1 | 0 | 0 | 16 | 2 |
| Waverly | 80 | 7 | 0 | 0 | 0 | 16 | 6 | 0 | 0 | 1 | 9 | 33 | 1 | 0 | 0 | 6 | 1 |
| Wellman | 51 | 2 | 0 | 0 | 0 | 6 | 3 | 0 | 0 | 3 | 9 | 14 | 5 | 0 | 0 | 9 | 0 |
| TOTAL | 3088 | 198 | 0 | 0 | 0 | 484 | 288 | 44 | 8 | 28 | 277 | 1141 | 52 | 0 | 1 | 512 | 43 |

**Table 8. Percent Restraint Use by Child Age and Survey Location, 2020**

| | % All Kids Properly Restrained | % All kids Restrained (Inc. 2-5yrs in belt only) | % < 2 Restrained | % 2-5 Properly Restrained | % 6-13 Restrained | % 14-17 Restrained |
|---|---|---|---|---|---|---|
| Algona | 92.5 | 95.0 | 100 | 90.9 | 88.9 | 100 |
| Ames | 96.2 | 96.2 | 100 | 100 | 95.1 | 94.1 |
| Belle Plaine | 93.6 | 93.6 | 100 | 100 | 100 | 75.0 |
| Cedar Rapids | 95.1 | 95.1 | 100 | 92.3 | 96.2 | 90.9 |
| Cherokee | 96.0 | 97.3 | 100 | 95.7 | 96.8 | 90.9 |
| Clinton | 91.1 | 94.6 | 100 | 85.7 | 88.9 | 100 |
| Corydon | 82.0 | 82.0 | 100 | 100 | 76.2 | 73.3 |
| Council Bluffs | 98.6 | 98.6 | 100 | 100 | 96.8 | 100 |
| Davenport | 96.4 | 98.8 | 100 | 90 | 97.8 | 100 |
| Des Moines | 98.9 | 98.9 | 100 | 100 | 96.2 | 81.8 |
| Dubuque | 98.4 | 98.4 | 100 | 100 | 98.4 | 95.5 |
| Fort Dodge | 96.9 | 96.9 | 100 | 95.7 | 96.0 | 100 |
| Guthrie Center | 88.0 | 88.0 | 100 | 100 | 92.3 | 42.9 |
| Guttenberg | 100 | 100 | 100 | 100 | 100 | 100 |
| Hawarden | 77.3 | 80.0 | 100 | 88.2 | 84.2 | 43.8 |
| Holstein | 91.1 | 91.1 | 100 | 100 | 100 | 69.2 |
| Iowa City | 88.9 | 88.9 | 100 | 100 | 76.9 | 100 |
| Jefferson | 84.4 | 86.7 | 100 | 90.9 | 100 | 62.5 |
| LaPorte City | 92.0 | 96.0 | 100 | 75 | 100 | 87.5 |
| Manchester | 97.4 | 97.4 | 100 | 100 | 100 | 90.09 |
| Marshalltown | 90.4 | 96.2 | 100 | 83.3 | 100 | 66.7 |
| Mason City | 94.6 | 96.4 | 100 | 92.9 | 96.6 | 87.5 |
| Mount Ayr | 78.0 | 80.0 | 100 | 66.7 | 77.8 | 100 |
| Mount Pleasant | 95.6 | 95.6 | 100 | 100 | 100 | 84.2 |
| Newton | 92.3 | 92.3 | 100 | 93.8 | 92.0 | 87.5 |
| Northwood | 86.0 | 88.0 | 100 | 90.9 | 85.2 | 80.0 |
| Ottumwa | 94.7 | 95.7 | 100 | 96.2 | 94.5 | 90.9 |
| Pocahontas | 77.3 | 77.3 | 100 | 100 | 73.1 | 66.7 |
| Red Oak | 91.7 | 95.0 | 100 | 88.9 | 96.8 | 66.7 |
| Sioux City | 95.7 | 95.7 | 100 | 97.2 | 97.6 | 89.3 |
| Spencer | 98.2 | 98.2 | 100 | 100 | 100 | 93.3 |
| Sumner | 93.5 | 93.5 | 100 | 100 | 93.1 | 85.7 |
| Wapello | 91.7 | 91.7 | 100 | 100 | 86.4 | 92.9 |
| Waterloo | 96.9 | 97.6 | 100 | 97.3 | 98.4 | 88.9 |
| Waverly | 97.5 | 97.5 | 100 | 100 | 97.7 | 85.7 |
| Wellman | 90.2 | 90.2 | 100 | 100 | 83.9 | 100 |

**Table 9. Proportion of Children Properly Restrained by Community Size, 2020**

| Communities 1,000 - 2,499 | Guttenberg | 100% |
|---|---|---|
| | Sumner | 93.5% |
| | LaPorte City | 92.0% |
| | Corydon | 82.0% |
| | Pocahontas | 77.3% |
| | Wapello | 91.7% |
| | Guthrie Center | 88.0% |
| | Wellman | 90.2% |
| | Northwood | 86.0% |
| | Mount Ayr | 78.0% |
| | Holstein | 91.1% |
| Communities 2,500 - 9,999 | Waverly | 97.5% |
| | Belle Plaine | 93.6% |
| | Algona | 92.5% |
| | Cherokee | 96.0% |
| | Jefferson | 84.4% |
| | Manchester | 97.4% |
| | Red Oak | 91.7% |
| | Mount Pleasant | 95.6% |
| | Hawarden | 77.3% |
| Communities 10,000 - 49,999 | Spencer | 98.2% |
| | Clinton | 91.1% |
| | Newton | 92.3% |
| | Fort Dodge | 96.9% |
| | Mason City | 94.6% |
| | Marshalltown | 90.4% |
| | Ottumwa | 94.7% |
| Communities 50,000+ | Dubuque | 98.4% |
| | Des Moines | 98.9% |
| | Council Bluffs | 98.6% |
| | Ames | 96.2% |
| | Sioux City | 95.7% |
| | Iowa City | 88.9% |
| | Davenport | 96.4% |
| | Cedar Rapids | 95.1% |
| | Waterloo | 96.9% |

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, 73.1% of all children and youth were observed in the back seat. Almost all the children in child safety seats (98.7%) and booster seats (98.3%) were placed in the backseat. However, of those restrained only by a seatbelt the percentages were much more equally distributed between the front and back (55.0% back vs 45.0% front). The percentages of unrestrained were similar in the back (49.7%) vs. the front (50.3%).

**Table 10. Type of Restraint Use by Location in the Vehicle, 2020**

| Restraint Type | Front Seat | Back Seat | Total |
|---|---|---|---|
| Child Safety Seat with Seatbelt | 7 / 1.3% | 529 / 98.7% | 536 |
| Booster Seat with Seatbelt | 8 / 1.7% | 455 / 98.3% | 463 |
| Seatbelt only | 533 / 45.0% | 651 / 55.0% | 1184 |
| **Not** Restrained | 82 / 50.3% | 81 / 49.7% | 163 |
| Total | 630 / 26.9% | 1716 / 73.1% | 2346* |

*58 missing data*

The surveyors also noted whether the motor vehicle drivers were wearing their seat belts. 90.2% of the drivers observed were wearing a seat belt, a decrease from 2019 (94.4%). Table 11 contains driver seat belt use data by size grouping of the community. Much like the child passenger restraint use statistics, drivers in the more rural communities had lower usage rates compared to the urban areas. Table 12 lists observed driver seat belt use for each community, which ranged from a low of 74.2% to a high of 100%.

**Table 11. Driver Seat Belt Use by Community Size, 2020**

| Community Size | Driver Belted | Driver Not Belted | Total |
|---|---|---|---|
| 1,000-2,499 | 243 / 84.4% | 45 / 15.6% | 288 |
| 2,500-9,999 | 274 / 88.1% | 37 / 11.9% | 311 |
| 10,000-49,999 | 260 / 89.7% | 30 / 10.3% | 290 |
| ≥ 50,000 | 458 / 95.2% | 23 / 4.8% | 481 |
| Total | 1235 / 90.2% | 135 / 9.9% | 1370 |

## Table 12. Driver Seat Belt Use, 2020

| | Total Drivers Observed | Number Drivers Belted | % Drivers Belted | Number Drivers Not Belted | % Drivers Not belted |
|---|---|---|---|---|---|
| **Algona** | 26 | 25 | 96.2 | 1 | 3.9 |
| **Ames** | 51 | 48 | 94.1 | 3 | 5.9 |
| **Belle Plaine** | 35 | 33 | 94.3 | 2 | 5.71 |
| **Cedar Rapids** | 70 | 67 | 95.7 | 3 | 4.3 |
| **Cherokee** | 44 | 43 | 97.7 | 1 | 2.3 |
| **Clinton** | 44 | 42 | 95.5 | 2 | 4.6 |
| **Corydon** | 32 | 26 | 81.3 | 6 | 18.8 |
| **Council Bluffs** | 46 | 45 | 97.8 | 1 | 2.2 |
| **Davenport** | 56 | 55 | 98.2 | 1 | 1.8 |
| **Des Moines** | 61 | 56 | 91.8 | 5 | 8.2 |
| **Dubuque** | 71 | 69 | 97.2 | 2 | 2.8 |
| **Fort Dodge** | 46 | 42 | 91.3 | 4 | 8.7 |
| **Guthrie Center** | 31 | 27 | 91.3 | 4 | 12.9 |
| **Guttenberg** | 24 | 24 | 100 | 0 | 0.0 |
| **Hawarden** | 47 | 38 | 80.9 | 9 | 19.2 |
| **Holstein** | 20 | 17 | 85.0 | 3 | 15.0 |
| **Iowa City** | 4 | 4 | 100 | 0 | 0.0 |
| **Jefferson** | 31 | 23 | 74.2 | 8 | 25.8 |
| **LaPorte City** | 32 | 32 | 100 | 0 | 0.0 |
| **Manchester** | 25 | 25 | 100 | 0 | 0.0 |
| **Marshalltown** | 35 | 33 | 94.3 | 2 | 5.7 |
| **Mason City** | 43 | 38 | 88.4 | 5 | 11.6 |
| **Mount Ayr** | 35 | 26 | 74.3 | 9 | 25.7 |
| **Mount Pleasant** | 40 | 37 | 92.5 | 3 | 7.5 |
| **Newton** | 43 | 37 | 86.1 | 6 | 14.0 |
| **Northwood** | 6 | 6 | 100 | 0 | 0.0 |
| **Ottumwa** | 41 | 40 | 97.6 | 1 | 2.4 |
| **Pocahontas** | 27 | 23 | 85.2 | 4 | 14.8 |
| **Red Oak** | 43 | 37 | 86.1 | 6 | 14.0 |
| **Sioux City** | 70 | 64 | 91.4 | 6 | 8.6 |
| **Spencer** | 38 | 36 | 94.7 | 2 | 5.3 |
| **Sumner** | 24 | 22 | 91.7 | 2 | 8.33 |
| **Wapello** | 29 | 26 | 89.7 | 3 | 10.3 |
| **Waterloo** | 59 | 58 | 98.3 | 1 | 1.7 |
| **Waverly** | 26 | 25 | 96.2 | 1 | 3.9 |
| **Wellman** | 34 | 31 | 91.2 | 3 | 8.8 |
| **TOTAL** | 1389 | 1280 | 92.15 | 109 | 7.9 |

**Conclusions**

Results from the 2020 survey indicate that the majority of Iowans understand the importance of restraining their children. This is especially true for infants with 100% being restrained in child safety seats. Among children aged 5 and under, 1.3% were observed to be not restrained by any means. This finding is a decrease from the 2019 results (3.2%).

The results also revealed there are still several areas with room for improvement. It remains pertinent that Iowans be informed on the importance of using booster seats, child safety seats, and what type of restraint their child needs in accordance with Iowa law. The 2020 results showed a slight decrease in restraint use overall, with a large decrease among teens (ages 14 to 17) going from 92.3% in 2019 to 85.5% in 2020. Overall, 93% of all children observed were properly restrained, a slight decrease compared to the 2019 (94.9%) survey.

Consistent with past years, the 2020 survey results indicated lower restraint use in the more rural communities. As the size of the community decreased, less restraint use was observed for both child passengers and drivers. Among children in the smallest communities (1,000-2,499) proper child restraint use averaged 88.2% and ranged from a low of 77.3% to a high of 100%. Among drivers in these small communities, the average restraint use was 84.4% and ranged from a low of 74.2% to a high of 100%.

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, 73.1% of all children and youth were observed in the back seat. Almost all the children in child safety seats (98.7%) and booster seats (98.3%) were placed in the backseat, while 52.1% of those restrained only with a seat belt were secured in the rear location. Of the passengers riding unrestrained, the percentage riding in the front seat increased from 47.1% in 2019 to 50.3% in 2020. These results highlight the continued need to reach out to teens on the importance of restraint use in all seating positions within a vehicle.

It should also be noted that the Iowa Legislature passed, and the Governor signed into law bills that strengthened the Iowa Child Passenger Safety Law in their 2004 and 2010 sessions. In general terms, the revised law required infants to be in child safety seats, toddlers from age 2 through 5 years to be secured using either a child safety seat or booster seat, and youth through age 17 to be secured with a seatbelt when riding in the back seat. All age groups must be restrained when in the front seat of a motor vehicle. As a result of these revisions the annual Iowa Child Passenger Restraint Survey protocol was redesigned to allow the surveyors to obtain a better view into vehicles and to include the older youth. The survey was also redesigned to result in a better statistical representation of the entire state population.

The 2020 Iowa Child Passenger Restraint Survey was successfully completed and will continue to provide valuable comparable information for years to come. As a result of the older age requirement for rear seat passengers a new survey situation is possible where the vehicle could have a teen driver with teen passengers. This is likely to lead to different restraint use compared to when an adult is the driver. Beginning with the 2010 survey, information was collected indicating when the driver was less than 18 years old. It is anticipated that a detailed analysis of teen drivers and passengers will be conducted.

The 2020 Iowa Child Passenger Restraint Survey was completed during the COVID-19 pandemic. As seen in Appendix C, Table 1, the pandemic impacted the number of children

observed with the 76.8% percent observed of the target number. The counts of observations were impacted more in larger communities compared to more rural communities. Table 2 in Appendix C shows rural areas were more likely to obtain the target number of observations than urban areas (98.0% vs 73.5%), which may be an indication of differences in COVID impact on travel patterns (particularly in relation to travel of children). Communities with a population of 10,000-49,999 were the least likely to obtain the target number of observations (62.4%). These differences in observations may explain some of the differences between this year and prior years in urban areas and overall. However, the pandemic does not appear to have impacted rural areas to the same extent as urban areas, so the lower restraint use this year in rural areas is not likely to be explained by the pandemic.

Appendix B contains a five-year comparison of the 2016 through 2020 survey results.

**Appendix A**


**Iowa's 2020 Child Passenger Safety Survey Project Personnel**

Conducted by the University of Iowa Injury Prevention Research Center
Under contract to Iowa Governor's Traffic Safety Bureau

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**Appendix B**

**Comparison of 2016 - 2020 Iowa Child Passenger Safety Survey Results**

The following Tables allow for comparison between the 2016-2020 child passenger safety survey results.

**Comparison Tables**

1. Number of Children Observed by Age
2. Restraint Use by Child's Age
3. Type of Restraint Use by Child's Age
4. Restraint Use by Community Size
5. Type of Restraint Use by Community Size
6. Restraint Use by Child's Age by Survey Location
7. Type of Restraint Use by Location in the Vehicle
8. Driver Seat Belt Use by Community Size
9. Driver Seat Belt Use by Survey Location

**Comparison Table 1**
**Number of Children Observed by Age**

| Age | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|
| < 2 | 243 / 8.0% | 228 / 7.4% | 204 / 6.9% | 200 / 6.5% | 157 / 6.7% |
| 2-5 | 909 / 29.8% | 843 / 27.4% | 763 / 25.6% | 834 / 27.0% | 595 / 25.5% |
| 6-13 | 1417 / 46.5% | 1403 / 45.7% | 145 / 48.5% | 1501 / 48.6% | 1154 / 49.5% |
| 14-17 | 480 / 15.7% | 600 / 19.5% | 568 / 19.1% | 556 / 18.0% | 426 / 18.3% |
| Total | 3,049 / 100% | 3,074 / 100% | 2980 / 100% | 3091 / 100% | 2404 / 100% |

**Comparison Table 2**
**Restraint Use by Child's Age**

| % Not Restrained | | | | | | % Restrained | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Age | 2016 | 2017 | 2018 | 2019 | 2020 | Age | 2016 | 2017 | 2018 | 2019 | 2020 |
| < 2 | 0.4% | 0.07% | 0.0% | 1.0% | 0.0% | < 2 | 99.6% | 99.9% | 100% | 99.0% | 100% |
| 2-5 | 2.5% | 2.1% | 1.3% | 2.2% | 1.3% | 2-5 | 97.5% | 97.9% | 98.7% | 97.8% | 98.7% |
| 6-13 | 7.1% | 5.8% | 3.3% | 3.5% | 6.2% | 6-13 | 92.9% | 94.2% | 96.7% | 96.5% | 93.9% |
| 14-17 | 16.5% | 11.2% | 4.9% | 7.7% | 14.6% | 14-17 | 83.5% | 88.8% | 95.1% | 92.3% | 85.5% |
| Total | 6.7% | 5.5% | 2.9% | 3.7% | 6.1% | Total | 93.3% | 94.5% | 97.1% | 96.3% | 94.0% |

## Comparison Table 3
## Type of Restraint Use by Child's Age

### Child Safety Seat with Seatbelt

| Age | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|
| < 2 | 98.9% | 98.7% | 98.5% | 99.0% | 99.4% |
| 2-5 | 44.3% | 55.8% | 58.7% | 58.0% | 58.4% |
| 6-13 | 0.2% | 1.1% | 1.0% | 1.9% | 2.3% |
| 14-17 | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Total | 21.3% | 23.1% | 22.3% | 23.0% | 22.8% |

### Booster Seat with Seatbelt

| Age | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|
| < 2 | 0.0% | 0.4% | 1.0% | 0.0% | 0.0% |
| 2-5 | 48.3% | 38.0% | 33.8% | 34.5% | 36.7% |
| 6-13 | 18.6% | 21.7% | 20.8% | 18.5% | 21.4% |
| 14-17 | 0.2% | 0.3% | 0.2% | 0.2% | 0.2% |
| Total | 23.1% | 20.4% | 18.8% | 18.3% | 20.0% |

### Seatbelt Only

| Age | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|
| < 2 | 0.0% | 0.0% | 0.5% | 0.0% | 0.6% |
| 2-5 | 4.8% | 4.1% | 6.2% | 5.3% | 3.5% |
| 6-13 | 74.0% | 71.4% | 75.0% | 76.2% | 70.1% |
| 14-17 | 83.3% | 88.5% | 94.9% | 92.1% | 85.2% |
| Total | 23.1% | 51.0% | 56.1% | 55.0% | 51.1% |

### Not Restrained

| Age | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|
| < 2 | 0.4% | 0.9% | 0.0% | 1.0% | 0.0% |
| 2-5 | 2.5% | 2.1% | 1.3% | 2.2% | 1.4% |
| 6-13 | 7.2% | 5.8% | 3.3% | 3.5% | 6.2% |
| 14-17 | 16.5% | 11.2% | 4.9% | 7.7% | 14.6% |
| Total | 6.7% | 5.5% | 2.9% | 3.7% | 6.1% |

## Comparison Table 4
## Restraint Use by Community Size

| Community Size | Percent Restrained (by any means) | | | | | Percent Restrained Properly* | | | | | Percent Not Restrained | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2016 | 2017 | 2018 | 2019 | 2020 | 2016 | 2017 | 2018 | 2019 | 2020 |
| 1,000-2,499 | 91.1% | 92.6% | 93.3% | 92.2% | 88.8% | 88.2% | 91.5% | 90.4% | 89.7% | 88.0% | 8.9% | 7.4% | 6.7% | 7.8% | 11.2% |
| 2,500-9,999 | 91.5% | 92.3% | 98.2% | 95.6% | 93.0% | 90.4% | 91.0 % | 97.1% | 94.7% | 91.7% | 8.5% | 7.7% | 1.8% | 4.4% | 7.0% |
| 10,000-49,999 | 93.1% | 93.6% | 96.0% | 95.9% | 95.8% | 92.9% | 92.1 % | 94.4% | 94.4 % | 94.0 % | 6.9% | 6.4% | 4.0% | 4.1% | 4.2% |
| ≥ 50,000 | 95.5% | 97.4% | 99.0% | 98.9% | 96.9% | 93.2% | 96.5 % | 97.5% | 97.7 % | 96.5 % | 4.5% | 2.6% | 1.0% | 1.1% | 3.2% |
| Total | 93.3% | 94.5% | 97.1% | 96.3% | 93.9% | 91.7% | 93.4% | 95.4% | 94.9% | 93.0% | 6.7% | 5.5% | 2.9% | 3.7% | 6.1% |

*Properly means in compliance with Iowa law.

**Comparison Table 5**
**Type of Restraint Use by Community Size**

| Community Size | Child Safety Seat with Seatbelt | | | | | Booster Seat with Seatbelt | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **2016** | **2017** | **2018** | **2019** | **2020** | **2016** | **2017** | **2018** | **2019** | **2020** |
| 1,000-2,499 | 23.8% | 18.9% | 19.0% | 18.4% | 17.3% | 21.6% | 19.5% | 16.1% | 15.9% | 18.2% |
| 2,500-9,999 | 18.1% | 22.9% | 24.3% | 23.4% | 24.6% | 22.1% | 20.6% | 18.8% | 17.0% | 18.9% |
| 10,000-49,999 | 19.4% | 19.7% | 18.6% | 23.2% | 21.7% | 23.6% | 21.2% | 19.7% | 19.6% | 21.9% |
| ≥ 50,000 | 23.1% | 27.4% | 23.9% | 24.4% | 25.6% | 24.1% | 20.3% | 19.4% | 19.5% | 20.0% |
| Total | 21.3% | 23.1% | 21.9% | 22.9% | 22.7% | 23.1% | 20.4% | 18.7% | 18.3% | 19.7% |

| Community Size | Seatbelt only | | | | | Not Restrained | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **2016** | **2017** | **2018** | **2019** | **2020** | **2016** | **2017** | **2018** | **2019** | **2020** |
| 1,000-2,499 | 45.7% | 54.2% | 56.9% | 57.9% | 53.4% | 8.9% | 7.4% | 8.0% | 7.8% | 11.2% |
| 2,500-9,999 | 51.3% | 48.8% | 55.1% | 54.8% | 48.6% | 8.5% | 7.7% | 1.9% | 4.8% | 8.0% |
| 10,000-49,999 | 50.1% | 52.7% | 57.3% | 52.3% | 79.8% | 6.9% | 6.4% | 4.4% | 4.9% | 6.7% |
| ≥ 50,000 | 48.4% | 49.7% | 55.5% | 54.9% | 50.7% | 4.5% | 2.6% | 1.2% | 1.1% | 3.7% |
| Total | 48.9% | 51.0% | 56.1% | 54.8% | 50.7% | 6.7% | 5.5% | 3.3% | 4.0% | 7.0% |

**Comparison Table 6**
**Restraint Use by Child Age and Survey Location**

| | Percent Age < 2 Properly* Restrained | | | | | Percent Age 2-5 Properly* Restrained | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **2016** | **2017** | **2018** | **2019** | **2020** | **2016** | **2017** | **2018** | **2019** | **2020** |
| Algona | 100% | 100% | 100% | 100% | 100% | 100% | 95.9% | 95.0% | 95.8% | 95.8% |
| Ames | 100% | 90.9% | 100% | 100% | 100% | 91.2% | 100% | 95.1% | 91.7% | 100% |
| Belle Plaine | 100% | 100% | 100% | 100% | 100% | 86.4% | 84.6% | 93.3% | 94.7% | 100% |
| Cedar Rapids | 100% | 100% | 100% | 100% | 100% | 93.8% | 96.3% | 83.3% | 90.9% | 92.3% |
| Cherokee | 100% | 100% | 100% | 100% | 100% | 88.0% | 100% | 95.5% | 92.0% | 95.7% |
| Clinton | 100% | 100% | 100% | 100% | 100% | 94.3% | 88.5% | 85.7% | 96.2% | 85.7% |
| Corydon | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 91.7% | 100% | 100% |
| Council Bluffs | 100% | 100% | 100% | 100% | 100% | 95.7% | 94.3% | 100% | 94.9% | 100% |
| Davenport | 100% | 100% | 75.0% | 100% | 100% | 74.1% | 88.9% | 100% | 69.7% | 90% |
| Des Moines | 100% | 100% | 100% | 100% | 100% | 97.2% | 100% | 97.3% | 100% | 100% |
| Dubuque | 100% | 100% | 100% | 100% | 100% | 100% | 93.0% | 87.5% | 100% | 100% |
| Fort Dodge | 100% | 100% | 100% | 100% | 100% | 92.6% | 96.6% | 87.0% | 100% | 95.7% |
| Guthrie Center | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Guttenberg | 100% | 100% | 100% | 100% | 100% | 94.7% | 100% | 82.4% | 100% | 100% |
| Hawarden | 100% | 100% | 100% | 100% | 100% | 94.4% | 94.7% | 100% | 93.8% | 88.2% |
| Holstein | 100% | 100% | 100% | 100% | 100% | 92.9% | 92.3% | 100% | 100% | 100% |
| Iowa City | 100% | 100% | 100% | 100% | 100% | 93.0% | 98.2% | 98.1% | 96.8% | 100% |
| Jefferson | 100% | 90.0% | 100% | 100% | 100% | 88.9% | 100% | 100% | 100% | 90.9% |
| LaPorte City | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 75.0% | 60.0% | 75% |
| Manchester | 100% | 100% | 100% | 100% | 100% | 100% | 93.1% | 94.1% | 87.5% | 100% |
| Marshalltown | 87.5% | 100% | 100% | 66.7% | 100% | 69.4% | 89.3% | 96.8% | 86.2% | 83.3% |
| Mason City | 100% | 100% | 100% | 100% | 100% | 100% | 96.8% | 100% | 96.2% | 92.9% |
| Mount Ayr | 100% | 100% | 100% | 100% | 100% | 84.6% | 100% | 100% | 72.7% | 66.7% |
| Mt. Pleasant | 100% | 100% | 100% | 100% | 100% | 85.7% | 80.8% | 90.6% | 89.5% | 100% |
| Newton | 100% | 100% | 88.9% | 100% | 100% | 100% | 92.6% | 87.5% | 100% | 93.8% |
| Northwood | 100% | 83.3% | 100% | 100% | 100% | 100% | 85.7% | 100% | 78.6% | 90.9% |
| Ottumwa | 100% | 100% | 100% | 100% | 100% | 85.0% | 70.4% | 77.8% | 75.0% | 96.2% |
| Pocahontas | 100% | 100% | 100% | 100% | 100% | 92.9% | 100% | 100% | 95.7% | 100% |
| Red Oak | 100% | 100% | 100% | 100% | 100% | 95.5% | 100% | 94.4% | 95.0% | 88.9% |
| Sioux City | 100% | 100% | 100% | 100% | 100% | 85.3% | 96.3% | 96.4% | 100% | 97.2% |
| Spencer | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 96.2% | 93.3% | 100% |
| Sumner | 100% | 100% | 100% | 100% | 100% | 87.0% | 100% | 87.5% | 83.3% | 100% |
| Wapello | 100% | 100% | 100% | 100% | 100% | 92.9% | 70.0% | 68.8% | 84.6% | 100% |
| Waterloo | 100% | 100% | 100% | 100% | 100% | 100% | 92.3% | 81.8% | 97.4% | 97.3% |
| Waverly | 100% | 100% | 100% | 100% | 100% | 93.1% | 94.7% | 94.7% | 100% | 100% |
| Wellman | 100% | 100% | 100% | 100% | 100% | 100% | 86.7% | 78.6% | 66.7% | 100% |

*Properly refers to in compliance with Iowa law.

## Comparison Table 6 (continued)
### Restraint Use by Child Age and Survey Location

| | Percent Age 6-13 Restrained | | | | | Percent Age 14-17 Restrained | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Algona | 92.1% | 88.9% | 89.2% | 93.9% | 93.9% | 81.3% | 84.6% | 100% | 76.9% | 76.9% |
| Ames | 96.2% | 100% | 97.9% | 100% | 95.1% | 92.6% | 88.5% | 100% | 100% | 94.1% |
| Belle Plaine | 73.8% | 97.8% | 100% | 97.4% | 100% | 60.0% | 77.8% | 100% | 100% | 75.0% |
| Cedar Rapids | 91.5% | 100% | 98.2% | 97.1% | 96.2% | 100% | 88.9% | 100% | 100% | 90.9% |
| Cherokee | 100% | 100% | 100% | 97.0% | 96.8% | 91.7% | 92.3% | 87.5% | 75.0% | 90.9% |
| Clinton | 92.3% | 93.8% | 98.1% | 100% | 88.9% | 88.2% | 100% | 100% | 100% | 100% |
| Corydon | 90.5% | 84.0% | 85.7% | 84.4% | 76.2% | 71.4% | 57.1% | 58.3% | 80.0% | 73.3% |
| Council Bluffs | 98.1% | 100% | 100% | 96.1% | 96.8% | 92.3% | 94.4% | 95.7% | 100% | 100% |
| Davenport | 90.3% | 100% | 100% | 100% | 97.8% | 72.2% | 88.5% | 100% | 100% | 100% |
| Des Moines | 96.2% | 100% | 97.9% | 98.3% | 96.2% | 83.3% | 90.9% | 91.3% | 93.8% | 81.8% |
| Dubuque | 100% | 94.3% | 97.4% | 98.4% | 98.4% | 100% | 100% | 100% | 100% | 95.5% |
| Fort Dodge | 90.5% | 94.4% | 97.8% | 97.7% | 96.0% | 87.0% | 90.9% | 94.4% | 100% | 100% |
| Guthrie Center | 89.2% | 84.6% | 89.5% | 93.3% | 92.3% | 100% | 92.3% | 86.7% | 81.3% | 42.9% |
| Guttenberg | 100% | 92.6% | 100% | 100% | 100% | 77.8% | 80.0% | 100% | 100% | 100% |
| Hawarden | 90.2% | 70.6% | 91.4% | 86.5% | 84.2% | 54.5% | 66.7% | 100% | 81.3% | 43.8% |
| Holstein | 86.4% | 91.3% | 100% | 92.3% | 100% | 81.8% | 90.0% | 100% | 60% | 69.2% |
| Iowa City | 92.6% | 100% | 100% | 100% | 76.9% | 60.0% | 100% | 100% | 100% | 100% |
| Jefferson | 97.6% | 90.2% | 100% | 97.4% | 100% | 100% | 54.5% | 100% | 54.6% | 62.5% |
| LaPorte City | 100% | 100% | 96.2% | 100% | 100% | 77.8% | 91.7% | 100% | 85.7% | 87.5% |
| Manchester | 100% | 100% | 100% | 100% | 100% | 78.6% | 100% | 100% | 100% | 90.09% |
| Marshalltown | 95.8% | 95.7% | 96.7% | 83.0% | 100% | 100% | 95.2% | 85.0% | 83.3% | 66.7% |
| Mason City | 96.3% | 97.5% | 94.0% | 97.7% | 96.6% | 94.1% | 77.8% | 92.0% | 95.5% | 87.5% |
| Mount Ayr | 77.3% | 82.6% | 79.3% | 90.0% | 77.8% | 72.7% | 66.7% | 80.0% | 73.3% | 100% |
| Mt. Pleasant | 97.2% | 95.7% | 100% | 100% | 100% | 76.2% | 100% | 100% | 100% | 84.2% |
| Newton | 82.4% | 97.3% | 97.5% | 87.0% | 92.0% | 93.3% | 83.3% | 90.9% | 94.1% | 87.5% |
| Northwood | 92.0% | 88.2% | 82.6% | 82.6% | 85.2% | 71.4% | 61.5% | 78.6% | 66.7% | 80.0% |
| Ottumwa | 90.6% | 81.0% | 90.4% | 100% | 94.5% | 68.2% | 82.8% | 92.3% | 100% | 90.9% |
| Pocahontas | 93.1% | 66.7% | 100% | 84.6% | 73.1% | 66.7% | 92.9% | 84.6% | 72.7% | 66.7% |
| Red Oak | 88.6% | 76.3% | 96.7% | 94.3% | 96.8% | 70.0% | 77.8% | 93.3% | 100% | 66.7% |
| Sioux City | 92.6% | 94.9% | 93.6% | 100% | 97.6% | 100% | 87.5% | 100% | 95.8% | 89.3% |
| Spencer | 100% | 94.7% | 100% | 100% | 100% | 95.2% | 90.9% | 100% | 90.9% | 93.3% |
| Sumner | 100% | 100% | 100% | 95.2% | 93.1% | 100% | 100% | 100% | 100% | 85.7% |
| Wapello | 84.6% | 92.0% | 95.8% | 96.6% | 86.4% | 37.5% | 100% | 100% | 100% | 92.9% |
| Waterloo | 100% | 96.2% | 100% | 100% | 98.4% | 100% | 95.5% | 100% | 100% | 88.9% |
| Waverly | 90.3% | 97.4% | 100% | 100% | 97.7% | 87.5% | 100% | 100% | 100% | 85.7% |
| Wellman | 95.5% | 91.3% | 87.0% | 100% | 83.9% | 73.3% | 100% | 100% | 100% | 100% |

**Comparison Table 7**
**Type of Restraint Use by Location in the Vehicle**

| Restraint Type | Front Seat | | | | | Back Seat | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Child Safety Seat with Seatbelt | 0.2% | 0.8% | 0.6% | 1.8% | 1.3% | 99.8% | 99.2% | 99.4% | 98.2% | 98.7% |
| Booster Seat with Seatbelt | 0.7% | 1.1% | 1.9% | 1.2% | 1.7% | 99.3% | 98.9% | 98.1% | 98.8% | 98.3% |
| Seatbelt only | 46.0% | 51.1% | 49.5% | 47.9% | 45.0% | 54.0% | 48.9% | 50.5% | 52.1% | 55.0% |
| **Not** Restrained | 29.9% | 52.4% | 36.6% | 47.1% | 50.3% | 70.1% | 47.6% | 63.4% | 52.9% | 49.7% |
| Total | 24.8% | 29.3% | 29.4% | 28.8% | 26.9% | 75.2% | 70.7% | 70.6% | 71.2% | 73.1% |

**Comparison Table 8**
**Driver Seat Belt Use by Community Size**

| Community Size | Driver Belted | | | | | Driver Not Belted | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2016 | 2017 | 2018 | 2019 | 2020 |
| 1,000-2,499 | 89.8% | 81.9% | 89.2% | 90.4% | 84.4% | 10.2% | 18.1% | 10.8% | 9.6% | 15.6% |
| 2,500-9,999 | 91.7% | 88.1% | 94.8% | 92.2% | 88.1% | 8.3% | 11.9% | 5.2% | 7.8% | 11.9% |
| 10,000-49,999 | 94.1% | 91.5% | 93.6% | 93.9% | 89.7% | 5.9% | 8.5% | 6.4% | 6.1% | 10.3% |
| ≥ 50,000 | 98.0% | 96.1% | 96.5% | 97.5% | 95.2% | 2.1% | 3.9% | 3.5% | 2.5% | 4.8% |
| Total | 94.2% | 90.7% | 94.0% | 94.1% | 90.2% | 5.8% | 9.3% | 6.0% | 5.9% | 9.9% |

## Comparison Table 9
## Driver Seat Belt Use by Survey Location

| | Percent Drivers Belted | | | | | Percent Drivers NOT Belted | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **2016** | **2017** | **2018** | **2019** | **2020** | **2016** | **2017** | **2018** | **2019** | **2020** |
| Algona | 90.7% | 82.4% | 84.8% | 84.8% | 96.2% | 9.3% | 17.6% | 15.2% | 15.2% | 3.9% |
| Ames | 93.6% | 92.0% | 95.8% | 100% | 94.1% | 6.4% | 8.0% | 4.2% | 0.0% | 5.9% |
| Belle Plaine | 97.3 | 91.3% | 97.8% | 98.0% | 94.3% | 2.7% | 8.7% | 2.2% | 2.0% | 5.71% |
| Cedar Rapids | 100% | 96.4% | 93.9% | 98.8% | 95.7% | 0.0% | 3.6% | 6.1% | 1.2% | 4.3% |
| Cherokee | 96.0% | 87.2% | 91.5% | 91.3% | 97.7% | 4.0% | 12.8% | 8.5% | 8.7% | 2.3% |
| Clinton | 96.0% | 97.9% | 97.5% | 100% | 95.5% | 4.0% | 2.1% | 2.5% | 0.0% | 4.6% |
| Corydon | 90.0% | 59.4% | 77.8% | 90.6% | 81.3% | 10.0% | 40.6% | 22.2% | 9.4% | 18.8% |
| Council Bluffs | 100% | 93.7% | 94.8% | 94.7% | 97.8% | 0.0% | 6.3% | 5.2% | 5.3% | 2.2% |
| Davenport | 97.6% | 94.4% | 98.8% | 100% | 98.2% | 2.4% | 5.6% | 1.2% | 0.0% | 1.8% |
| Des Moines | 96.0% | 96.2% | 93.7% | 97.1% | 91.8% | 4.0% | 3.8% | 6.3% | 2.9% | 8.2% |
| Dubuque | 100% | 99.2% | 97.4% | 98.9% | 97.2% | 0.0% | 0.8% | 2.6% | 1.1% | 2.8% |
| Fort Dodge | 93.0% | 92.4% | 92.2% | 98.3% | 91.3% | 7.0% | 7.6% | 7.8% | 1.7% | 8.7% |
| Guthrie Center | 90.0% | 77.1% | 81.1% | 90.3% | 91.3% | 10.0% | 22.9% | 18.9% | 9.7% | 12.9% |
| Guttenberg | 96.0% | 97.4% | 97.3% | 100% | 100% | 4.0% | 2.6% | 2.7% | 0.0% | 0.0% |
| Hawarden | 84.0% | 77.5% | 91.1% | 87.8% | 80.9% | 16.0% | 22.5% | 8.9% | 12.2% | 19.2% |
| Holstein | 88.0% | 75.9% | 86.7% | 87.5% | 85.0% | 12.0% | 24.1% | 13.3% | 12.5% | 15.0% |
| Iowa City | 100% | 100% | 100% | 98.4% | 100% | 0.0% | 0.0% | 0.0% | 1.6% | 0.0% |
| Jefferson | 82.7% | 83.3% | 97.6% | 89.1% | 74.2% | 17.3% | 16.7% | 2.4% | 10.9% | 25.8% |
| LaPorte City | 96.0% | 97.3% | 94.9% | 94.4% | 100% | 4.0% | 2.7% | 5.1% | 5.6% | 0.0% |
| Manchester | 97.3% | 100% | 98.1% | 100% | 100% | 2.7% | 0.0% | 1.9% | 0.0% | 0.0% |
| Marshalltown | 93.0% | 95.2% | 89.5% | 86.2% | 94.3% | 7.0% | 4.8% | 10.5% | 13.8% | 5.7% |
| Mason City | 90.0% | 92.3% | 95.0% | 98.4% | 88.4% | 10.0% | 7.7% | 5.0% | 1.6% | 11.6% |
| Mount Ayr | 72.0% | 61.1% | 80.0% | 81.8% | 74.3% | 28.0% | 38.9% | 20.0% | 18.2% | 25.7% |
| Mount Pleasant | 100% | 91.2% | 98.0% | 100% | 92.5% | 0.0% | 8.8% | 2.0% | 0.0% | 7.5% |
| Newton | 91.9% | 85.7% | 88.1% | 87.9% | 86.1% | 8.1% | 14.3% | 11.9% | 12.1% | 14.0% |
| Northwood | 84.0% | 68.4% | 80.7% | 81.5% | 100% | 16.0% | 31.6% | 13.4% | 18.5% | 0.0% |
| Ottumwa | 100% | 85.1% | 93.1% | 98.7% | 97.6% | 0.0% | 14.9% | 6.9% | 1.3% | 2.4% |
| Pocahontas | 90.0% | 80.7% | 86.5% | 85.2% | 85.2% | 10.0% | 19.3% | 13.5% | 14.8% | 14.8% |
| Red Oak | 85.3% | 72.0% | 94.1% | 94.2% | 86.1% | 14.7% | 28.0% | 5.9% | 5.8% | 14.0% |
| Sioux City | 94.4% | 92.3% | 94.6% | 100% | 91.4% | 5.6% | 7.7% | 5.4% | 0.0% | 8.6% |
| Spencer | 95.0% | 89.1% | 98.6% | 93.0% | 94.7% | 5.0% | 10.9% | 1.5% | 7.0% | 5.3% |
| Sumner | 100% | 100% | 100% | 97.1% | 91.7% | 0% | 0.0% | 0.0% | 2.9% | 8.33% |
| Wapello | 86.0% | 93.9% | 97.4% | 97.4% | 89.7% | 14.0% | 6.1% | 2.6% | 2.6% | 10.3% |
| Waterloo | 100% | 98.3% | 100% | 100% | 98.3% | 0.0% | 1.7% | 0.0% | 0.0% | 1.7% |
| Waverly | 92.0% | 98.5% | 100% | 100% | 96.2% | 8.0% | 1.5% | 0.0% | 0.0% | 3.9% |
| Wellman | 96.1% | 82.9% | 94.7% | 100% | 91.2% | 3.9% | 17.1% | 5.3% | 0.0% | 8.8% |
| TOTAL | 94.2% | 90.7% | 94.0% | 95.5% | 92.15% | 5.8% | 9.3% | 6.0% | 4.5% | 7.9% |

## Appendix C

The following tables allow for comparison of a typical year (2019) to observations during the COVID-19 pandemic (2020).

**Comparison Table 1**
**Target # of children vs # of children observed by site**

| Site | Target # of Children | # of Hours Spent Surveying, 2019 | # of Children Surveyed | # of Hours Spent Surveying, 2020 | % Observed of Target |
|---|---|---|---|---|---|
| Belle Plaine | 75 | 9 | 48 | 7 | 64 |
| Cedar Rapids | 125 | 11 | 103 | 6 | 82 |
| Davenport | 125 | 9.25 | 84 | 9.25 | 67 |
| Iowa City | 125 | 9 | 27 | 9 | 22 |
| Mt. Pleasant | 75 | 9.5 | 73 | 4.3 | 97 |
| Ottumwa | 100 | 11.5 | 96 | 5 | 96 |
| Wapello | 50 | 7.5 | 51 | 5.75 | 102 |
| Wellman | 50 | 8.75 | 51 | 2.3 | 102 |
| Clinton | 100 | 9.75 | 61 | 9.75 | 61 |
| Dubuque | 125 | 11.5 | 125 | 8.25 | 100 |
| Guttenberg | 50 | 8 | 51 | 4.3 | 102 |
| La Porte City | 50 | 11 | 50 | 4.6 | 100 |
| Manchester | 75 | 9 | 39 | 5.75 | 52 |
| Sumner | 50 | 9.5 | 46 | 3.5 | 92 |
| Waterloo | 125 | 8.5 | 127 | 7 | 102 |
| Waverly | 75 | 7.5 | 81 | 6.3 | 108 |
| Algona | 75 | 7.75 | 40 | 7.75 | 53 |
| Ames | 125 | 12 | 78 | 12 | 62 |
| Cherokee | 75 | 11 | 75 | 11 | 100 |
| Corydon | 50 | 9.5 | 50 | 9 | 100 |
| Council Bluffs | 125 | 9.5 | 74 | 9.5 | 59 |
| Des Moines | 125 | 9.75 | 94 | 10.25 | 75 |
| Fort Dodge | 100 | 9 | 64 | 9 | 64 |
| Guthrie Center | 50 | 8 | 50 | 8 | 100 |
| Hawarden | 75 | 9.5 | 75 | 9.5 | 100 |
| Holstein | 50 | 9.5 | 45 | 9.5 | 90 |
| Jefferson | 75 | 8 | 45 | 8 | 60 |
| Marshalltown | 100 | 10.5 | 52 | 10.5 | 52 |
| Mason City | 100 | 11 | 56 | 11 | 56 |
| Mt. Ayr | 50 | 9.25 | 50 | 8 | 100 |
| Newton | 100 | 8.75 | 52 | 8.75 | 52 |
| Northwood | 50 | 8 | 50 | 8 | 100 |
| Pocahontas | 50 | 8.5 | 45 | 8.5 | 90 |
| Red Oak | 75 | 8 | 60 | 8 | 80 |
| Sioux City | 125 | 11.5 | 115 | 11.5 | 92 |
| Spencer | 100 | 7.75 | 56 | 7.75 | 56 |
| Total | 3,050 | 337 | 2,341 | 283.55 | 76.8 |

**Comparison Table 2**
**Target # of children vs # of children observed by Community Size**

| Community Size | Target # of Children | # of Hours Spent Surveying, 2019 | # of Children Surveyed | # of Hours Spent Surveying, 2020 | % Observed of Target |
|---|---|---|---|---|---|
| 1,000-2,499 | 550 | 97.5 | 539 | 71.5 | 98.0 |
| 2,500-9,999 | 675 | 79.25 | 536 | 67.6 | 79.4 |
| 10,000-49,999 | 700 | 68.25 | 437 | 61.8 | 62.4 |
| ≥ 50,000 | 1,125 | 92 | 827 | 82.8 | 73.5 |
| Total | 3,050 | 337 | 2,341 | 283.55 | 76.8 |