

Iowa's 2006 Child Passenger Safety Survey Project

Conducted by the University of Iowa Injury Prevention Research Center
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, the Iowa Legislature revised the requirements of our child passenger safety law. The revised law now 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 10 must ride in a booster seat and/or seat belt.

The revised law included an 18-month education phase prior to full enforcement of the new requirements. Hence citations for non-compliance with components of the new law were not issued before January 1, 2006.

In order to measure compliance with the law and to direct educational efforts, observational 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:

Due to the revisions in the law, observers must be able to obtain a clear view into the vehicle to see if a booster seat is being used. Therefore beginning with the summer, 2005 survey the basic protocol was changed from the previous "drive-by" observational methodology. Also since the original survey design had not been updated since the 1980s it was decided that the entire Iowa Child Passenger Restraint Survey would be reassessed to ensure the results are a statistically valid representation of Iowa's total population mix. A workgroup consisting of UI IPRC faculty and staff joined by colleagues from the GTSB and Blank Children's Hospital was convened in early 2005 and charged with redesigning the survey methodology.

In order to best represent Iowa's population it was determined that the survey needed to be conducted in 36 communities across the state ranging in size from 1,393 persons in Wellman to Des Moines with nearly 200,000 persons. The list of communities, their size range, and the number of children needing to be observed at each location is listed in Table 1. Figure 1 identifies the communities on a map of Iowa. 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 children who appear to be up to eleven years of age. The surveyor approaches the vehicle and politely asks the adult if they would be willing to participate in a child passenger safety survey. If the adult agrees, the surveyor confirms the age of the child/children 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 a contact for additional information.

Figure 1

2006 Iowa Child Passenger Restraint Survey Locations

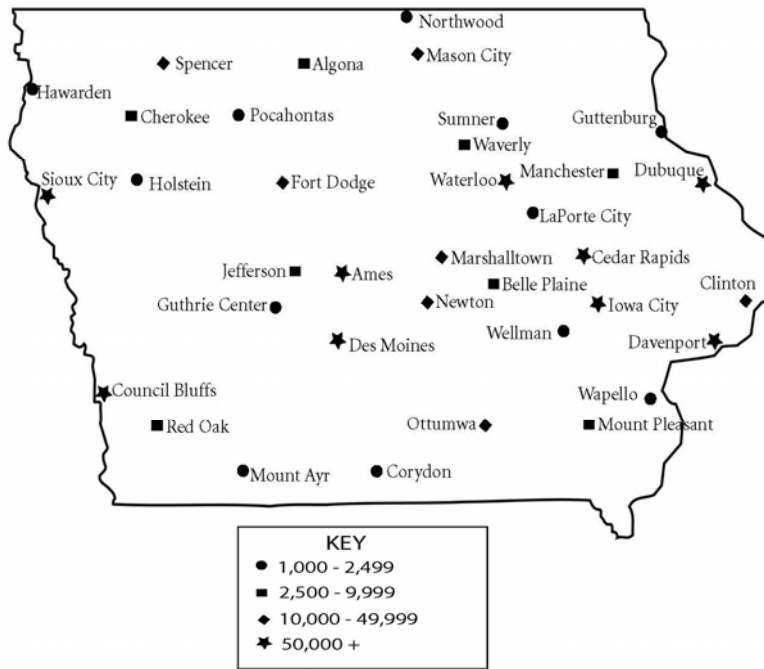


Table 1
2006 Iowa Child Passenger Restraint Survey Locations

Communities 1,000 – 2,499

Minimum of 50 kids observed at each location.

- | | |
|-------------------|---------------|
| 1. Corydon | 7. Mount Ayr |
| 2. Guthrie Center | 8. Northwood |
| 3. Guttenberg | 9. Pocahontas |
| 4. Hawarden | 10. Sumner |
| 5. Holstein | 11. Wapello |
| 6. Laporte City | 12. Wellman |

Communities 2,500 – 9,999

Minimum of 75 kids observed at each location.

1. Algona
2. Belle Plaine
3. Cherokee
4. Jefferson
5. Manchester
6. Mount Pleasant
7. Red Oak
8. Waverly

Communities 10,000 – 49,999

Minimum of 100 observed kids at each location.

1. Clinton
2. Fort Dodge
3. Marshalltown
4. Mason City
5. Newton
6. Ottumwa
7. Spencer

Communities 50,000+

Minimum of 125 observed kids at each location.

1. Ames
2. Cedar Rapids
3. Council Bluffs
4. Davenport
5. Des Moines
6. Dubuque
7. Iowa City
8. Sioux City
9. Waterloo

The IPRC hired three temporary, part-time surveyors and trained them in proper survey protocol. These same surveyors also completed the 2005 survey. The survey was then carried out across the state during the months of May through December, 2006. A total of 3,026 children from birth through age ten were observed. Table 2 lists the number of infants (≤ 1 yr.), toddlers (2-5 yrs.) and youth (6-10 yrs.) included in the survey.

Table 2
Number of Children Observed by Age

Age	Number of Children Observed / Percent
≤ 1	264 / 8.7%
2-5	1,346 / 44.5%
6-10	1,416 / 46.8%
Total	3,026 / 100%

Table 3 identifies the number of restrained vs. unrestrained children 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 98.1% of children age one year or younger appearing to be 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.) However, as the child's age increases they are less likely to be restrained in the motor vehicle. Ninety-one percent of toddlers and 81% of youth were restrained. Overall, 87% of all children observed were restrained.

Table 3
Restraint Use (Appropriate and Non-Appropriate) by Child's Age

Age	Not Restrained Number / Percent	Restrained Number / Percent	Total
≤ 1	5 / 1.9%	259 / 98.1%	264
2-5	115 / 8.6%	1,230 / 91.4%	1,346
6-10	261 / 18.5%	1,151 / 81.5%	1,416
Total	381 / 12.6%	2,640 / 87.4%	3,026

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 revised Child Passenger Safety law. Table 4 displays type of restraint use by age of the child. Fortunately 96.6% of the infants observed in the survey were in a restrained child safety seat. However 265 (19.7%) of the 1,345 observed toddlers were restrained only by a seatbelt. The message is clear that Iowans need to be better educated on the importance of using booster seats as well as the proper restraint techniques required by Iowa's CPS law. If Iowa's

statewide restraint use is re-calculated without including these improperly restrained children, the statewide average drops from 87% to 78%.

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
≤1	255 / 96.6%	4 / 1.9%	0	5 / 1.9%	264
2-5	401 / 29.8%	564 / 41.9%	265 / 19.7%	115 / 8.5%	1,345
6-10	3 / 0.2%	106 / 7.5%	1,042 / 73.8%	261 / 18.5%	1,412
Total	659 / 21.8%	674 / 22.3%	1,307 / 43.3%	381 / 12.6%	3,021

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 was once again true in the 2006 survey. In the most rural communities (1,000-2,499) 81% of the children were restrained by some means compared to 90% in the urban areas. The same relationship holds true when rates of properly (i.e. legally) restrained children- are compared across small towns (73%) and cities (79%).

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	487 / 81.2%	441 / 73.5%	113 / 18.8%	600
2,500-9,999	541 / 90.5%	491 / 82.1%	57 / 9.5%	598
10,000-49,999	598 / 85.4%	552 / 78.9%	102 / 14.6%	700
≥ 50,000	1,014 / 90.3%	887 / 79.0%	109 / 9.7%	1,123
Total	2,640 / 87.4%	2,371 / 78.5%	381 / 12.6%	3,021

* Properly means in compliance with Iowa law.

Table 6 displays type of restraint use by size of the community.

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	127 / 21.1%	132 / 22.0%	228 / 38.0%	113 / 18.8%	600
2,500-9,999	165 / 27.6%	131 / 21.9%	245 / 41.0%	57 / 9.5%	598
10,000-49,999	141 / 20.1%	138 / 19.7%	319 / 45.6%	102 / 14.6%	700
≥ 50,000	226 / 20.1%	273 / 24.3%	515 / 45.9%	109 / 9.7%	1,123
Total	659 / 21.8%	674 / 22.3%	1,307 / 43.3%	381 / 12.6%	3,021

Information on the number of children by age and restraint use observed at each individual location can be found in Table 7. The number of toddlers being restrained by only a seatbelt is evident in Table 7. Table 8 presents the restraint use as percentages for each location. One column of Table 8 depicts percentage of children restrained by any means and another includes only those children who are restrained in compliance with Iowa law. Table 9 lists the percentage of kids properly restrained sorted by community size.

Table 7
2006 Restraint Use by Child's Age By Survey Location

	Total Kids	Age ≤ 1			Age 2 - 5				Age 6 - 10			
		CSS	Booster	None	CSS	Booster	Belt Only	None	CSS	Booster	Belt Only	None
Algona	75	7	0	0	12	12	6	4	0	4	24	6
Ames	125	11	0	1	22	27	7	0	0	8	46	3
Belle Plaine	74	6	0	0	8	12	4	1	0	2	37	4
Cedar Rapids	124	7	0	0	7	32	30	5	0	10	31	2
Cherokee	75	12	0	0	15	16	3	1	0	4	20	4
Clinton	100	6	0	0	6	15	7	0	0	0	58	8
Corydon	50	6	0	0	8	2	4	2	0	3	9	16
Council Bluffs	125	9	1	0	15	28	11	6	0	1	40	14
Davenport	125	7	0	0	14	18	12	1	1	7	53	12
Des Moines	124	11	0	0	21	23	9	6	0	4	42	8
Dubuque	125	17	0	0	18	23	24	4	0	0	36	3
Fort Dodge	100	10	0	0	17	17	4	2	0	6	35	9
Guthrie Center	50	6	0	0	7	12	4	2	0	5	8	6
Guttenberg	50	2	0	0	3	9	4	1	0	2	18	11
Hawarden	50	3	0	0	7	7	5	6	0	1	12	9
Holstein	50	4	3	1	7	9	2	4	1	0	13	6
Iowa City	125	9	0	1	18	29	4	1	0	1	52	10
Jefferson	74	7	0	0	8	14	5	3	0	3	29	5
LaPorte City	51	3	0	0	5	12	6	4	0	1	14	6
Manchester	75	7	0	0	7	14	13	4	0	1	26	3
Marshalltown	100	12	0	1	14	11	8	9	1	3	31	10
Mason City	100	7	0	0	12	19	6	3	0	4	28	21
Mount Ayr	50	1	0	0	10	10	3	1	0	2	15	8
Mt. Pleasant	75	3	0	0	8	12	7	0	0	0	41	4
Newton	100	5	0	1	16	13	9	8	0	1	36	11
Northwood	50	6	0	0	3	11	1	2	0	1	20	6
Ottumwa	100	7	0	0	6	15	8	4	0	1	54	5
Pocahontas	49	5	0	0	7	8	0	3	0	0	23	3
Red Oak	75	3	0	0	14	11	9	9	0	2	18	9
Sioux City	125	12	0	0	5	22	10	4	0	11	53	8
Spencer	100	8	0	0	14	27	4	2	0	6	31	8
Sumner	50	3	0	0	6	11	10	7	0	1	11	1
Wapello	50	5	0	0	8	9	2	0	0	1	22	3
Waterloo	125	8	0	0	14	21	19	6	0	7	36	14
Waverly	75	16	0	0	32	23	3	0	0	1	0	0
Wellman	50	4	0	0	7	10	2	0	0	2	20	5
TOTAL	3021	255	4	5	401	564	265	115	3	106	1042	261

Table 8
Percent Restraint Use by Child's Age By Survey Location

	Percent All Kids Properly* Restrained	Percent All Kids Restrained (Includes Age 2-5 in Seat Belt Only)	Percent Age ≤ 1 Properly* Restrained	Percent Age 2-5 Properly* Restrained	Percent Age 6-10 Properly* Restrained
Algona	78.7%	86.7%	100.0%	70.6%	82.4%
Ames	91.2%	96.8%	91.7%	87.5%	94.7%
Belle Plaine	87.8%	93.2%	100.0%	80.0%	90.7%
Cedar Rapids	70.2%	94.4%	100.0%	52.7%	95.3%
Cherokee	89.3%	93.3%	100.0%	88.6%	85.7%
Clinton	85.0%	92.0%	100.0%	75.0%	87.9%
Corydon	56.0%	64.0%	100.0%	62.5%	42.9%
Council Bluffs	75.2%	84.0%	90.0%	71.7%	74.5%
Davenport	80.0%	89.6%	100.0%	71.1%	83.6%
Des Moines	81.5%	88.7%	100.0%	74.6%	85.2%
Dubuque	75.2%	94.4%	100.0%	59.4%	92.3%
Fort Dodge	85.0%	89.0%	100.0%	85.0%	82.0%
Guthrie Center	76.0%	84.0%	100.0%	76.0%	68.4%
Guttenberg	68.0%	76.0%	100.0%	70.6%	64.5%
Hawarden	60.0%	70.0%	100.0%	56.0%	59.1%
Holstein	74.0%	78.0%	50.0%	72.7%	70.0%
Iowa City	87.2%	90.4%	90.0%	90.4%	84.1%
Jefferson	82.4%	89.2%	100.0%	73.3%	86.5%
LaPorte City	68.6%	80.4%	100.0%	63.0%	71.4%
Manchester	73.3%	90.7%	100.0%	55.3%	90.0%
Marshalltown	72.0%	80.0%	92.3%	59.5%	77.8%
Mason City	70.0%	76.0%	100.0%	77.5%	60.4%
Mount Ayr	76.0%	82.0%	100.0%	83.3%	68.0%
Mt. Pleasant	85.3%	94.7%	100.0%	74.1%	91.1%
Newton	71.0%	80.0%	83.3%	63.0%	77.1%
Northwood	82.0%	84.0%	100.0%	82.4%	77.8%
Ottumwa	83.0%	91.0%	100.0%	63.6%	91.7%
Pocahontas	87.8%	87.8%	100.0%	83.3%	88.5%
Red Oak	64.0%	76.0%	100.0%	58.1%	69.0%
Sioux City	82.4%	90.4%	100.0%	65.9%	88.9%
Spencer	86.0%	90.0%	100.0%	87.2%	82.2%
Sumner	64.0%	84.0%	100.0%	50.0%	92.3%
Wapello	90.0%	94.0%	100.0%	89.5%	88.5%
Waterloo	68.8%	84.0%	100.0%	58.3%	75.4%
Waverly	96.0%	100.0%	100.0%	94.8%	100.0%
Wellman	86.0%	90.0%	100.0%	89.5%	81.5%

* Properly refers to in compliance with Iowa law.

Table 9
Percentage of Children Properly Restrained
Sorted by Community Size

<u>Communities 1,000 - 2,499</u>		<u>Communities 10,000 – 49,999</u>	
Wapello	90.0%	Spencer	86.0%
Pocahontas	87.8%	Clinton	85.0%
Wellman	86.0%	Fort Dodge	85.0%
Northwood	82.0%	Ottumwa	83.0%
Guthrie Center	76.0%	Marshalltown	72.0%
Mount Ayr	76.0%	Newton	71.0%
Holstein	74.0%	Mason City	70.0%
LaPorte City	68.6%		
Guttenberg	68.0%	<u>Communities 50,000+</u>	
Sumner	64.0%	Ames	91.2%
Hawarden	60.0%	Iowa City	87.2%
Corydon	56.0%	Sioux City	82.4%
		Des Moines	81.5%
<u>Communities 2,500 - 9,999</u>		Davenport	80.0%
Waverly	96.0%	Council Bluffs	75.2%
Cherokee	89.3%	Dubuque	75.2%
Belle Plaine	87.8%	Cedar Rapids	70.2%
Mount Pleasant	85.3%	Waterloo	68.8%
Jefferson	82.4%		
Algona	78.7%		
Manchester	73.3%		
Red Oak	64.0%		

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, 85% of all children were observed in the back seat. Ninety-six percent of the children in child safety seats were in the back seat, 97% of the children in booster seats were in the back, and 76% restrained only with seat belts were secured in the rear location. Of the children riding unrestrained, 73% were in the back seat.

Table 10
Type of Restraint Use by Location in the Vehicle

Restraint Type	Front Seat	Back Seat	Total
Child Safety Seat with Seatbelt	26 / 4.0%	631 / 96.0%	657
Booster Seat with Seatbelt	18 / 2.7%	653 / 97.3%	671
Seatbelt only	312 / 23.9%	992 / 76.1%	1,304
Not Restrained	103 / 27.1%	277 / 72.9%	380
Total	459 / 15.2%	2,553 / 84.8%	3,012

If possible, the surveyor also noted whether or not the motor vehicle drivers were wearing their seat belts. Eighty-eight percent of the drivers observed were wearing a seat belt. 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 most rural communities had the lowest usage rate (79%) compared to the urban areas (92%). Table 12 lists observed seat belt use for each community.

Table 11
Driver Seat Belt Use by Community Size

Community Size	Driver Belted	Driver Not Belted	Total
1,000-2,499	472 / 78.7%	128 / 21.3%	600
2,500-9,999	537 / 89.6%	62 / 10.4%	599
10,000-49,999	620 / 88.6%	80 / 11.4%	700
≥ 50,000	1,031 / 91.7%	93 / 8.3%	1,124
Total	2,660 / 88.0%	363 / 12.0%	3,023

Table 12
Driver Seat Belt Use by Survey Location

	Total Drivers Observed	Number / % Drivers Belted	Number / % Drivers NOT Belted
Algona	75	60 / 80.0%	15 / 20.0%
Ames	125	118 / 94.4%	7 / 5.6%
Belle Plaine	75	73 / 97.3%	2 / 2.7%
Cedar Rapids	125	121 / 96.8%	4 / 3.2%
Cherokee	74	65 / 87.8%	9 / 12.2%
Clinton	100	96 / 96.0%	4 / 4.0%
Corydon	50	21 / 42%	29 / 58%
Council Bluffs	125	99 / 79.2%	26 / 20.8%
Davenport	125	117 / 93.6%	8 / 6.4%
Des Moines	125	110 / 88.0%	15 / 12.0%
Dubuque	125	123 / 98.4%	2 / 1.6%
Fort Dodge	100	81 / 81.0%	19 / 19.0%
Guthrie Center	50	41 / 82.0%	9 / 18.0%
Guttenberg	50	44 / 88.0%	6 / 12.0%
Hawarden	50	30 / 60.0%	20 / 40.0%
Holstein	50	44 / 88.0%	6 / 12.0%
Iowa City	125	122 / 97.6%	3 / 2.4%
Jefferson	75	65 / 86.7%	10 / 13.3%
LaPorte City	51	46 / 90.2%	5 / 9.8%
Manchester	75	71 / 94.7%	4 / 5.3%
Marshalltown	100	91 / 91.0%	9 / 9.0%
Mason City	100	69 / 69.0%	31 / 31.0%
Mount Ayr	50	30 / 60.0%	20 / 40.0%
Mount Pleasant	75	75 / 100.0%	0 / 0.0%
Newton	100	91 / 91.0%	9 / 9.0%
Northwood	50	40 / 80.0%	10 / 20.0%
Ottumwa	100	95 / 95.0%	5 / 5.0%
Pocahontas	50	38 / 76.0%	12 / 24.0%
Red Oak	75	54 / 72.0%	21 / 28.0%
Sioux City	125	104 / 83.2%	21 / 16.8%
Spencer	100	97 / 97.0%	3 / 3.0%
Sumner	50	44 / 88.0%	6 / 12.0%
Wapello	49	47 / 95.9%	2 / 4.1%
Waterloo	124	117 / 94.4%	7 / 5.6%
Waverly	75	74 / 98.7%	1 / 1.36%
Wellman	50	47 / 94.0%	3 / 6.0%
TOTAL	3023	363 / 12.0%	2,660 / 88.0%

Conclusions:

In their 2004 session the Iowa Legislature passed and the Governor signed into law a bill that strengthened the Iowa Child Passenger Safety Law. This new law requires toddlers from age 2 through 5 years to be secured using either a child safety seat or booster seat. As a result of this new requirement the annual Iowa Child Passenger Restraint Survey protocol was redesigned to allow the surveyors to obtain a better view into vehicles. The survey was also re-designed to result in a better statistical representation of the entire state population. Hence the new survey design has a higher level of validity. This greater accuracy comes from having the surveyor actually ask the age of the child (as opposed to making a judgment call previously) and it is also a better representation of the state's overall population.

Results from the 2006 survey indicate that the vast majority of Iowans understand the importance of restraining their children. This is especially true for infants; over 98% were restrained in child safety seats. A more alarming finding, however, is that 19% of the toddlers, age 2 through 5 years were restrained only in a seatbelt. The lack of child safety seat or booster seat use is both unsafe and illegal. This indicates that educational efforts should be directed toward parents of children in this age group. In general as the child's age increases the restraint usage decreases.

As in past years, the 2006 survey results indicated lower restraint use in the more rural communities. Fortunately 85% of children were placed in the rear seat of the motor vehicle, with the higher percentages being the infants and toddlers.

The 2006 Iowa Child Passenger Restraint Survey was successfully completed and will continue to provide valuable comparable information for years to come. If efforts to further strengthen Iowa's child passenger safety law are successful, the survey protocol will once again need to be reexamined.

Appendix B contains a comparison of the 2005 survey to 2006 results. While individual survey location results varied between the two years, overall survey results improved across the board. This was true in terms of child restraint use, placement within the vehicle, and in driver occupant restraint use. Comparison to results of annual surveys prior to 2005 would not be valid due to the changes in survey protocols implemented in 2005.

Appendix A

Iowa's 2006 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 2005 and 2006 Iowa Child Passenger Safety Survey Results

The following Tables allow for comparison between the 2005 and 2006 child passenger safety survey results. Comparison to results of annual surveys prior to 2005 would not be valid due to the changes in survey protocols implemented in 2005.

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	Number/Percent of Children Observed	
	2005	2006
≤1	335 / 11.0%	264 / 8.7%
2-5	1,436 / 47.0%	1,346 / 44.5%
6-10	1,286 / 42.1%	1,416 / 46.8%
Total	3,057 / 100%	3,026 / 100%

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

Age	Not Restrained Number / Percent		Restrained Number / Percent	
	2005	2006	2005	2006
≤1	5 / 1.5%	5 / 1.9%	330 / 98.5%	259 / 98.1%
2-5	227 / 15.8%	115 / 8.6%	1,209 / 84.2%	1,230 / 91.4%
6-10	324 / 25.2%	261 / 18.5%	962 / 74.8%	1,151 / 81.5%
Total	555 / 18.2%	381 / 12.6%	2,502 / 81.8%	2,640 / 87.4%

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

Age	Child Safety Seat with Seatbelt		Booster Seat with Seatbelt		Seatbelt only		Not Restrained	
	2005	2006	2005	2006	2005	2006	2005	2006
≤1	330 / 98.5%	255 / 96.6%	1 / .3%	4 / 1.9%	0	0	4 / 1.2%	5 / 1.9%
2-5	603 / 42.0%	401 / 29.8%	274 / 19.1%	564 / 41.9%	332 / 23.1%	265 / 19.7%	227 / 15.8%	115 / 8.5%
6-10	7 / 0.5%	3 / 0.2%	52 / 4.0%	106 / 7.5%	903 / 70.2%	1,042 / 73.8%	324 / 25.2%	261 / 18.5%
Total	940 / 30.7%	659 / 21.8%	327 / 10.7%	674 / 22.3%	1,235 / 40.4%	1,307 / 43.3%	555 / 18.2%	381 / 12.6%

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

Community Size	Number / % Restrained (by any means)		Number / % Restrained Properly*		Number / % Not Restrained	
	2005	2006	2005	2006	2005	2006
1,000-2,499	430 / 71.8%	487 / 81.2%	382 / 63.8%	441 / 73.5%	169 / 28.2%	113 / 18.8%
2,500-9,999	507 / 83.1%	541 / 90.5%	449 / 73.6%	491 / 82.1%	103 / 16.9%	57 / 9.5%
10,000-49,999	557 / 79.6%	598 / 85.4%	465 / 66.4%	552 / 78.9%	143 / 20.4%	102 / 14.6%
≥ 50,000	1,008 / 87.8%	1,014 / 90.3%	873 / 76.0%	887 / 79.0%	140 / 12.2%	109 / 9.7%
Total	2,502 / 81.8%	2,640 / 87.4%	2,169 / 70.9%	2,371 / 78.5%	555 / 18.2%	381 / 12.6%

*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		Seatbelt only		Not Restrained	
	2005	2006	2005	2006	2005	2006	2005	2006
1,000-2,499	175 / 29.2%	127 / 21.1%	63 / 10.5%	132 / 22.0%	192 / 32.0%	228 / 38.0%	169 / 28.2%	113 / 18.8%
2,500-9,999	161 / 26.4%	165 / 27.6%	76 / 2.5%	131 / 21.9%	270 / 44.3%	245 / 41.0%	103 / 16.9%	57 / 9.5%
10,000-49,999	186 / 26.6%	141 / 20.1%	49 / 7.0%	138 / 19.7%	322 / 46.0%	319 / 45.6%	143 / 20.4%	102 / 14.6%
≥ 50,000	418 / 36.4%	226 / 20.1%	139 / 12.1%	273 / 24.3%	451 / 39.3%	515 / 45.9%	140 / 12.2%	109 / 9.7%
Total	940 / 30.7%	659 / 21.8%	326 / 10.7%	674 / 22.3%	1,235 / 40.4%	1,307 / 43.3%	555 / 18.2%	381 / 12.6%

**Comparison Table 6
Restraint Use by Child's Age By Survey Location**

	Percent All Kids Properly* Restrained		Percent All Kids Restrained (Includes Age 2-5 in Seat Belt Only)		Percent Age ≤ 1 Properly* Restrained		Percent Age 2-5 Properly* Restrained		Percent Age 6-10 Properly* Restrained	
	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006
Algona	65.3%	78.7%	69.3%	86.7%	100.0%	100.0%	69.7%	70.6%	48.4%	82.4%
Ames	63.0%	91.2%	81.9%	96.8%	100.0%	91.7%	54.7%	87.5%	63.8%	94.7%
Belle Plaine	90.7%	87.8%	96.0%	93.2%	100.0%	100.0%	84.0%	80.0%	93.3%	90.7%
Cedar Rapids	86.7%	70.2%	95.0%	94.4%	100.0%	100.0%	79.1%	52.7%	93.9%	95.3%
Cherokee	84.0%	89.3%	94.7%	93.3%	100.0%	100.0%	70.6%	88.6%	93.1%	85.7%
Clinton	93.0%	85.0%	99.0%	92.0%	100.0%	100.0%	77.8%	75.0%	98.4%	87.9%
Corydon	38.0%	56.0%	60.0%	64.0%	NONE	100.0%	41.2%	62.5%	31.3%	42.9%
Council Bluffs	65.6%	75.2%	79.2%	84.0%	93.3%	90.0%	62.1%	71.7%	61.4%	74.5%
Davenport	88.8%	80.0%	95.2%	89.6%	100.0%	100.0%	82.4%	71.1%	92.1%	83.6%
Des Moines	64.0%	81.5%	79.2%	88.7%	94.1%	100.0%	54.9%	74.6%	67.6%	85.2%
Dubuque	88.8%	75.2%	99.2%	94.4%	100.0%	100.0%	84.5%	59.4%	90.9%	92.3%
Fort Dodge	52.0%	85.0%	74.0%	89.0%	100.0%	100.0%	31.5%	85.0%	71.1%	82.0%
Guthrie Center	44.0%	76.0%	54.0%	84.0%	100.0%	100.0%	43.5%	76.0%	25.0%	68.4%
Guttenberg	66.0%	68.0%	76.0%	76.0%	100.0%	100.0%	57.7%	70.6%	68.4%	64.5%
Hawarden	58.0%	60.0%	60.0%	70.0%	100.0%	100.0%	54.5%	56.0%	52.2%	59.1%
Holstein	56.0%	74.0%	66.0%	78.0%	100.0%	50.0%	52.6%	72.7%	55.2%	70.0%
Iowa City	96.8%	87.2%	99.2%	90.4%	100.0%	90.0%	92.3%	90.4%	98.7%	84.1%
Jefferson	57.3%	82.4%	64.0%	89.2%	87.5%	100.0%	53.3%	73.3%	54.1%	86.5%
LaPorte City	84.0%	68.6%	96.0%	80.4%	100.0%	100.0%	63.6%	63.0%	100.0%	71.4%
Manchester	72.3%	73.3%	83.1%	90.7%	100.0%	100.0%	59.0%	55.3%	81.6%	90.0%
Marshalltown	51.0%	72.0%	74.0%	80.0%	100.0%	92.3%	38.2%	59.5%	55.9%	77.8%
Mason City	55.0%	70.0%	71.0%	76.0%	100.0%	100.0%	47.7%	77.5%	50.0%	60.4%
Mount Ayr	32.0%	76.0%	38.0%	82.0%	88.9%	100.0%	29.2%	83.3%	5.9%	68.0%
Mt. Pleasant	76.0%	85.3%	94.7%	94.7%	100.0%	100.0%	51.7%	74.1%	89.5%	91.1%
Newton	46.0%	71.0%	61.0%	80.0%	100.0%	83.3%	33.3%	63.0%	56.8%	77.1%
Northwood	76.0%	82.0%	84.0%	84.0%	100.0%	100.0%	60.0%	82.4%	85.2%	77.8%
Ottumwa	98.0%	83.0%	100.0%	91.0%	100.0%	100.0%	93.8%	63.6%	100.0%	91.7%
Pocahontas	74.0%	87.8%	78.0%	87.8%	100.0%	100.0%	83.3%	83.3%	27.3%	88.5%
Red Oak	61.3%	64.0%	69.3%	76.0%	100.0%	100.0%	48.6%	58.1%	67.6%	69.0%
Sioux City	69.6%	82.4%	76.8%	90.4%	100.0%	100.0%	62.5%	65.9%	69.7%	88.9%
Spencer	70.0%	86.0%	78.0%	90.0%	100.0%	100.0%	63.0%	87.2%	67.5%	82.2%
Sumner	62.0%	64.0%	72.0%	84.0%	100.0%	100.0%	44.4%	50.0%	65.4%	92.3%
Wapello	81.6%	90.0%	81.6%	94.0%	100.0%	100.0%	77.3%	89.5%	76.5%	88.5%
Waterloo	65.0%	68.8%	85.7%	84.0%	92.9%	100.0%	50.0%	58.3%	80.4%	75.4%
Waverly	81.8%	96.0%	93.5%	100.0%	100.0%	100.0%	71.8%	94.8%	90.6%	100.0%
Wellman	94.0%	86.0%	96.0%	90.0%	100.0%	100.0%	93.8%	89.5%	93.9%	81.5%

* Properly refers to in compliance with Iowa law.

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

Restraint Type	Front Seat		Back Seat	
	2005	2006	2005	2006
Child Safety Seat with Seatbelt	25 / 2.7%	26 / 4.0%	906 / 97.3%	631 / 96.0%
Booster Seat with Seatbelt	23 / 7.3%	18 / 2.7%	290 / 92.7%	653 / 97.3%
Seatbelt only	324 / 26.6%	312 / 23.9%	895 / 73.4%	992 / 76.1%
Not Restrained	167 / 30.7%	103 / 27.1%	377 / 69.3%	277 / 72.9%
Total	539 / 17.9%	459 / 15.2%	2,468 / 82.1%	2,553 / 84.8%

Comparison Table 8
Driver Seat Belt Use by Community Size

Community Size	Driver Belted		Driver Not Belted	
	2005	2006	2005	2006
1,000-2,499	417 / 69.8%	472 / 78.7%	180 / 30.2%	128 / 21.3%
2,500-9,999	491 / 81.7%	537 / 89.6%	110 / 18.3%	62 / 10.4%
10,000-49,999	634 / 90.6%	620 / 88.6%	66 / 9.4%	80 / 11.4%
≥ 50,000	1,030 / 90.0%	1,031 / 91.7%	115 / 10.0%	93 / 8.3%
Total	2,572 / 84.5%	2,660 / 88.0%	471 / 15.5%	363 / 12.0%

**Comparison Table 9
Driver Seat Belt Use By Survey Location**

	Total Drivers Observed		Number / Percent Drivers Belted		Number / Percent Drivers NOT Belted	
	2005	2006	2005	2006	2005	2006
Algona	74	75	46 / 62.2%	60 / 80.0%	28 / 37.8%	15 / 20.0%
Ames	138	125	128 / 92.7%	118 / 94.4%	10 / 7.3%	7 / 5.6%
Belle Plaine	69	75	64 / 92.7%	73 / 97.3%	5 / 7.3%	2 / 2.7%
Cedar Rapids	120	125	117 / 97.5%	121 / 96.8%	3 / 2.5%	4 / 3.2%
Cherokee	75	74	72 / 96.0%	65 / 87.8%	3 / 4.0%	9 / 12.2%
Clinton	100	100	97 / 97.0%	96 / 96.0%	3 / 3.0%	4 / 4.0%
Corydon	50	50	25 / 50%	21 / 42%	25 / 50%	29 / 58%
Council Bluffs	124	125	98 / 79.0%	99 / 79.2%	26 / 21.0%	26 / 20.8%
Davenport	125	125	116 / 92.8%	117 / 93.6%	9 / 7.2%	8 / 6.4%
Des Moines	125	125	113 / 90.4%	110 / 88.0%	12 / 9.6%	15 / 12.0%
Dubuque	125	125	121 / 96.8%	123 / 98.4%	4 / 3.2%	2 / 1.6%
Fort Dodge	100	100	91 / 91.0%	81 / 81.0%	9 / 9.0%	19 / 19.0%
Guthrie Center	50	50	30 / 60.0%	41 / 82.0%	20 / 40.0%	9 / 18.0%
Guttenberg	50	50	45 / 90.0%	44 / 88.0%	5 / 10.0%	6 / 12.0%
Hawarden	50	50	25 / 50.0%	30 / 60.0%	25 / 50.0%	20 / 40.0%
Holstein	50	50	37 / 74.0%	44 / 88.0%	13 / 26.0%	6 / 12.0%
Iowa City	125	125	117 / 93.6%	122 / 97.6%	8 / 6.4%	3 / 2.4%
Jefferson	75	75	50 / 66.7%	65 / 86.7%	25 / 33.3%	10 / 13.3%
LaPorte City	50	51	46 / 92.0%	46 / 90.2%	4 / 8.0%	5 / 9.8%
Manchester	83	75	76 / 91.6%	71 / 94.7%	7 / 8.4%	4 / 5.3%
Marshalltown	100	100	86 / 86.0%	91 / 91.0%	14 / 14.0%	9 / 9.0%
Mason City	100	100	85 / 85.0%	69 / 69.0%	15 / 15.0%	31 / 31.0%
Mount Ayr	50	50	12 / 24.0%	30 / 60.0%	38 / 76.0%	20 / 40.0%
Mount Pleasant	74	75	56 / 75.7%	75 / 100.0%	18 / 24.3%	0 / 0.0%
Newton	100	100	86 / 86.0%	91 / 91.0%	14 / 14.0%	9 / 9.0%
Northwood	49	50	46 / 93.9%	40 / 80.0%	3 / 6.1%	10 / 20.0%
Ottumwa	100	100	99 / 99.0%	95 / 95.0%	1 / 1.0%	5 / 5.0%
Pocahontas	50	50	33 / 66.0%	38 / 76.0%	17 / 34.0%	12 / 24.0%
Red Oak	75	75	53 / 70.7%	54 / 72.0%	22 / 29.3%	21 / 28.0%
Sioux City	123	125	99 / 80.5%	104 / 83.2%	24 / 19.5%	21 / 16.8%
Spencer	100	100	90 / 90.0%	97 / 97.0%	10 / 10.0%	3 / 3.0%
Sumner	50	50	33 / 66.0%	44 / 88.0%	17 / 34.0%	6 / 12.0%
Wapello	48	49	39 / 81.2%	47 / 95.9%	9 / 18.8%	2 / 4.1%
Waterloo	140	124	121 / 86.4%	117 / 94.4%	19 / 13.6%	7 / 5.6%
Waverly	76	75	74 / 97.4%	74 / 98.7%	2 / 2.6%	1 / 1.36%
Wellman	50	50	46 / 92.0%	47 / 94.0%	4 / 8.0%	3 / 6.0%
TOTAL	3043	3023	471 / 15.5%	363 / 12.0%	2,572 / 84.5%	2,660 / 88.0%