

Iowa's 2008 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. 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 10 must ride in a booster seat and/or seat belt.

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:

In an effort to accurately determine compliance with Iowa's child passenger safety law, in particular the requirement for use of booster seats, observers must be able to obtain a clear view into the vehicle. Therefore since the 2005 survey the basic protocol has been changed from the previous "drive-by" observational methodology to a more "in-person" approach. 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.

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 1,393 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 who to contact for additional information.

Figure 1

2008 Iowa Child Passenger Restraint Survey Locations

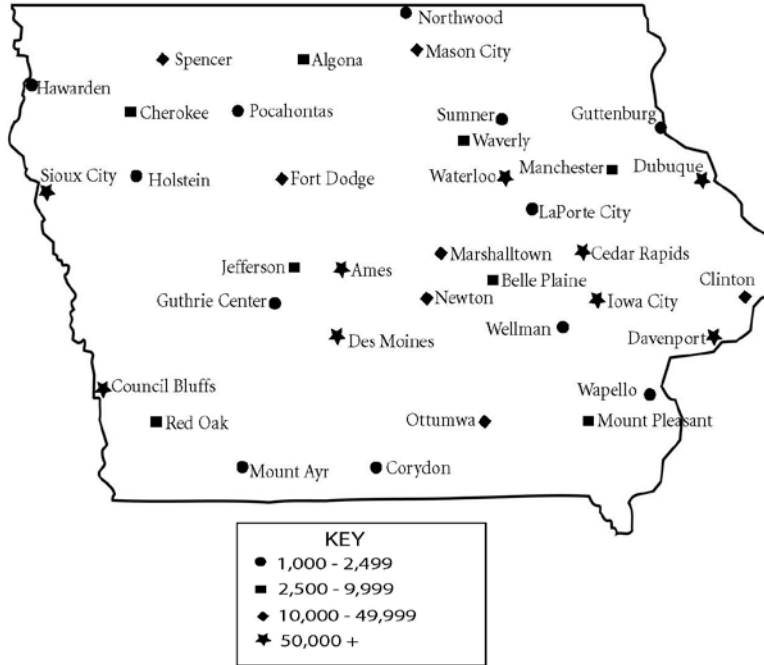


Table 1
2008 Iowa Child Passenger Restraint Survey Locations

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. The survey was then carried out across the state during the months of May through September, 2008. A total of 3,024 children from birth through age ten were observed. Table 2 lists the number of infants (< 2 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
< 2	257 / 8.5%
2-5	1,235 / 40.8%
6-10	1,532 / 50.7%
Total	3,024 / 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 98.4% 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 all children are being restrained in motor vehicles, as the child's age increases they are less likely to be restrained. Ninety-six percent of toddlers and 88% of youth were restrained. Overall, 92.2% of all children observed were restrained, up from 89.3% in 2007.

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

Age	Not Restrained Number / Percent	Restrained Number / Percent	Total
< 2	4 / 1.6%	253 / 98.4%	257
2-5	49 / 4.0%	1,186 / 96.0%	1,235
6-10	184 / 12.0%	1,348 / 88.0%	1,532
Total	237 / 7.8%	2,787 / 92.2%	3,024

The numbers contained in Table 3 for each age group represent children who were restrained by any means including a seatbelt alone, which for 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 1,197 toddlers observed, 170 (14.2%) 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 92.2% to 86.7%.

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	246 / 95.7%	7 / 2.7%	0	4 / 1.6%	257
2-5	521 / 42.2%	500 / 40.5%	165 / 13.4%	49 / 4.0%	1,235
6-10	1 / 0.1%	201 / 13.1%	1,146 / 74.8%	184 / 12.0%	1,532
Total	768 / 25.4%	708 / 23.4%	1,311 / 43.4%	237 / 7.8%	3,024

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 2008 survey. In the most rural communities (1,000-2,499) 87.4% of the children were restrained by some means compared to 95.4% in the urban areas. The same relationship holds true when rates of properly (i.e. legally) restrained children- are compared across small towns (81.5%) and cities (89.5%).

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	525 / 87.4%	490 / 81.5%	76 / 12.6%	601
2,500-9,999	546 / 91.5%	510 / 85.4%	51 / 8.5%	597
10,000-49,999	642 / 91.7%	614 / 87.7%	58 / 8.3%	700
≥ 50,000	1,074 / 95.4%	1,008 / 89.5%	52 / 4.6%	1,126
Total	2,787 / 92.2%	2,622 / 86.7%	237 / 7.8%	3,024

* 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 / 21.2%	139 / 23.1%	259 / 43.1%	76 / 12.6%	601
2,500-9,999	155 / 26.0%	148 / 24.8%	243 / 40.7%	51 / 8.5%	597
10,000-49,999	172 / 24.6%	163 / 23.3%	307 / 43.9%	58 / 8.3%	700
≥ 50,000	314 / 27.9%	258 / 22.9%	502 / 44.6%	52 / 4.6%	1,126
Total	768 / 25.4%	708 / 23.4%	1,311 / 43.4%	237 / 7.8%	3,024

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. Table 9 lists the percentage of kids properly restrained sorted by community size.

Table 7
2008 Restraint Use by Child's Age By Survey Location

	Total Kids	Age < 2			Age 2 - 5				Age 6 - 10			
		CSS	Booster	None	CSS	Booster	Belt Only	None	CSS	Booster	Belt Only	None
Algona	75	6	0	0	6	25	2	1	0	4	27	4
Ames	125	14	0	0	24	20	3	0	0	4	58	2
Belle Plaine	73	4	0	0	7	6	6	5	0	1	31	13
Cedar Rapids	125	7	1	0	27	20	14	1	0	6	47	2
Cherokee	75	8	0	0	19	10	5	0	0	3	29	1
Clinton	100	9	0	0	21	15	0	1	0	7	43	4
Corydon	51	2	0	1	8	12	1	3	0	1	18	5
Council Bluffs	125	13	2	0	27	20	3	2	1	7	45	5
Davenport	125	7	0	1	26	12	19	2	0	2	52	4
Des Moines	125	14	0	1	22	28	1	1	0	7	48	3
Dubuque	126	12	0	0	24	23	2	2	0	15	41	7
Fort Dodge	100	11	0	0	18	17	5	0	0	9	36	4
Guthrie Center	50	1	0	0	6	11	1	6	0	4	19	2
Guttenberg	50	4	0	0	12	5	0	0	0	10	18	1
Hawarden	50	3	1	1	4	10	3	1	0	5	17	5
Holstein	50	6	1	0	6	9	0	0	0	2	15	11
Iowa City	125	13	0	0	18	9	16	7	0	1	57	4
Jefferson	75	7	0	0	9	19	3	1	0	5	25	6
LaPorte City	50	4	0	0	3	8	6	0	0	0	25	4
Manchester	75	5	0	0	12	15	3	0	0	5	31	4
Marshalltown	100	7	0	0	18	18	4	1	0	3	42	7
Mason City	100	8	1	0	17	14	2	1	0	9	46	2
Mount Ayr	50	6	0	0	9	7	2	3	0	3	11	9
Mt. Pleasant	74	1	0	0	28	4	14	2	0	3	22	0
Newton	100	8	0	0	11	24	3	1	0	8	40	5
Northwood	50	8	0	0	9	7	2	0	0	0	19	5
Ottumwa	100	7	0	0	11	6	12	3	0	0	35	26
Pocahontas	50	5	0	0	5	12	3	0	0	3	18	4
Red Oak	75	5	0	0	14	14	3	2	0	12	20	5
Sioux City	125	8	1	0	25	25	7	0	0	13	42	4
Spencer	100	12	0	0	14	22	2	1	0	10	37	2
Sumner	50	4	0	0	10	8	0	0	0	9	14	5
Wapello	50	0	0	0	5	4	9	0	0	1	29	2
Waterloo	125	10	0	0	22	28	1	0	0	14	46	4
Waverly	75	7	0	0	17	9	0	1	0	13	22	6
Wellman	50	0	0	0	7	4	8	1	0	2	21	7
TOTAL	3024	246	7	4	521	500	165	49	1	201	1146	184

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 < 2 Properly* Restrained	Percent Age 2-5 Properly* Restrained	Percent Age 6-10 Properly* Restrained
Algona	90.7%	93.3%	100.0%	91.2%	88.6%
Ames	96.0%	98.4%	100.0%	93.6%	96.9%
Belle Plaine	67.1%	75.3%	100.0%	54.2%	71.1%
Cedar Rapids	86.4%	97.6%	87.5%	75.8%	96.4%
Cherokee	92.0%	98.7%	100.0%	85.3%	97.0%
Clinton	95.0%	95.0%	100.0%	97.3%	92.6%
Corydon	80.4%	82.4%	66.7%	83.3%	79.2%
Council Bluffs	92.0%	94.4%	86.7%	90.4%	91.4%
Davenport	79.2%	94.4%	87.5%	64.4%	93.1%
Des Moines	95.2%	96.0%	93.3%	96.2%	94.8%
Dubuque	91.3%	92.9%	100.0%	92.2%	88.9%
Fort Dodge	91.0%	96.0%	100.0%	87.5%	91.8%
Guthrie Center	82.0%	84.0%	100.0%	70.8%	92.0%
Guttenberg	98.0%	98.0%	100.0%	100.0%	96.6%
Hawarden	80.0%	86.0%	60.0%	77.8%	81.5%
Holstein	78.0%	78.0%	85.7%	100.0%	60.7%
Iowa City	78.4%	91.2%	100.0%	54.0%	93.5%
Jefferson	86.7%	90.7%	100.0%	87.5%	83.3%
LaPorte City	80.0%	92.0%	100.0%	64.7%	86.2%
Manchester	90.7%	94.7%	100.0%	90.0%	90.0%
Marshalltown	88.0%	92.0%	100.0%	87.8%	86.5%
Mason City	95.0%	97.0%	88.9%	91.2%	96.5%
Mount Ayr	72.0%	76.0%	100.0%	76.2%	60.9%
Mt. Pleasant	78.4%	97.3%	100.0%	66.7%	100.0%
Newton	91.0%	94.0%	100.0%	89.7%	90.6%
Northwood	86.0%	90.0%	100.0%	88.9%	79.2%
Ottumwa	59.0%	71.0%	100.0%	53.1%	57.4%
Pocahontas	86.0%	92.0%	100.0%	85.0%	84.0%
Red Oak	86.7%	90.7%	100.0%	84.8%	86.5%
Sioux City	91.2%	96.8%	88.9%	87.7%	93.2%
Spencer	95.0%	97.0%	100.0%	92.3%	95.9%
Sumner	90.0%	90.0%	100.0%	100.0%	82.1%
Wapello	78.0%	96.0%	NC**	50.0%	93.8%
Waterloo	96.0%	96.8%	100.0%	98.0%	93.8%
Waverly	90.7%	90.7%	100.0%	96.3%	85.4%
Wellman	68.0%	84.0%	NC**	55.0%	76.7%

* Properly refers to in compliance with Iowa law. **NC: None counted.

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>	
Guttenberg	98.0%	Clinton	95.0%
Wellman	68.0%	Newton	91.0%
Pocahontas	86.0%	Ottumwa	59.0%
Sumner	90.0%	Spencer	95.0%
Corydon	80.4%	Fort Dodge	91.0%
Northwood	86.0%	Mason City	95.0%
Wapello	78.0%	Marshalltown	88.0%
Guthrie Center	82.0%		
Mount Ayr	72.0%	<u>Communities 50,000+</u>	
LaPorte City	80.0%	Ames	96.0%
Hawarden	80.0%	Waterloo	96.0%
Holstein	78.0%	Des Moines	95.2%
		Cedar Rapids	86.4%
		Sioux City	91.2%
		Davenport	79.2%
		Council Bluffs	92.0%
		Dubuque	91.3%
		Iowa City	78.4%
<u>Communities 2,500 - 9,999</u>			
Mount Pleasant	78.4%		
Belle Plaine	67.1%		
Waverly	90.7%		
Cherokee	92.0%		
Jefferson	86.7%		
Algona	90.7%		
Manchester	90.7%		
Red Oak	86.7%		

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, 88% of all children were observed in the back seat. Ninety-eight 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 79% restrained only with seat belts were secured in the rear location. Of the children riding unrestrained, 71% 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	17 / 2.2%	746 / 97.8%	763
Booster Seat with Seatbelt	18 / 2.6%	685 / 97.4%	703
Seatbelt only	273 / 21.0%	1,030 / 79.0%	1,303
Not Restrained	68 / 29.2%	165 / 70.8%	233
Total	376 / 12.5%	2,626 / 87.5%	3,002

If possible, the surveyor also noted whether or not the motor vehicle drivers were wearing their seat belts. Nearly ninety 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 (95%). 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	471 / 78.8%	127 / 21.2%	598
2,500-9,999	513 / 86.5%	80 / 13.5%	593
10,000-49,999	651 / 93.0%	49 / 7.0%	700
≥ 50,000	1,068 / 95.0%	56 / 5.0%	1,124
Total	2,703 / 89.7%	312 / 10.3%	3,015

Table 12
Driver Seat Belt Use by Survey Location

	Total Drivers Observed	Number / % Drivers Belted	Number / % Drivers NOT Belted
Algona	75	58 / 77.3%	17 / 22.7%
Ames	125	123 / 98.4%	2 / 1.6%
Belle Plaine	72	56 / 77.8%	16 / 22.2%
Cedar Rapids	125	121 / 96.8%	4 / 3.2%
Cherokee	75	62 / 82.7%	13 / 17.3%
Clinton	100	98 / 98.0%	2 / 2.0%
Corydon	51	34 / 66.7%	17 / 33.3%
Council Bluffs	125	121 / 96.8%	4 / 3.2%
Davenport	125	122 / 97.6%	3 / 2.4%
Des Moines	125	117 / 93.6%	8 / 6.4%
Dubuque	125	111 / 88.8%	14 / 11.2%
Fort Dodge	100	95 / 95.0%	5 / 5.0%
Guthrie Center	50	31 / 62.0%	19 38.0%
Guttenberg	50	49 / 98.0%	1 / 2.0%
Hawarden	50	39 / 78.0%	11 / 22.0%
Holstein	50	39 / 78.0%	11 / 22.0%
Iowa City	125	122 / 97.6%	3 / 2.4%
Jefferson	75	65 / 86.7%	10 / 13.3%
LaPorte City	47	42 / 89.4%	5 / 10.6%
Manchester	75	71 / 94.7%	4 / 5.3%
Marshalltown	100	91 / 91.0%	9 / 9.0%
Mason City	100	94 / 94.0%	6 / 6.0%
Mount Ayr	50	23 / 46.0%	27 / 54.0%
Mount Pleasant	72	68 / 94.4%	4 / 5.6%
Newton	100	94 / 94.0%	6 / 6.0%
Northwood	50	38 / 76.0%	12 / 12.0%
Ottumwa	100	82 / 82.0%	18 / 18.0%
Pocahontas	50	39 / 78.0%	11 / 22.0%
Red Oak	74	64 / 86.5%	10 / 13.5%
Sioux City	124	120 / 96.8%	4 / 3.2%
Spencer	100	97 / 97.0%	3 / 3.0%
Sumner	50	47 / 94.0%	3 / 6.0%
Wapello	50	46 / 92.0%	4 / 8.0%
Waterloo	125	111 / 88.8%	14 / 11.2%
Waverly	75	69 / 92.0%	6 / 8.0%
Wellman	50	44 / 88.0%	6 / 12.0%
TOTAL	3,015	2,703 / 89.7%	312 / 10.3%

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. The revised 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 2008 survey indicate that the vast majority of Iowans understand the importance of restraining their children. This is especially true for infants; ninety-eight percent were restrained in child safety seats. However, in the toddler group, age 2-5 years, 13.4% (down slightly from 14.2% in 2007) 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 several communities the lack of booster seat use significantly impacts their child passenger restraint statistics. For instance in Iowa City overall restraint use was 91.2% however only 54% of the toddlers were properly restrained so the overall rate for properly restrained children falls to 78.4%. Several smaller communities experienced similar high rates of improperly restrained toddlers. In general as the child's age increases the restraint usage decreases.

As in past years, the 2008 survey results indicated lower restraint use in the more rural communities. Fortunately 88% of children were placed in the rear seat of the motor vehicle, with the higher percentages being the infants and toddlers.

The 2008 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 2008 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 and placement within the vehicle. 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 2008 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 2005 - 2008 Iowa Child Passenger Safety Survey Results

The following Tables allow for comparison between the 2005, 2006, 2007, and 2008 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	2007	2008
< 2	335 / 11.0%	264 / 8.7%	393 / 13.1%	257 / 8.5%
2-5	1,436 / 47.0%	1,346 / 44.5%	1,197 / 39.8%	1,235 / 40.8%
6-10	1,286 / 42.1%	1,416 / 46.8%	1,420 / 47.2%	1,532 / 50.7%
Total	3,057 / 100%	3,026 / 100%	3,010 / 100%	3,024 / 100%

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

Age	Percent Not Restrained				Percent Restrained			
	2005	2006	2007	2008	2005	2006	2007	2008
< 2	1.5%	1.9%	0.8%	1.6%	98.5%	98.1%	99.2%	98.4%
2-5	15.8%	8.6%	4.8%	4.0%	84.2%	91.4%	95.2%	96.0%
6-10	25.2%	18.5%	18.5%	12.0%	74.8%	81.5%	81.5%	88.0%
Total	18.2%	12.6%	10.7%	7.8%	81.8%	87.4%	89.3%	92.2%

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

Age	Child Safety Seat with Seatbelt				Booster Seat with Seatbelt			
	2005	2006	2007	2008	2005	2006	2007	2008
< 2	98.5%	96.6%	99.0%	95.7%	.3%	1.9%	0.3%	2.7%
2-5	42.0%	29.8%	49.1%	42.2%	19.1%	41.9%	32.0%	40.5%
6-10	0.5%	0.2%	0.9%	0.1%	4.0%	7.5%	10.8%	13.1%
Total	30.7%	21.8%	32.9%	25.4%	10.7%	22.3%	17.8%	23.4%

Age	Seatbelt only				Not Restrained			
	2005	2006	2007	2008	2005	2006	2007	2008
< 2	0	0	0	0	1.2%	1.9%	0.7%	1.6%
2-5	23.1%	19.7%	14.2%	13.4%	15.8%	8.5%	4.8%	4.0%
6-10	70.2%	73.8%	70.0%	74.8%	25.2%	18.5%	18.5%	12.0%
Total	40.4%	43.3%	38.6%	43.4%	18.2%	12.6%	10.7%	7.8%

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

Community Size	Number / % Restrained (by any means)				Number / % Restrained Properly*				Number / % Not Restrained			
	2005	2006	2007	2008	2005	2006	2007	2008	2005	2006	2007	2008
1,000-2,499	71.8%	81.2%	87.6%	87.4%	63.8%	73.5%	81.6%	81.5%	28.2%	18.8%	12.4%	12.6%
2,500-9,999	83.1%	90.5%	84.6%	91.5%	73.6%	82.1%	79.6%	85.4%	16.9%	9.5%	15.4%	8.5%
10,000-49,999	79.6%	85.4%	85.9%	91.7%	66.4%	78.9%	82.5%	87.7%	20.4%	14.6%	14.1%	8.3%
≥ 50,000	87.8%	90.3%	94.7%	95.4%	76.0%	79.0%	87.5%	89.5%	12.2%	9.7%	5.3%	4.6%
Total	81.8%	87.4%	89.3%	92.2%	70.9%	78.5%	83.6%	86.7%	18.2%	12.6%	10.7%	7.8%

*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			
	2005	2006	2007	2008	2005	2006	2007	2008
1,000-2,499	29.2%	21.1%	32.7%	21.2%	10.5%	22.0%	15.9%	23.1%
2,500-9,999	26.4%	27.6%	34.7%	26.0%	2.5%	21.9%	15.7%	24.8%
10,000-49,999	26.6%	20.1%	30.4%	24.6%	7.0%	19.7%	16.3%	23.3%
≥ 50,000	36.4%	20.1%	33.5%	27.9%	12.1%	24.3%	20.9%	22.9%
Total	30.7%	21.8%	32.9%	25.4%	10.7%	22.3%	17.8%	23.4%

Community Size	Seatbelt only				Not Restrained			
	2005	2006	2007	2008	2005	2006	2007	2008
1,000-2,499	32.0%	38.0%	39.1%	43.1%	28.2%	18.8%	12.3%	12.6%
2,500-9,999	44.3%	41.0%	34.2%	40.7%	16.9%	9.5%	15.4%	8.5%
10,000-49,999	46.0%	45.6%	39.1%	43.9%	20.4%	14.6%	14.1%	8.3%
≥ 50,000	39.3%	45.9%	40.3%	44.6%	12.2%	9.7%	5.3%	4.6%
Total	40.4%	43.3%	38.6%	43.4%	18.2%	12.6%	10.7%	7.8%

**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)			
	2005	2006	2007	2008	2005	2006	2007	2008
Algona	65.3%	78.7%	73.3%	90.7%	69.3%	86.7%	80.0%	93.3%
Ames	63.0%	91.2%	95.2%	96.0%	81.9%	96.8%	98.4%	98.4%
Belle Plaine	90.7%	87.8%	86.5%	67.1%	96.0%	93.2%	97.3%	75.3%
Cedar Rapids	86.7%	70.2%	88.7%	86.4%	95.0%	94.4%	98.4%	97.6%
Cherokee	84.0%	89.3%	80.0%	92.0%	94.7%	93.3%	85.3%	98.7%
Clinton	93.0%	85.0%	88.0%	95.0%	99.0%	92.0%	90.0%	95.0%
Corydon	38.0%	56.0%	88.0%	80.4%	60.0%	64.0%	94.0%	82.4%
Council Bluffs	65.6%	75.2%	87.2%	92.0%	79.2%	84.0%	92.0%	94.4%
Davenport	88.8%	80.0%	87.2%	79.2%	95.2%	89.6%	99.2%	94.4%
Des Moines	64.0%	81.5%	88.8%	95.2%	79.2%	88.7%	95.2%	96.0%
Dubuque	88.8%	75.2%	82.9%	91.3%	99.2%	94.4%	87.0%	92.9%
Fort Dodge	52.0%	85.0%	81.0%	91.0%	74.0%	89.0%	87.0%	96.0%
Guthrie Center	44.0%	76.0%	78.0%	82.0%	54.0%	84.0%	86.0%	84.0%
Guttenberg	66.0%	68.0%	90.0%	98.0%	76.0%	76.0%	94.0%	98.0%
Hawarden	58.0%	60.0%	72.0%	80.0%	60.0%	70.0%	78.0%	86.0%
Holstein	56.0%	74.0%	66.0%	78.0%	66.0%	78.0%	74.0%	78.0%
Iowa City	96.8%	87.2%	80.3%	78.4%	99.2%	90.4%	96.7%	91.2%
Jefferson	57.3%	82.4%	80.0%	86.7%	64.0%	89.2%	85.3%	90.7%
LaPorte City	84.0%	68.6%	76.0%	80.0%	96.0%	80.4%	80.0%	92.0%
Manchester	72.3%	73.3%	72.0%	90.7%	83.1%	90.7%	72.0%	94.7%
Marshalltown	51.0%	72.0%	75.0%	88.0%	74.0%	80.0%	78.0%	92.0%
Mason City	55.0%	70.0%	79.0%	95.0%	71.0%	76.0%	81.0%	97.0%
Mount Ayr	32.0%	76.0%	76.0%	72.0%	38.0%	82.0%	76.0%	76.0%
Mt. Pleasant	76.0%	85.3%	94.7%	78.4%	94.7%	94.7%	96.0%	97.3%
Newton	46.0%	71.0%	88.0%	91.0%	61.0%	80.0%	91.0%	94.0%
Northwood	76.0%	82.0%	86.0%	86.0%	84.0%	84.0%	94.0%	90.0%
Ottumwa	98.0%	83.0%	83.9%	59.0%	100.0%	91.0%	87.1%	71.0%
Pocahontas	74.0%	87.8%	88.0%	86.0%	78.0%	87.8%	92.0%	92.0%
Red Oak	61.3%	64.0%	69.3%	86.7%	69.3%	76.0%	78.7%	90.7%
Sioux City	69.6%	82.4%	87.2%	91.2%	76.8%	90.4%	92.0%	96.8%
Spencer	70.0%	86.0%	83.0%	95.0%	78.0%	90.0%	87.0%	97.0%
Sumner	62.0%	64.0%	88.0%	90.0%	72.0%	84.0%	90.0%	90.0%
Wapello	81.6%	90.0%	82.0%	78.0%	81.6%	94.0%	94.0%	96.0%
Waterloo	65.0%	68.8%	89.6%	96.0%	85.7%	84.0%	93.6%	96.8%
Waverly	81.8%	96.0%	81.3%	90.7%	93.5%	100.0%	82.7%	90.7%
Wellman	94.0%	86.0%	89.8%	68.0%	96.0%	90.0%	100.0%	84.0%

* Properly refers to in compliance with Iowa law.

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

	Percent Age < 2 Properly* Restrained				Percent Age 2-5 Properly* Restrained				Percent Age 6-10 Properly* Restrained			
	2005	2006	2007	2008	2005	2006	2007	2008	2005	2006	2007	2008
Algona	100.0%	100.0%	100.0%	100.0%	69.7%	70.6%	81.8%	91.2%	48.4%	82.4%	64.1%	88.6%
Ames	100.0%	91.7%	100.0%	100.0%	54.7%	87.5%	91.3%	93.6%	63.8%	94.7%	96.7%	96.9%
Belle Plaine	100.0%	100.0%	100.0%	100.0%	84.0%	80.0%	77.5%	54.2%	93.3%	90.7%	96.3%	71.1%
Cedar Rapids	100.0%	100.0%	100.0%	87.5%	79.1%	52.7%	80.3%	75.8%	93.9%	95.3%	93.9%	96.4%
Cherokee	100.0%	100.0%	100.0%	100.0%	70.6%	88.6%	86.2%	85.3%	93.1%	85.7%	71.1%	97.0%
Clinton	100.0%	100.0%	100.0%	100.0%	77.8%	75.0%	91.4%	97.3%	98.4%	87.9%	83.6%	92.6%
Corydon	NC**	100.0%	100.0%	66.7%	41.2%	62.5%	85.0%	83.3%	31.3%	42.9%	87.5%	79.2%
Council Bluffs	93.3%	90.0%	95.0%	86.7%	62.1%	71.7%	85.2%	90.4%	61.4%	74.5%	84.3%	91.4%
Davenport	100.0%	100.0%	100.0%	87.5%	82.4%	71.1%	74.6%	64.4%	92.1%	83.6%	97.4%	93.1%
Des Moines	94.1%	100.0%	100.0%	93.3%	54.9%	74.6%	85.2%	96.2%	67.6%	85.2%	90.0%	94.8%
Dubuque	100.0%	100.0%	100.0%	100.0%	84.5%	59.4%	83.9%	92.2%	90.9%	92.3%	79.5%	88.9%
Fort Dodge	100.0%	100.0%	100.0%	100.0%	31.5%	85.0%	76.9%	87.5%	71.1%	82.0%	80.0%	91.8%
Guthrie Center	100.0%	100.0%	100.0%	100.0%	43.5%	76.0%	75.9%	70.8%	25.0%	68.4%	77.8%	92.0%
Guttenberg	100.0%	100.0%	100.0%	100.0%	57.7%	70.6%	85.7%	100.0%	68.4%	64.5%	90.0%	96.6%
Hawarden	100.0%	100.0%	100.0%	60.0%	54.5%	56.0%	73.7%	77.8%	52.2%	59.1%	67.9%	81.5%
Holstein	100.0%	50.0%	83.3%	85.7%	52.6%	72.7%	68.0%	100.0%	55.2%	70.0%	57.9%	60.7%
Iowa City	100.0%	90.0%	100.0%	100.0%	92.3%	90.4%	65.0%	54.0%	98.7%	84.1%	94.3%	93.5%
Jefferson	87.5%	100.0%	100.0%	100.0%	53.3%	73.3%	85.7%	87.5%	54.1%	86.5%	68.8%	83.3%
LaPorte City	100.0%	100.0%	100.0%	100.0%	63.6%	63.0%	80.0%	64.7%	100.0%	71.4%	70.6%	86.2%
Manchester	100.0%	100.0%	100.0%	100.0%	59.0%	55.3%	93.3%	90.0%	81.6%	90.0%	60.8%	90.0%
Marshalltown	100.0%	92.3%	90.0%	100.0%	38.2%	59.5%	74.4%	87.8%	55.9%	77.8%	72.5%	86.5%
Mason City	100.0%	100.0%	100.0%	88.9%	47.7%	77.5%	87.5%	91.2%	50.0%	60.4%	69.6%	96.5%
Mount Ayr	88.9%	100.0%	100.0%	100.0%	29.2%	83.3%	94.1%	76.2%	5.9%	68.0%	59.3%	60.9%
Mt. Pleasant	100.0%	100.0%	98.0%	100.0%	51.7%	74.1%	86.4%	66.7%	89.5%	91.1%	100.0%	100.0%
Newton	100.0%	83.3%	100.0%	100.0%	33.3%	63.0%	90.0%	89.7%	56.8%	77.1%	83.7%	90.6%
Northwood	100.0%	100.0%	100.0%	100.0%	60.0%	82.4%	81.8%	88.9%	85.2%	77.8%	86.4%	79.2%
Ottumwa	100.0%	100.0%	100.0%	100.0%	93.8%	63.6%	84.6%	53.1%	100.0%	91.7%	80.0%	57.4%
Pocahontas	100.0%	100.0%	100.0%	100.0%	83.3%	83.3%	84.0%	85.0%	27.3%	88.5%	90.0%	84.0%
Red Oak	100.0%	100.0%	100.0%	100.0%	48.6%	58.1%	53.6%	84.8%	67.6%	69.0%	74.4%	86.5%
Sioux City	100.0%	100.0%	100.0%	88.9%	62.5%	65.9%	84.3%	87.7%	69.7%	88.9%	87.5%	93.2%
Spencer	100.0%	100.0%	100.0%	100.0%	63.0%	87.2%	76.9%	92.3%	67.5%	82.2%	84.3%	95.9%
Sumner	100.0%	100.0%	100.0%	100.0%	44.4%	50.0%	87.5%	100.0%	65.4%	92.3%	82.6%	82.1%
Wapello	100.0%	100.0%	100.0%	NC**	77.3%	89.5%	76.0%	50.0%	76.5%	88.5%	87.0%	93.8%
Waterloo	92.9%	100.0%	100.0%	100.0%	50.0%	58.3%	83.3%	98.0%	80.4%	75.4%	91.2%	93.8%
Waverly	100.0%	100.0%	100.0%	100.0%	71.8%	94.8%	84.2%	96.3%	90.6%	100.0%	79.2%	85.4%
Wellman	100.0%	100.0%	100.0%	NC**	93.8%	89.5%	80.8%	55.0%	93.9%	81.5%	100.0%	76.7%

* Properly refers to in compliance with Iowa law. **NC: None counted.

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

Restraint Type	Front Seat				Back Seat			
	2005	2006	2007	2008	2005	2006	2007	2008
Child Safety Seat with Seatbelt	2.7%	4.0%	1.9%	2.2%	97.3%	96.0%	98.1%	97.8%
Booster Seat with Seatbelt	7.3%	2.7%	4.9%	2.6%	92.7%	97.3%	95.1%	97.4%
Seatbelt only	26.6%	23.9%	20.0%	21.0%	73.4%	76.1%	80.0%	79.0%
Not Restrained	30.7%	27.1%	26.3%	29.2%	69.3%	72.9%	73.7%	70.8%
Total	17.9%	15.2%	12.1%	12.5%	82.1%	84.8%	87.9%	87.5%

Comparison Table 8
Driver Seat Belt Use by Community Size

Community Size	Driver Belted				Driver Not Belted			
	2005	2006	2007	2008	2005	2006	2007	2008
1,000-2,499	69.8%	78.7%	77.2%	78.8%	30.2%	21.3%	22.8%	21.2%
2,500-9,999	81.7%	89.6%	86.2%	86.5%	18.3%	10.4%	13.8%	13.5%
10,000-49,999	90.6%	88.6%	85.1%	93.0%	9.4%	11.4%	14.9%	7.0%
≥ 50,000	90.0%	91.7%	92.8%	95.0%	10.0%	8.3%	7.2%	5.0%
Total	84.5%	88.0%	86.6%	89.7%	15.5%	12.0%	13.4%	10.3%

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

	Percent Drivers Belted				Percent Drivers NOT Belted			
	2005	2006	2007	2008	2005	2006	2007	2008
Algona	62.2%	80.0%	82.7%	77.3%	37.8%	20.0%	17.3%	22.7%
Ames	92.7%	94.4%	100%	98.4%	7.3%	5.6%	100%	1.6%
Belle Plaine	92.7%	97.3%	94.4%	77.8%	7.3%	2.7%	5.6%	22.2%
Cedar Rapids	97.5%	96.8%	95.8%	96.8%	2.5%	3.2%	4.2%	3.2%
Cherokee	96.0%	87.8%	85.1%	82.7%	4.0%	12.2%	14.9%	17.3%
Clinton	97.0%	96.0%	91.8%	98.0%	3.0%	4.0%	8.2%	2.0%
Corydon	50.0%	42.0%	74.0%	66.7%	50.0%	58.0%	26.0%	33.3%
Council Bluffs	79.0%	79.2%	87.2%	96.8%	21.0%	20.8%	12.8%	3.2%
Davenport	92.8%	93.6%	94.3%	97.6%	7.2%	6.4%	5.7%	2.4%
Des Moines	90.4%	88.0%	90.3%	93.6%	9.6%	12.0%	9.7%	6.4%
Dubuque	96.8%	98.4%	88.1%	88.8%	3.2%	1.6%	11.9%	11.2%
Fort Dodge	91.0%	81.0%	80.8%	95.0%	9.0%	19.0%	19.2%	5.0%
Guthrie Center	60.0%	82.0%	66.0%	62.0%	40.0%	18.0%	34.0%	38.0%
Guttenberg	90.0%	88.0%	80.0%	98.0%	10.0%	12.0%	20.0%	2.0%
Hawarden	50.0%	60.0%	78.0%	78.0%	50.0%	40.0%	22.0%	22.0%
Holstein	74.0%	88.0%	58.0%	78.0%	26.0%	12.0%	42.0%	22.0%
Iowa City	93.6%	97.6%	93.4%	97.6%	6.4%	2.4%	6.6%	2.4%
Jefferson	66.7%	86.7%	76.0%	86.7%	33.3%	13.3%	24.0%	13.3%
LaPorte City	92.0%	90.2%	86.7%	89.4%	8.0%	9.8%	13.3%	10.6%
Manchester	91.6%	94.7%	91.4%	94.7%	8.4%	5.3%	8.6%	5.3%
Marshalltown	86.0%	91.0%	85.0%	91.0%	14.0%	9.0%	15.0%	9.0%
Mason City	85.0%	69.0%	76.0%	94.0%	15.0%	31.0%	24.0%	6.0%
Mount Ayr	24.0%	60.0%	56.0%	46.0%	76.0%	40.0%	44.0%	54.0%
Mount Pleasant	75.7%	100.0%	98.6%	94.4%	24.3%	0.0%	1.4%	5.6%
Newton	86.0%	91.0%	96.0%	94.0%	14.0%	9.0%	4.0%	6.0%
Northwood	93.9%	80.09%	72.0%	76.0%	6.1%	20.0%	28.0%	24.0%
Ottumwa	99.0%	95.0%	72.5%	82.0%	1.0%	5.0%	27.5%	18.0%
Pocahontas	66.0%	76.0%	91.7%	78.0%	34.0%	24.0%	8.3%	22.0%
Red Oak	70.7%	72.0%	73.0%	86.5%	29.3%	28.0%	27.0%	13.5%
Sioux City	80.5%	83.2%	89.6%	96.8%	19.5%	16.8%	10.4%	3.2%
Spencer	90.0%	97.0%	90.9%	97.0%	10.0%	3.0%	9.1%	3.0%
Sumner	66.0%	88.0%	75.5%	94.0%	34.0%	12.0%	24.5%	6.0%
Wapello	81.2%	95.9%	94.0%	92.0%	18.8%	4.1%	6.0%	8.0%
Waterloo	86.4%	94.4%	96.4%	88.8%	13.6%	5.6%	3.6%	11.2%
Waverly	97.4%	98.7%	89.3%	92.0%	2.6%	1.36%	10.7%	8.0%
Wellman	92.0%	94.0%	95.9%	88.0%	8.0%	6.0%	4.1%	12.0%
TOTAL	84.5%	88.0%	86.6%	89.7%	15.5%	12.0%	13.4%	13.3%