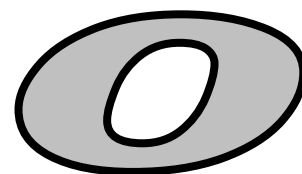


Occupant Protection



Section 2: Occupant Protection



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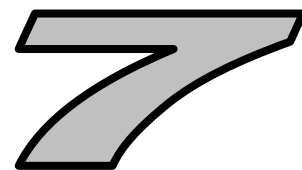
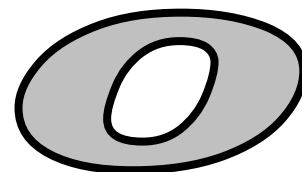
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Wearing a seatbelt is one of the best ways to decrease injuries and deaths in motor vehicle crashes.

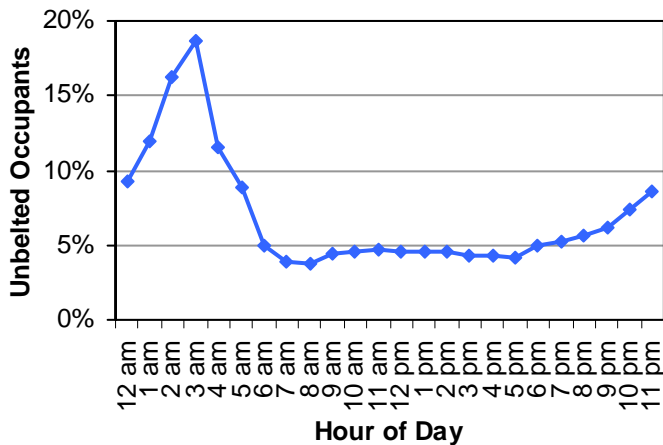
Occupant Protection



Did you know in 2007:

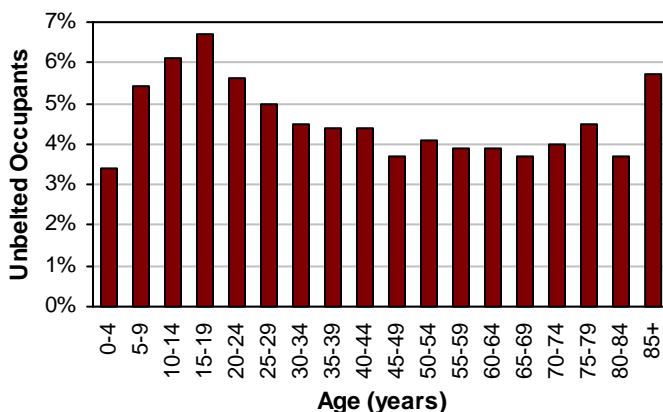
- Unbelted crash occupants were 17 times more likely to die in a crash than belted occupants.
- An estimated 145 lives were saved because of seatbelt use. (National Highway Traffic Safety Administration)
- Occupants in pickup trucks and SUVs were the least likely of those who died to be restrained.

Unbelted Crash Occupants by Hour (Utah 2007)



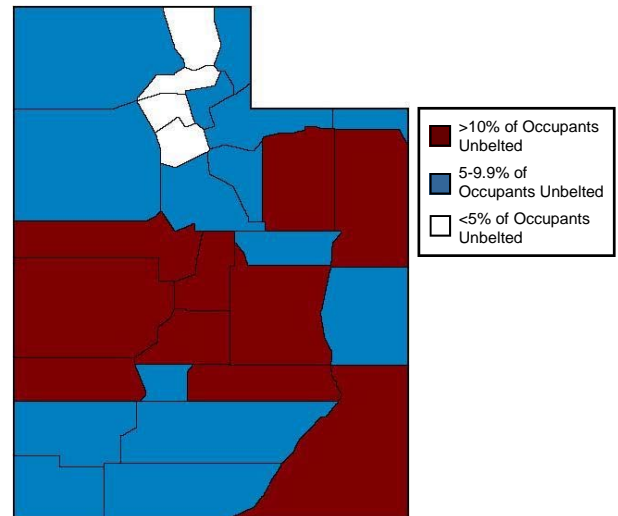
- 11:00 p.m. to 5:59 a.m. had the highest percentage of unbelted crash occupants.

Unbelted Crash Occupants by Age (Utah 2007)



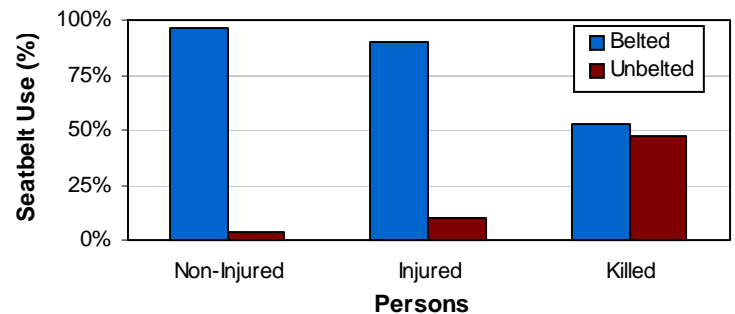
- The highest percentage of unbelted crash occupants were aged 10-24 years.

Percent of Unbelted Occupants in Total Crashes by County (Utah 2007)

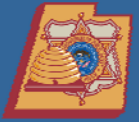


- Crash occupants in rural counties were twice as likely to be unbelted than urban occupants.

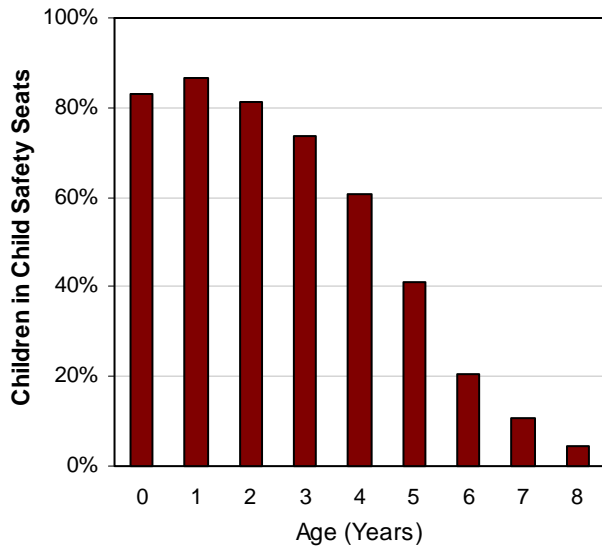
Seatbelt Use by Injury Severity (Utah 2007)



- Over 95% of persons who survived a crash wore a seatbelt compared to only half (53%) of the persons killed.

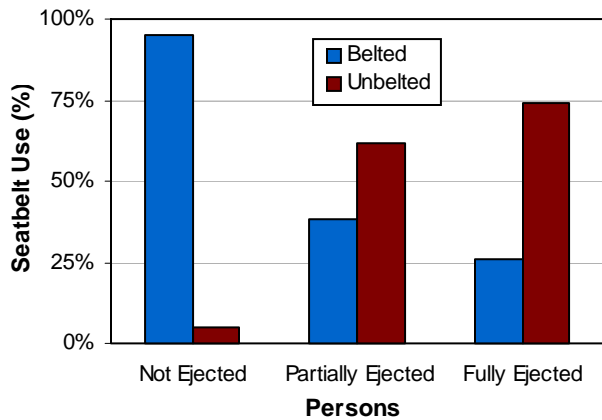


Percent of Children Aged 0-8 Years in Crashes Using Child Safety Seats (Utah 2007)



- The older the child the less likely they were using a child safety seat.
- While 85% of children 0-1 years were in a child safety seat at the time of the crash, only 60% of 4-year-olds, 21% of 6-year-olds, and 5% of 8-year-olds were in a child safety seat.
- The decrease in child safety seat use for children aged 4-8 years is concerning and indicates that children are moving to adult-sized seatbelts too early.

Ejection and Seatbelt Use (Utah 2007)



- 74% of crash occupants fully ejected from a motor vehicle were unbelted.
- Unbelted occupants were 56 times more likely to be fully ejected than belted occupants.

Child Safety Seat Recommendations:

- Infants should be placed in a rear-facing safety seat until they are at least 20 pounds and 1 year of age.
- Never place a rear-facing child safety seat in the front seat of a vehicle with a passenger side air bag.
- Children at least 1 year of age weighing 20-40 pounds should ride in forward facing child safety seats.
- Older children (approximately 4-8 years of age) should ride in belt-positioning booster seats until they are 4'9" tall and the seatbelt fits properly. Booster seats help position an adult-size seatbelt for a safer fit on children.
- The safest place for any child aged 12 and under is in the back seat of the vehicle.

Seatbelt Recommendations:

- Always use both the lap and shoulder belt. When worn properly, the shoulder belt should fit across the collar bone and the lap belt should fit low over the hips.
- Never place the shoulder strap under your arm or behind your back.

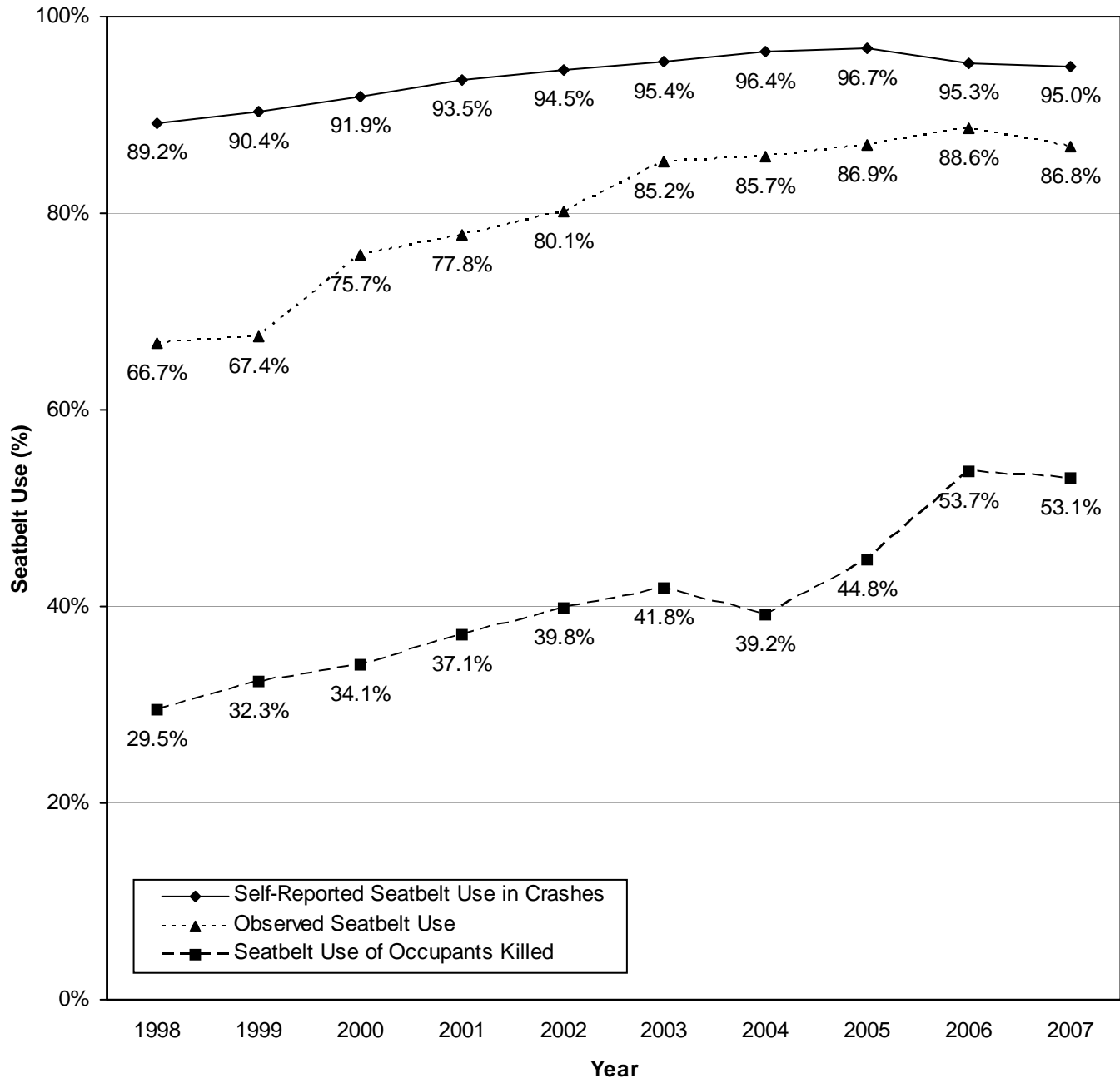
Safety Restraint Laws (Effective May 2008):

- Utah law requires all motor vehicle occupants to wear a seatbelt. This is a secondary enforcement law for drivers and passengers age 19 years and older. This means an adult may be issued a citation and a \$45 fine only when the police officer has stopped the vehicle for another reason.
- The law is a primary enforcement law for drivers and passengers under age 19 years.
 - ⇒ Children age 7 years and under must ride in an approved child safety seat; and
 - ⇒ Children aged 8 to 18 years must ride in an appropriate child restraint or seatbelt.
 - ⇒ There are a few exemptions to the law. Contact the Highway Safety Office for more information.

This primary enforcement law means a person may be stopped and issued a citation for simply not buckling up.



Seatbelt Use of Occupants In Crashes and Observational Studies (Utah 1998-2007)



- Historically, there have been differences between self-reported seatbelt use of people in crashes and seatbelt use observed in observational studies. The difference may be due to over-reporting by the people in crashes.
- The 10-year trend shows an increase of seatbelt use in crashes, observational studies, and among occupants killed.
- In 2007, the observational seatbelt use decreased to 86.8% from 88.6% in 2006. The year 2006 had the highest observed seatbelt use ever in Utah.
- The 2007 self-reported seatbelt use of people in crashes decreased to 95.0% from 95.3% in 2006.
- Seatbelt use among occupants killed decreased from 53.7% in 2006 to 53.1% in 2007.

Counties

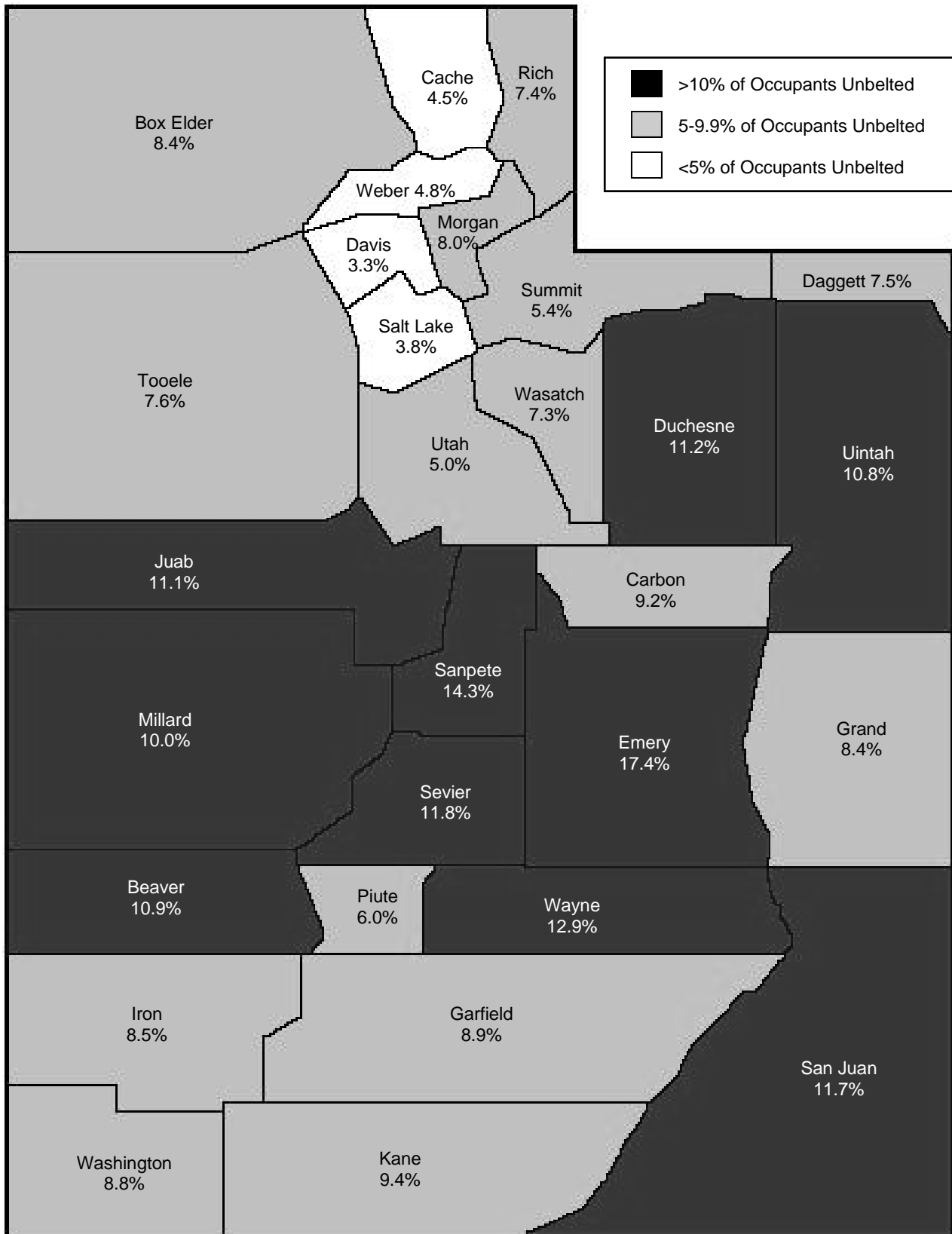
Seatbelt Use of Persons by County (Utah 2007)

County	Persons											
	Non-Injured			Injured			Killed			Total		
	Belted	Unbelted	%	Belted	Unbelted	%	Belted	Unbelted	%	Belted	Unbelted	%
Emery	319	43	11.9%	49	32	39.5%	3	3	50.0%	371	78	17.4%
Sanpete	356	34	8.7%	121	46	27.5%	2	0	0.0%	479	80	14.3%
Wayne	55	5	8.3%	6	4	40.0%	0	0	0.0%	61	9	12.9%
Sevier	588	51	8.0%	129	43	25.0%	2	2	50.0%	719	96	11.8%
San Juan	336	22	6.1%	85	24	22.0%	3	10	76.9%	424	56	11.7%
Duchesne	587	57	8.9%	90	27	23.1%	2	2	50.0%	679	86	11.2%
Juab	461	36	7.2%	135	34	20.1%	3	5	62.5%	599	75	11.1%
Beaver	307	12	3.8%	51	32	38.6%	2	0	0.0%	360	44	10.9%
Uintah	1,115	87	7.2%	173	68	28.2%	4	2	33.3%	1,292	157	10.8%
Millard	549	24	4.2%	191	55	22.4%	8	4	33.3%	748	83	10.0%
Kane	277	15	5.1%	40	18	31.0%	2	0	0.0%	319	33	9.4%
Carbon	570	39	6.4%	99	26	20.8%	1	3	75.0%	670	68	9.2%
Garfield	261	13	4.7%	56	17	23.3%	1	1	50.0%	318	31	8.9%
Washington	4,755	366	7.1%	973	180	15.6%	7	9	56.3%	5,735	555	8.8%
Iron	1,424	105	6.9%	265	49	15.6%	0	3	100.0%	1,689	157	8.5%
Grand	207	12	5.5%	74	11	12.9%	1	3	75.0%	282	26	8.4%
Box Elder	1,159	60	4.9%	279	66	19.1%	8	7	46.7%	1,446	133	8.4%
Morgan	212	14	6.2%	29	7	19.4%	0	0	0.0%	241	21	8.0%
Tooele	1,236	64	4.9%	259	52	16.7%	2	7	77.8%	1,497	123	7.6%
Daggett	61	4	6.2%	1	0	0.0%	0	1	100.0%	62	5	7.5%
Rich	88	6	6.4%	24	3	11.1%	0	0	0.0%	112	9	7.4%
Wasatch	967	49	4.8%	162	36	18.2%	5	4	44.4%	1,134	89	7.3%
Piute	39	1	2.5%	8	1	11.1%	0	1	100.0%	47	3	6.0%
Summit	1,537	71	4.4%	238	27	10.2%	3	3	50.0%	1,778	101	5.4%
Utah	17,111	687	3.9%	3,421	386	10.1%	11	5	31.3%	20,543	1,078	5.0%
Weber	9,355	395	4.1%	1,843	167	8.3%	6	5	45.5%	11,204	567	4.8%
Cache	4,088	142	3.4%	672	79	10.5%	3	1	25.0%	4,763	222	4.5%
Salt Lake	49,791	1,601	3.1%	8,793	705	7.4%	18	10	35.7%	58,602	2,316	3.8%
Davis	10,574	298	2.7%	2,051	138	6.3%	7	1	12.5%	12,632	437	3.3%
Statewide	108,385	4,313	3.8%	20,317	2,333	10.3%	104	92	46.9%	128,806	6,738	5.0%

- Seatbelt use is reported for occupants in a passenger car, light truck, van, SUV, or large truck. Occupants are considered "belted" if they were reported as using a shoulder/lap belt, lap belt, or a child safety seat at the scene of the crash.
- Seatbelt use is self-reported by crash occupants in the majority of crashes and may be inflated due to over-reporting by the people in crashes.
- The officer determines seatbelt use in the event of a fatal or severe injury crash.
- The majority of persons in crashes reported wearing a seatbelt (95.0%).
- Emery (17.4%), Sanpete (14.3%), and Wayne (12.9%) counties had the highest percentage of occupants that were unbelted.
- Nearly half (46.9%) of vehicle occupants killed in crashes in Utah were unbelted.
- Daggett (100%), Iron (100%), and Piute (100%) counties had the highest percentage of occupant deaths that were unbelted.

Counties

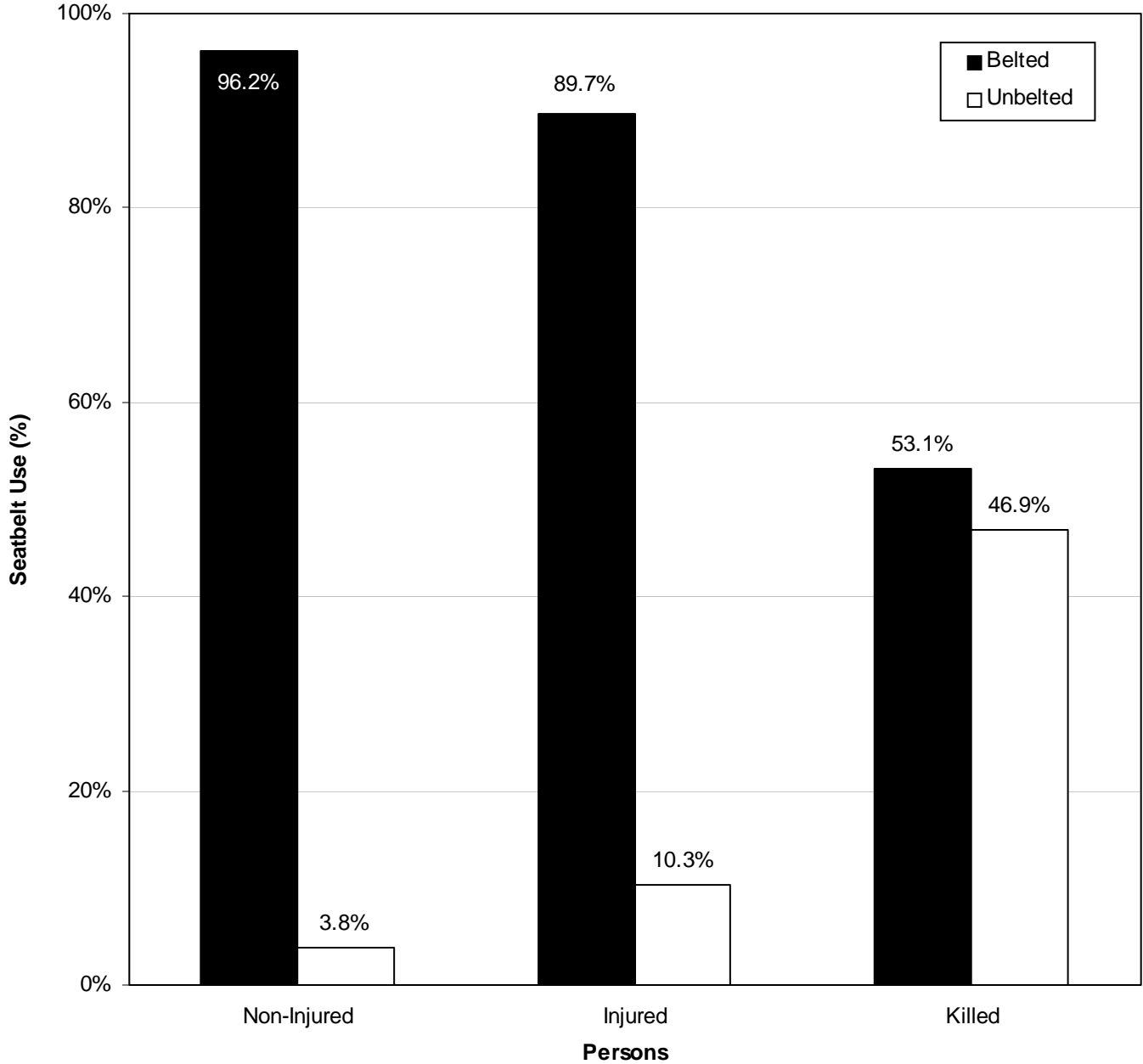
Unbelted Occupants in Total Crashes by County (Utah 2007)



Vehicle Occupants

Seatbelt Use by Injury Severity (Utah 2007)

Persons								
	Non-Injured		Injured		Killed		Total	
Seatbelt Use	#	%	#	%	#	%	#	%
Belted	108,385	96.2%	20,317	89.7%	104	53.1%	128,806	95.0%
Unbelted	4,313	3.8%	2,333	10.3%	92	46.9%	6,738	5.0%
Total	112,698	100.0%	22,650	100.0%	196	100.0%	135,544	100.0%

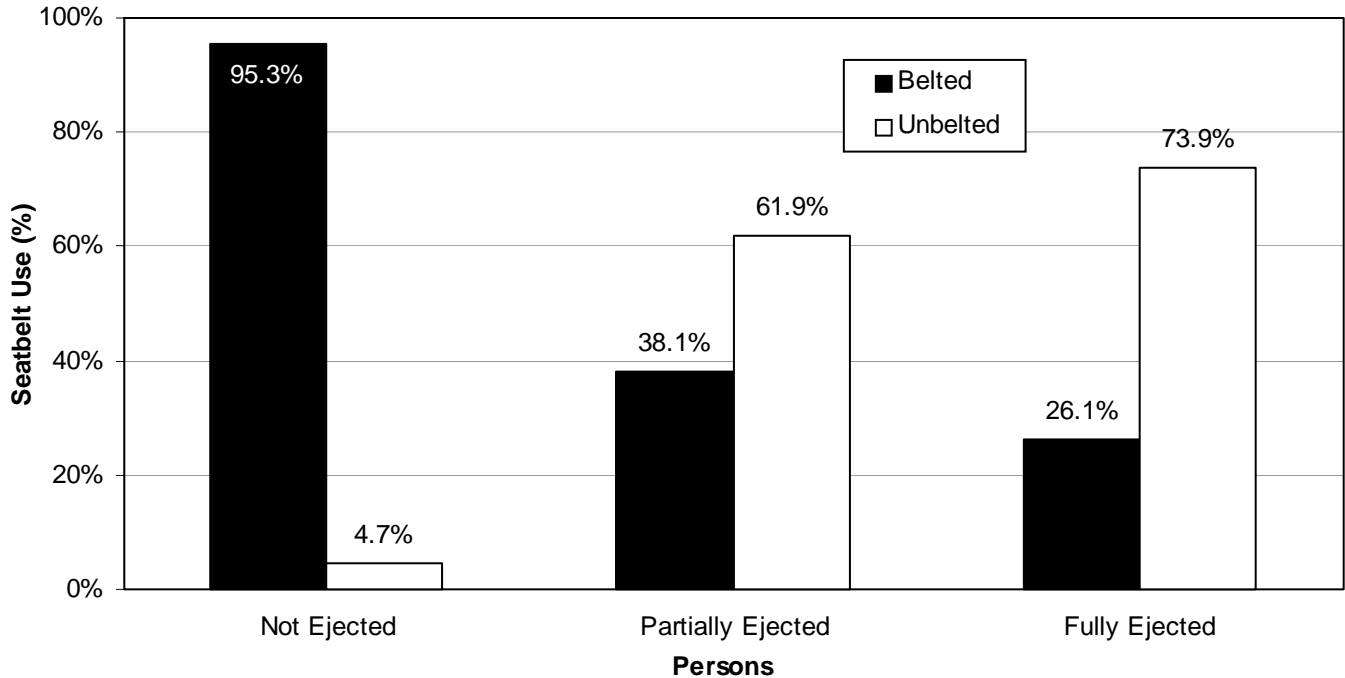


- Over 95% of persons who survived a crash reported wearing a seatbelt.
- In contrast, only half (53.1%) of the persons killed in a crash were belted.
- Unbelted crash occupants were 17 times more likely to be killed than belted crash occupants.

Vehicle Occupants

Ejection and Seatbelt Use (Utah 2007)

Persons								
	Not Ejected		Partially Ejected		Fully Ejected		Total	
Seatbelt Use	#	%	#	%	#	%	#	%
Belted	128,664	95.3%	32	38.1%	110	26.1%	128,806	95.0%
Unbelted	6,374	4.7%	52	61.9%	312	73.9%	6,738	5.0%
Total	135,038	100.0%	84	100.0%	422	100.0%	135,544	100.0%



- There is an inverse relationship between ejection from a motor vehicle and seatbelt use.
- The majority of crash occupants fully ejected from a motor vehicle (73.9%) were unbelted compared to only 3.9% of crash occupants not ejected from a motor vehicle.
- Unbelted occupants were 56 times more likely to be fully ejected from a motor vehicle compared to belted occupants.
- Ejection from the vehicle is one of the most injurious events that can happen to a person in a crash. Seatbelts are effective in preventing total ejections.

Ejection and Seatbelt Use of Persons Killed (Utah 2007)

Persons Killed								
	Not Ejected		Partially Ejected		Fully Ejected		Total	
Seatbelt Use	#	%	#	%	#	%	#	%
Belted	81	77.9%	8	7.7%	15	14.4%	104	100.0%
Unbelted	30	32.6%	3	3.3%	59	64.1%	92	100.0%
Total	111	56.6%	11	5.6%	74	37.8%	196	100.0%

- Nearly two-thirds (64.1%) of unbelted occupants killed were fully ejected compared to 14.4% of belted occupants killed.

Vehicle Occupants

Seatbelt Use by Age of Crash Occupants (Utah 2007)

Persons									
Age	Seatbelt Use	Non-Injured		Injured		Killed		Total	
		#	%	#	%	#	%	#	%
0-4	Belted	5,308	97.1%	521	91.4%	5	83.3%	5,834	96.6%
	Unbelted	157	2.9%	49	8.6%	1	16.7%	207	3.4%
5-9	Belted	3,627	96.1%	556	86.5%	4	66.7%	4,187	94.6%
	Unbelted	149	3.9%	87	13.5%	2	33.3%	238	5.4%
10-14	Belted	3,157	95.6%	595	86.1%	3	75.0%	3,755	93.9%
	Unbelted	145	4.4%	96	13.9%	1	25.0%	242	6.1%
15-19	Belted	17,988	95.1%	3,195	84.8%	13	40.6%	21,196	93.3%
	Unbelted	919	4.9%	574	15.2%	19	59.4%	1,512	6.7%
20-24	Belted	16,338	96.0%	3,101	87.2%	10	34.5%	19,449	94.4%
	Unbelted	673	4.0%	455	12.8%	19	65.5%	1,147	5.6%
25-29	Belted	12,744	96.1%	2,411	89.8%	8	47.1%	15,163	95.0%
	Unbelted	511	3.9%	273	10.2%	9	52.9%	793	5.0%
30-34	Belted	9,383	96.6%	1,780	90.7%	10	66.7%	11,173	95.5%
	Unbelted	335	3.4%	182	9.3%	5	33.3%	522	4.5%
35-39	Belted	7,563	96.5%	1,453	91.8%	7	63.6%	9,023	95.6%
	Unbelted	278	3.5%	130	8.2%	4	36.4%	412	4.4%
40-44	Belted	6,527	96.3%	1,290	92.5%	5	41.7%	7,822	95.6%
	Unbelted	248	3.7%	105	7.5%	7	58.3%	360	4.4%
45-49	Belted	6,290	97.0%	1,215	93.4%	4	50.0%	7,509	96.3%
	Unbelted	197	3.0%	86	6.6%	4	50.0%	287	3.7%
50-54	Belted	5,115	96.3%	1,120	94.3%	7	58.3%	6,242	95.9%
	Unbelted	195	3.7%	68	5.7%	5	41.7%	268	4.1%
55-59	Belted	4,018	96.7%	899	93.6%	5	55.6%	4,922	96.1%
	Unbelted	137	3.3%	61	6.4%	4	44.4%	202	3.9%
60-64	Belted	2,925	96.9%	656	93.2%	7	77.8%	3,588	96.1%
	Unbelted	95	3.1%	48	6.8%	2	22.2%	145	3.9%
65-69	Belted	1,940	96.8%	423	94.2%	3	75.0%	2,366	96.3%
	Unbelted	64	3.2%	26	5.8%	1	25.0%	91	3.7%
70-74	Belted	1,372	96.6%	301	93.8%	3	100.0%	1,676	96.0%
	Unbelted	49	3.4%	20	6.2%	0	0.0%	69	4.0%
75-79	Belted	1,075	96.3%	271	92.5%	1	50.0%	1,347	95.5%
	Unbelted	41	3.7%	22	7.5%	1	50.0%	64	4.5%
80-84	Belted	702	97.0%	175	94.1%	4	80.0%	881	96.3%
	Unbelted	22	3.0%	11	5.9%	1	20.0%	34	3.7%
85+	Belted	399	96.1%	93	89.4%	5	62.5%	497	94.3%
	Unbelted	16	3.9%	11	10.6%	3	37.5%	30	5.7%
Unknown	Belted	1,914	95.9%	262	90.0%	0	0.0%	2,176	95.0%
	Unbelted	82	4.1%	29	10.0%	4	100.0%	115	5.0%
Total	Belted	108,385	96.2%	20,317	89.7%	104	53.1%	128,806	95.0%
	Unbelted	4,313	3.8%	2,333	10.3%	92	46.9%	6,738	5.0%

- Overall, crash occupants aged 15-19 years (6.7%), 10-14 years (6.1%), and 20-24 years (4.8%) had the highest percentages of being unbelted.
- For persons killed, crash occupants aged 15-49 years had the highest percentages of being unbelted.

Vehicle Occupants

Seatbelt Use by Gender of Crash Occupants (Utah 2007)

Persons									
Gender	Seatbelt Use	Non-Injured		Injured		Killed		Total	
		#	%	#	%	#	%	#	%
Female	Belted	46,585	96.5%	11,730	91.9%	40	55.6%	58,355	95.5%
	Unbelted	1,686	3.5%	1,028	8.1%	32	44.4%	2,746	4.5%
Male	Belted	61,374	95.9%	8,522	86.8%	64	52.9%	69,960	94.6%
	Unbelted	2,603	4.1%	1,300	13.2%	57	47.1%	3,960	5.4%
Unknown	Belted	426	94.7%	65	92.9%	0	0.0%	491	93.9%
	Unbelted	24	5.3%	5	7.1%	3	0.0%	32	6.1%
Total	Belted	108,385	96.2%	20,317	89.7%	104	53.1%	128,806	95.0%
	Unbelted	4,313	3.8%	2,333	10.3%	92	46.9%	6,738	5.0%

- Overall, female (95.5%) crash occupants seatbelt use was slightly higher than males (94.6%).
- For persons killed, female crash occupants had higher seatbelt use (55.6%) than males (52.9%).

Seatbelt Use by Occupant Placement (Utah 2007)

Persons									
Occupant Placement	Seatbelt Use	Non-Injured		Injured		Killed		Total	
		#	%	#	%	#	%	#	%
Driver	Belted	77,638	96.8%	14,194	91.7%	69	58.0%	91,901	95.9%
	Unbelted	2,547	3.2%	1,287	8.3%	50	42.0%	3,884	4.1%
Front Seat Passenger	Belted	15,887	93.9%	4,018	86.7%	22	55.0%	19,927	92.3%
	Unbelted	1,028	6.1%	618	13.3%	18	45.0%	1,664	7.7%
Back Seat Passenger	Belted	14,539	95.6%	2,070	84.2%	13	54.2%	16,622	93.9%
	Unbelted	671	4.4%	389	15.8%	11	45.8%	1,071	6.1%
Other/Unknown	Belted	321	82.7%	35	47.3%	0	0.0%	356	74.9%
	Unbelted	67	17.3%	39	52.7%	13	100.0%	119	25.1%
Total	Belted	108,385	96.2%	20,317	89.7%	104	53.1%	128,806	95.0%
	Unbelted	4,313	3.8%	2,333	10.3%	92	46.9%	6,738	5.0%

- Among all occupants, drivers reported the highest seatbelt use (95.9%) compared to persons in other seating locations.
- For persons killed, back seat passengers were the least likely to be wearing a seatbelt (54.2%).

Seatbelt Use by Vehicle Type (Utah 2007)

Persons Killed						
Vehicle Type	Restraint Used		Restraint Not Used		Total	
	#	%	#	%	#	%
Passenger Car	58	71.6%	23	28.4%	81	100.0%
Van	5	71.4%	2	28.6%	7	100.0%
Semi/Large Truck	5	55.6%	4	44.4%	9	100.0%
SUV	17	38.6%	27	61.4%	44	100.0%
Pickup Truck	19	34.5%	36	65.5%	55	100.0%
Total	104	53.1%	92	46.9%	196	100.0%

- Occupants in pickup trucks (65.5%) and SUVs (61.4%) were the least likely of those who died to be restrained.

Children and Restraint Use

Restraint Use for Children Age 0 to 8 Years by Seating Location (Utah 2007)

Child Occupants									
Seating Location	Restraint Use	Ages 0-1		Ages 2-4		Ages 5-8		Total	
		#	%	#	%	#	%	#	%
Front Seat	Child Safety Seat	75	55.6%	64	37.2%	37	7.1%	176	21.2%
	Seatbelt Only	29	21.5%	76	44.2%	436	83.5%	541	65.3%
	Unrestrained	31	23.0%	32	18.6%	49	9.4%	112	13.5%
Second Row	Child Safety Seat	1,913	87.4%	2,075	74.3%	559	22.4%	4,547	60.8%
	Seatbelt Only	238	10.9%	637	22.8%	1,832	73.4%	2,707	36.2%
	Unrestrained	39	1.8%	80	2.9%	106	4.2%	225	3.0%
Third/Fourth Row	Child Safety Seat	163	84.5%	356	72.2%	131	22.9%	650	51.7%
	Seatbelt Only	23	11.9%	123	24.9%	404	70.6%	550	43.7%
	Unrestrained	7	3.6%	14	2.8%	37	6.5%	58	4.6%
Total	Child Safety Seat	2,151	85.4%	2,495	72.2%	727	20.2%	5,373	56.2%
	Seatbelt Only	290	11.5%	836	24.2%	2,672	74.4%	3,798	39.7%
	Unrestrained	77	3.1%	126	3.6%	192	5.3%	395	4.1%

- The older the child the less likely they were using a child safety seat.
- The majority of 0-1-year-olds (85.4%) were in a child safety seat at the time of the crash, compared to 72.2% of 2-4 year-olds and 20.2% of 5-8 year-olds. The drastic decrease in child safety seat use for children aged 5-8 years is concerning. This indicates that children are moving to adult-sized seatbelts too early.
- 0-1-year-olds were 23 times more likely to be in a child safety seat at the time of the crash than 5-8 year-olds.
- Children riding in the front seat were the least likely to be using a child safety seat and the most likely to be unrestrained.
- Children riding in a back seat were 5.5 times more likely to be using a child safety seat than children riding in the front seat.

Growing Up Safe: It's a four-step process



1. **Rear-facing seats:** For the best possible protection keep infants in the back seat, in rear-facing child safety seats, as long as possible up to the height or weight limit of the particular seat. At a minimum, keep infants rear-facing until age 1 and at least 20 pounds.
2. **Forward-facing seats:** When children outgrow their rear-facing seats they should ride in forward-facing child safety seats, in the back seat, until they reach the upper weight or height limit of the particular seat (usually around age 4 and 40 pounds).
3. **Booster seats:** Once children outgrow their forward-facing seats, they should ride in booster seats, in the back seat, until the vehicle seatbelts fit properly. Seatbelts fit properly when the lap belt lays across the upper thighs and the shoulder belt fits across the chest (usually at age 8 or when they are 4'9" tall).
4. **Seatbelts:** When children outgrow their booster seats, they can use the adult seatbelt in the back seat if it fits properly.