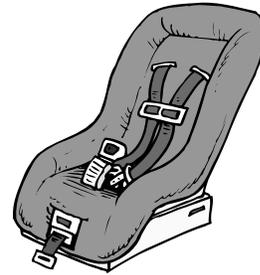


Occupant Protection



Section 2: Occupant Protection

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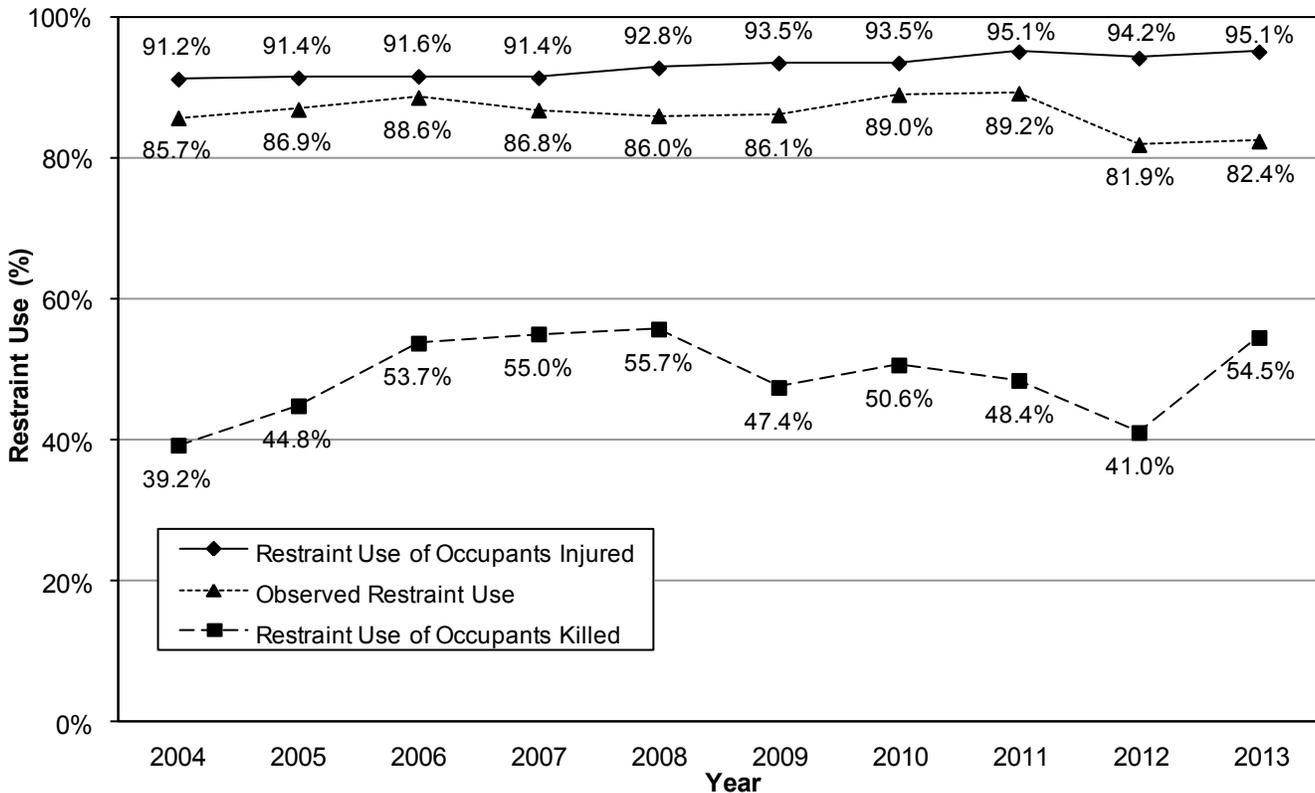
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Trends

Restraint Use of Occupants In Crashes (Utah 2004-2013)

Persons												
Year	Non-Injured			Injured			Killed			Total		
	Unres #	Restrained #	%	Unres #	Restrained #	%	Unres #	Restrained #	%	Unrestrained #	Restrained #	%
2004	2,066	92,661	97.8%	2,111	21,954	91.2%	138	89	39.2%	4,315	114,704	96.4%
2005	1,915	95,849	98.0%	2,053	21,836	91.4%	128	104	44.8%	4,096	117,789	96.6%
2006	3,446	95,786	96.5%	1,830	19,993	91.6%	88	102	53.7%	5,364	115,881	95.6%
2007	3,602	109,096	96.8%	1,937	20,713	91.4%	85	104	55.0%	5,624	129,913	95.9%
2008	1,732	97,452	98.3%	1,410	18,257	92.8%	78	98	55.7%	3,220	115,807	97.3%
2009	2,569	90,970	97.3%	1,224	17,520	93.5%	91	82	47.4%	3,884	108,572	96.5%
2010	2,145	88,996	97.6%	1,144	16,506	93.5%	87	89	50.6%	3,376	105,591	96.9%
2011	1,976	91,618	97.9%	893	17,201	95.1%	82	77	48.4%	2,951	108,896	97.4%
2012	2,317	89,497	97.5%	1,041	16,944	94.2%	79	55	41.0%	3,437	106,496	96.9%
2013	1,810	93,444	98.1%	888	17,229	95.1%	61	73	54.5%	2,759	110,746	97.6%
Total	23,578	945,369	97.6%	14,531	188,153	92.8%	917	873	48.8%	39,026	1,134,395	96.7%

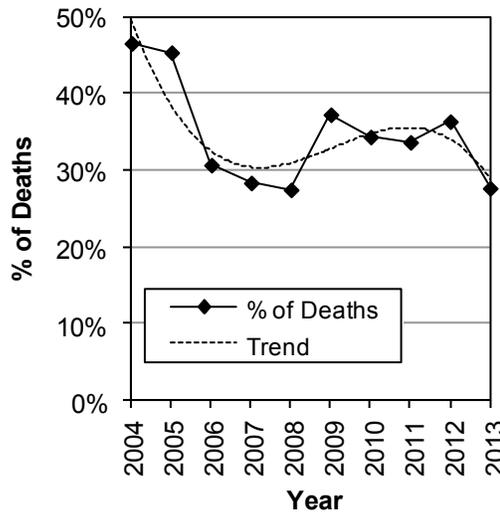


- Restraint use is reported for occupants in a passenger car, light truck, van, SUV, or heavy truck. Occupants are considered “Restrained” if they were reported as using a shoulder/lap belt, lap belt, or a child safety seat at the scene of the crash.
- Restraint use is often self-reported by crash occupants. The officer determines restraint use in the event of a fatal or severe injury crash.
- The 2013 restraint use of people in crashes increased to 97.6% from 96.9% in 2012.
- Restraint use among occupants injured increased from 94.2% in 2012 to 95.1% in 2013.
- Restraint use among occupants killed increased from 41.0% in 2012 to 54.5% in 2013.

Trends, Vehicle Occupants

Unrestrained Occupant Deaths (Utah 2004-2013)

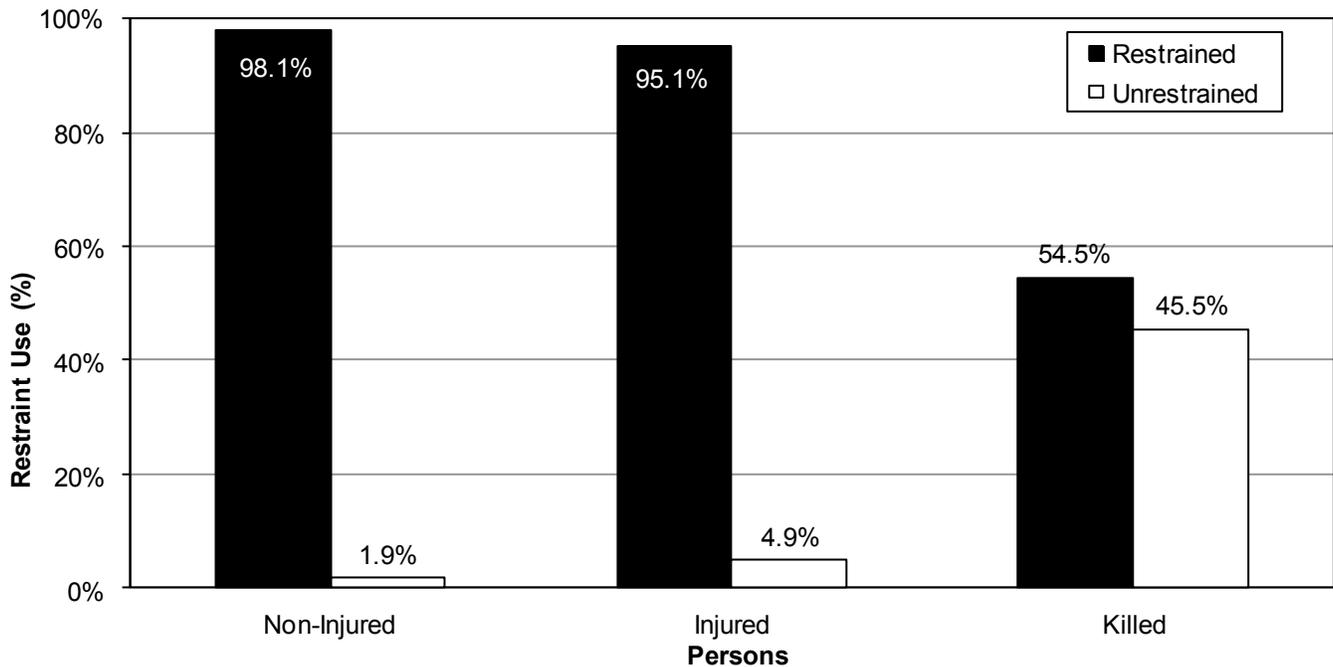
Unrestrained Occupant Deaths			
Year	Deaths		
	All #	Unrestrained Occupants #	%
2004	296	138	46.6%
2005	282	128	45.4%
2006	287	88	30.7%
2007	299	85	28.4%
2008	276	78	28.3%
2009	244	91	37.3%
2010	253	87	34.4%
2011	243	82	33.7%
2012	217	79	36.4%
2013	220	61	27.7%
Total	2,617	917	35.0%



- Over the past 10 years, 35.0% of deaths have been to unrestrained occupants.
- On average, 92 people die a year in Utah who are unrestrained.
- The percentage of deaths to unrestrained occupants decreased 8.7% in 2013 from 2012.

Restraint Use by Injury Severity (Utah 2013)

Restraint Use	Persons							
	Non-Injured		Injured		Killed		Total	
	#	%	#	%	#	%	#	%
Restrained	93,444	98.1%	17,229	95.1%	73	54.5%	110,746	97.6%
Unrestrained	1,810	1.9%	888	4.9%	61	45.5%	2,759	2.4%
Total	95,254	100.0%	18,117	100.0%	134	100.0%	113,505	100.0%



- Over 97% of persons who survived a crash reported being restrained compared to half of the persons killed.
- Unrestrained crash occupants were 34 times more likely to be killed than restrained crash occupants.

Vehicle Occupants

Restraint Use by County (Utah 2013)

Persons												
County	Non-Injured			Injured			Killed			Total		
	Unres	Restrained		Unres	Restrained		Unres	Restrained		Unrestrained	Restrained	
	#	#	%	#	#	%	#	#	%	#	#	%
Davis	100	9,065	98.9%	42	1,634	97.5%	5	2	28.6%	147	10,701	98.6%
Cache	39	3,690	99.0%	29	518	94.7%	2	6	75.0%	70	4,214	98.4%
Utah	177	13,514	98.7%	109	2,541	95.9%	2	9	81.8%	288	16,064	98.2%
Rich	0	78	100.0%	2	30	93.8%	0	0	n/a	2	108	98.2%
Salt Lake	802	43,510	98.2%	274	7,795	96.6%	7	16	69.6%	1,083	51,321	97.9%
Summit	28	1,628	98.3%	11	212	95.1%	0	3	100.0%	39	1,843	97.9%
Wasatch	12	800	98.5%	11	124	91.9%	0	3	100.0%	23	927	97.6%
Box Elder	21	1,532	98.6%	25	358	93.5%	3	1	25.0%	49	1,891	97.5%
Kane	1	207	99.5%	5	30	85.7%	1	0	0.0%	7	237	97.1%
Weber	229	7,281	97.0%	78	1,581	95.3%	1	5	83.3%	308	8,867	96.6%
Tooele	37	1,431	97.5%	21	318	93.8%	3	1	25.0%	61	1,750	96.6%
Washington	102	3,933	97.5%	69	748	91.6%	6	4	40.0%	177	4,685	96.4%
Millard	15	518	97.2%	9	113	92.6%	1	4	80.0%	25	635	96.2%
Juab	9	409	97.8%	11	95	89.6%	2	1	33.3%	22	505	95.8%
Carbon	15	496	97.1%	11	80	87.9%	2	1	33.3%	28	577	95.4%
Morgan	12	248	95.4%	2	35	94.6%	0	0	n/a	14	283	95.3%
Grand	9	260	96.7%	5	69	93.2%	3	0	0.0%	17	329	95.1%
Emery	12	290	96.0%	5	89	94.7%	3	1	25.0%	20	380	95.0%
Duchesne	19	553	96.7%	14	100	87.7%	2	1	33.3%	35	654	94.9%
Iron	49	1,340	96.5%	34	241	87.6%	3	4	57.1%	86	1,585	94.9%
Piute	2	27	93.1%	0	4	100.0%	0	0	n/a	2	31	93.9%
Uintah	35	976	96.5%	38	160	80.8%	1	0	0.0%	74	1,136	93.9%
Beaver	15	376	96.2%	17	76	81.7%	2	1	33.3%	34	453	93.0%
Wayne	2	61	96.8%	3	5	62.5%	0	0	n/a	5	66	93.0%
San Juan	15	344	95.8%	15	54	78.3%	2	4	66.7%	32	402	92.6%
Garfield	1	149	99.3%	12	18	60.0%	2	0	0.0%	15	167	91.8%
Sanpete	16	309	95.1%	16	85	84.2%	4	4	50.0%	36	398	91.7%
Sevier	33	389	92.2%	18	104	85.2%	4	2	33.3%	55	495	90.0%
Daggett	3	30	90.9%	2	12	85.7%	0	0	n/a	5	42	89.4%
Statewide	1,810	93,444	98.1%	888	17,229	95.1%	61	73	54.5%	2,759	110,746	97.6%

- Davis (98.6%), Cache (98.4%), Utah (98.2%), and Rich (92.2%) counties had the highest percentage of occupants that were restrained. Daggett (89.4%) and Sevier (90.0%) counties had the lowest percentage.

Restraint Use by Urban/Rural Location (Utah 2013)

Persons												
Location	Non-Injured			Injured			Killed			Total		
	Unres	Restrained		Unres	Restrained		Unres	Restrained		Unrestrained	Restrained	
	#	#	%	#	#	%	#	#	%	#	#	%
Urban	1,449	80,993	98.2%	601	14,817	96.1%	23	42	64.6%	2,073	95,852	97.9%
Rural	361	12,451	97.2%	287	2,412	89.4%	38	31	44.9%	686	14,894	95.6%
Statewide	1,810	93,444	98.1%	888	17,229	95.1%	61	73	54.5%	2,759	110,746	97.6%

- Urban areas had a higher percentage of occupants that were restrained for all injury severity levels.
- Occupants in rural crashes were 2.1 times more likely to be unrestrained than occupants in urban crashes.

Vehicle Occupants

Restraint Use by Ejection (Utah 2013)

Persons												
Ejection Status	Non-Injured			Injured			Killed			Total		
	Unres	Restrained		Unres	Restrained		Unres	Restrained		Unrestrained	Restrained	
	#	#	%	#	#	%	#	#	%	#	#	%
Not Ejected	1,797	92,881	98.1%	794	16,989	95.5%	17	66	79.5%	2,608	109,936	97.7%
Partially Ejected	0	0	n/a	9	11	55.0%	5	5	50.0%	14	16	53.3%
Fully Ejected	1	0	0.0%	66	32	32.7%	39	2	4.9%	106	34	24.3%
Total	1,798	92,881	98.1%	869	17,032	95.1%	61	73	54.5%	2,728	109,986	97.6%

- There is an inverse relationship between ejection from a motor vehicle and restraint use.
- The majority (97.7%) of crash occupants not ejected from a motor vehicle were restrained compared to only 24.3% of crash occupants fully ejected from a motor vehicle.
- Unrestrained occupants were 130 times more likely to be fully ejected from a motor vehicle compared to restrained occupants.
- Ejection from the vehicle is one of the most harmful events that can happen to a person in a crash. Seat belts are effective in preventing total ejections.

Restraint Use by Occupant Placement (Utah 2013)

Persons												
Occupant Placement	Non-Injured			Injured			Killed			Total		
	Unres	Restrained		Unres	Restrained		Unres	Restrained		Unrestrained	Restrained	
	#	#	%	#	#	%	#	#	%	#	#	%
Driver	929	67,391	98.6%	490	12,214	96.1%	36	53	59.6%	1,455	79,658	98.2%
Front Seat	515	13,145	96.2%	216	3,175	93.6%	16	16	50.0%	747	16,336	95.6%
Back Seat(s)	240	12,394	98.1%	138	1,763	92.7%	9	4	30.8%	387	14,161	97.3%
Other/Unknown	126	514	80.3%	44	77	63.6%	0	0	n/a	170	591	77.7%
Total	1,810	93,444	98.1%	888	17,229	95.1%	61	73	54.5%	2,759	110,746	97.6%

- Among all occupants, drivers had the highest restraint use (98.2%).

Restraint Use by Vehicle Type (Utah 2013)

Persons												
Vehicle Type	Non-Injured			Injured			Killed			Total		
	Unres	Restrained		Unres	Restrained		Unres	Restrained		Unrestrained	Restrained	
	#	#	%	#	#	%	#	#	%	#	#	%
Van	122	7,085	98.3%	43	1,180	96.5%	2	4	66.7%	167	8,269	98.0%
Passenger Car	797	46,968	98.3%	433	10,256	95.9%	25	39	60.9%	1,255	57,263	97.9%
SUV	385	21,970	98.3%	186	3,691	95.2%	11	11	50.0%	582	25,672	97.8%
Pickup Truck	374	14,449	97.5%	189	1,932	91.1%	22	14	38.9%	585	16,395	96.6%
Heavy Truck	132	2,972	95.7%	37	170	82.1%	1	5	83.3%	170	3,147	94.9%
Total	1,810	93,444	98.1%	888	17,229	95.1%	61	73	54.5%	2,759	110,746	97.6%

- Occupants in heavy truck (94.9%) and pickup truck (96.6%) were the least likely to be restrained.

Vehicle Occupants

Restraint Use by Gender of Crash Occupants (Utah 2013)

Persons												
Gender	Non-Injured			Injured			Killed			Total		
	Unres	Restrained		Unres	Restrained		Unres	Restrained		Unrestrained	Restrained	
	#	#	%	#	#	%	#	#	%	#	#	%
Female	729	41,734	98.3%	391	10,047	96.3%	36	28	43.8%	1,156	51,809	97.8%
Male	1,057	51,439	98.0%	492	7,148	93.6%	25	45	64.3%	1,574	58,632	97.4%
Unknown	24	271	91.9%	5	34	87.2%	0	0	n/a	29	305	91.3%
Total	1,810	93,444	98.1%	888	17,229	95.1%	61	73	54.5%	2,759	110,746	97.6%

- Overall, restraint use of female (97.8%) crash occupants was slightly higher than males (97.4%).
- For persons killed, female crash occupants had lower restraint use (43.8%) than males (64.3%). It is encouraging to see that more males are buckling up whereas they have usually lagged behind females in restraint use.

Restraint Use by Age of Crash Occupants (Utah 2013)

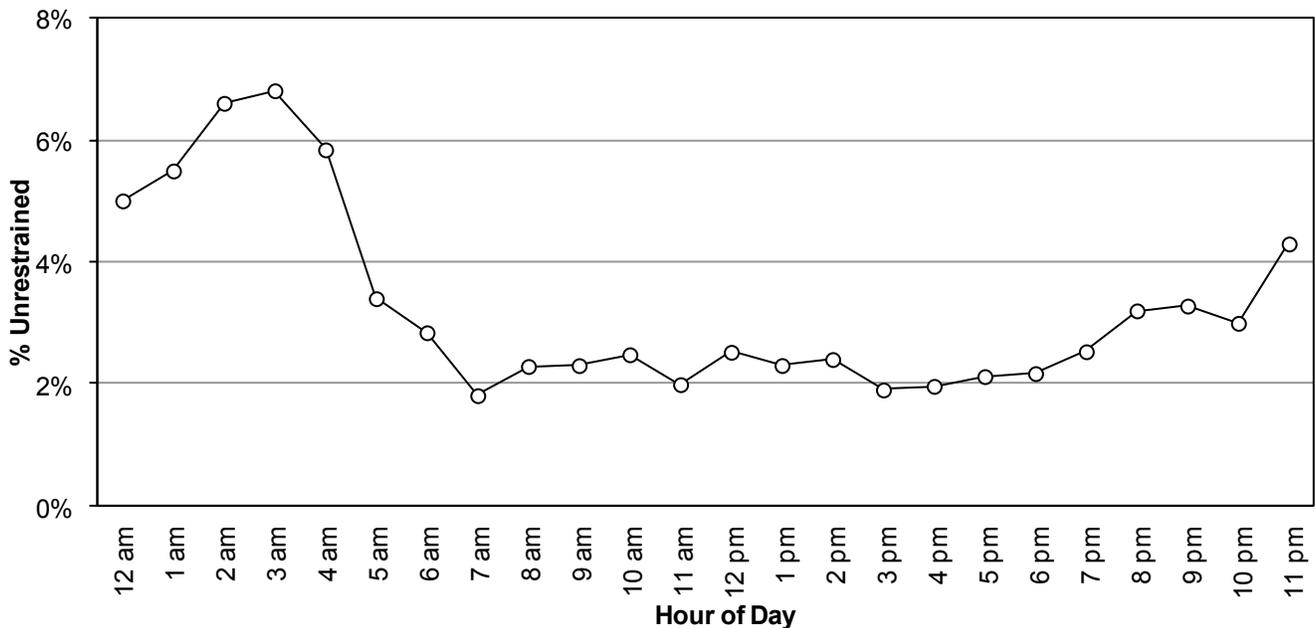
Persons												
Age	Non-Injured			Injured			Killed			Total		
	Unres	Restrained		Unres	Restrained		Unres	Restrained		Unrestrained	Restrained	
	#	#	%	#	#	%	#	#	%	#	#	%
0-4	38	4,111	99.1%	18	368	95.3%	1	2	66.7%	57	4,481	98.7%
5-9	48	3,262	98.5%	34	471	93.3%	0	0	n/a	82	3,733	97.9%
10-14	51	3,009	98.3%	34	571	94.4%	1	0	0.0%	86	3,580	97.7%
15-19	309	13,469	97.8%	174	2,192	92.6%	8	3	27.3%	491	15,664	97.0%
20-24	284	12,606	97.8%	139	2,224	94.1%	12	4	25.0%	435	14,834	97.2%
25-29	189	9,757	98.1%	103	1,839	94.7%	4	4	50.0%	296	11,600	97.5%
30-34	178	8,581	98.0%	81	1,733	95.5%	4	6	60.0%	263	10,320	97.5%
35-39	138	7,576	98.2%	65	1,463	95.7%	2	5	71.4%	205	9,044	97.8%
40-44	108	6,252	98.3%	50	1,259	96.2%	5	5	50.0%	163	7,516	97.9%
45-49	92	5,107	98.2%	44	978	95.7%	2	2	50.0%	138	6,087	97.8%
50-54	83	4,758	98.3%	39	986	96.2%	5	6	54.5%	127	5,750	97.8%
55-59	70	4,106	98.3%	32	842	96.3%	4	9	69.2%	106	4,957	97.9%
60-64	50	3,257	98.5%	19	639	97.1%	4	4	50.0%	73	3,900	98.2%
65-69	33	2,426	98.7%	18	548	96.8%	0	6	100.0%	51	2,980	98.3%
70-74	31	1,561	98.1%	11	361	97.0%	3	7	70.0%	45	1,929	97.7%
75-79	26	1,053	97.6%	9	251	96.5%	1	1	50.0%	36	1,305	97.3%
80-84	15	695	97.9%	7	164	95.9%	3	6	66.7%	25	865	97.2%
85+	10	468	97.9%	1	115	99.1%	2	3	60.0%	13	586	97.8%
Unknown	57	1,390	96.1%	10	225	95.7%	0	0	n/a	67	1,615	96.0%
Total	1,810	93,444	98.1%	888	17,229	95.1%	61	73	54.5%	2,759	110,746	97.6%

- Overall, crash occupants aged 15-24 years and 75-84 years had the lowest percentages of being restrained.
- For persons killed, crash occupants aged 10-24 years had the lowest percentages of being restrained.

Vehicle Occupants

Restraint Use by Hour (Utah 2013)

Persons						
Hour	Unrestrained		Restrained		Total	
	#	%	#	%	#	%
Midnight	62	5.0%	1,175	95.0%	1,237	100.0%
1 a.m.	43	5.5%	739	94.5%	782	100.0%
2 a.m.	40	6.6%	565	93.4%	605	100.0%
3 a.m.	27	6.8%	369	93.2%	396	100.0%
4 a.m.	29	5.8%	467	94.2%	496	100.0%
5 a.m.	40	3.4%	1,147	96.6%	1,187	100.0%
6 a.m.	67	2.8%	2,326	97.2%	2,393	100.0%
7 a.m.	108	1.8%	5,760	98.2%	5,868	100.0%
8 a.m.	144	2.3%	6,198	97.7%	6,342	100.0%
9 a.m.	105	2.3%	4,533	97.7%	4,638	100.0%
10 a.m.	119	2.5%	4,603	97.5%	4,722	100.0%
11 a.m.	110	2.0%	5,424	98.0%	5,534	100.0%
Noon	183	2.5%	7,081	97.5%	7,264	100.0%
1 p.m.	160	2.3%	6,792	97.7%	6,952	100.0%
2 p.m.	180	2.4%	7,473	97.6%	7,653	100.0%
3 p.m.	174	1.9%	9,183	98.1%	9,357	100.0%
4 p.m.	192	2.0%	9,608	98.0%	9,800	100.0%
5 p.m.	262	2.1%	12,050	97.9%	12,312	100.0%
6 p.m.	193	2.2%	8,705	97.8%	8,898	100.0%
7 p.m.	142	2.5%	5,475	97.5%	5,617	100.0%
8 p.m.	125	3.2%	3,836	96.8%	3,961	100.0%
9 p.m.	117	3.3%	3,451	96.7%	3,568	100.0%
10 p.m.	69	3.0%	2,267	97.0%	2,336	100.0%
11 p.m.	68	4.3%	1,519	95.7%	1,587	100.0%
Total	2,759	2.4%	110,746	97.6%	113,505	100.0%



- Vehicle occupants were least likely to be restrained at night (11:00 p.m. to 4:59 a.m.).

Children and Restraint Use

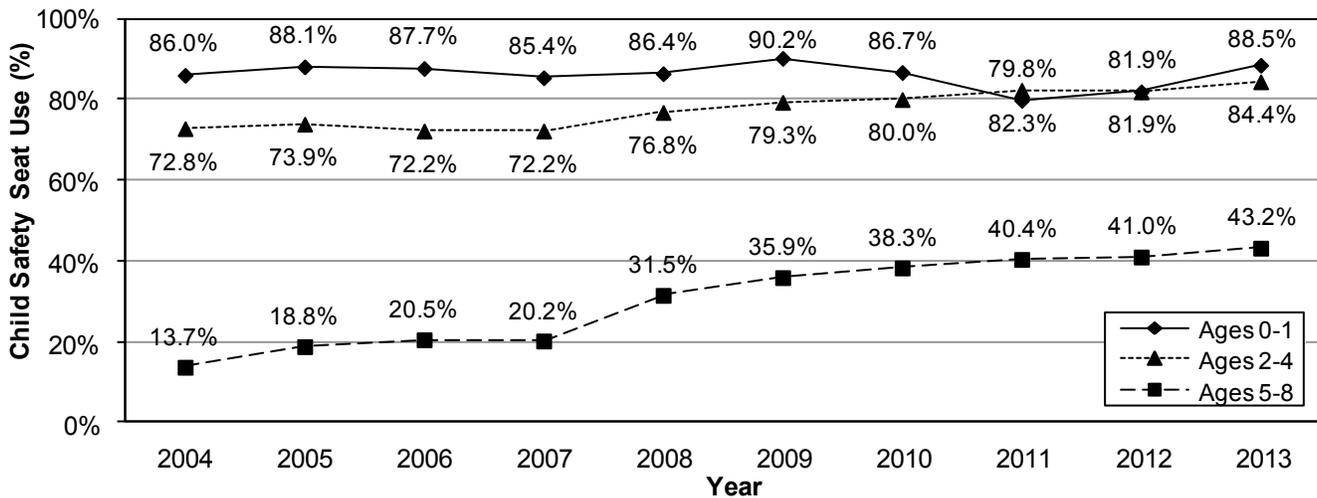
Restraint Use for Children Age 0 to 8 Years (Utah 2013)

Child Occupants								
Restraint Use	Ages 0-1		Ages 2-4		Ages 5-8		Total	
	#	%	#	%	#	%	#	%
Child Safety Seat	1,679	88.5%	2,229	84.4%	1,332	43.2%	5,240	68.8%
Seat Belt Only	201	10.6%	372	14.1%	1,679	54.5%	2,252	29.6%
Unrestrained	17	0.9%	40	1.5%	71	2.3%	128	1.7%
Total	1,897	100.0%	2,641	100.0%	3,082	100.0%	7,620	100.0%

- The older the child the less likely they were using a child safety seat.
- 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 seat belts too early.

Child Safety Seat Use by Children Age 0 to 8 Years (Utah 2004-2013)

Child Occupants												
Year	Ages 0-1			Ages 2-4			Ages 5-8			Total		
	No CSS	Child Safety Seat		No CSS	Child Safety Seat		No CSS	Child Safety Seat		No CSS	Child Safety Seat	
	#	#	%	#	#	%	#	#	%	#	#	%
2004	275	1,688	86.0%	952	2,542	72.8%	3,577	567	13.7%	4,804	4,797	50.0%
2005	227	1,681	88.1%	960	2,721	73.9%	2,969	688	18.8%	4,156	5,090	55.1%
2006	267	1,897	87.7%	881	2,288	72.2%	2,654	683	20.5%	3,802	4,868	56.1%
2007	367	2,151	85.4%	961	2,495	72.2%	2,864	727	20.2%	4,192	5,373	56.2%
2008	286	1,822	86.4%	694	2,301	76.8%	2,125	978	31.5%	3,105	5,101	62.2%
2009	194	1,791	90.2%	606	2,326	79.3%	2,006	1,122	35.9%	2,806	5,239	65.1%
2010	261	1,703	86.7%	598	2,389	80.0%	1,833	1,139	38.3%	2,692	5,231	66.0%
2011	425	1,682	79.8%	520	2,414	82.3%	1,753	1,188	40.4%	2,698	5,284	66.2%
2012	363	1,644	81.9%	486	2,206	81.9%	1,824	1,265	41.0%	2,673	5,115	65.7%
2013	218	1,679	88.5%	412	2,229	84.4%	1,750	1,332	43.2%	2,380	5,240	68.8%
Total	2,883	17,738	86.0%	7,070	23,911	77.2%	23,355	9,689	29.3%	33,308	51,338	60.7%



- The ten year trend shows an increase of child safety seat (CSS) use in crashes for ages 0-8 years.
- Ages 5-8 years showed the biggest gain in CSS use, increasing from 13.7% in 2004 to 43.2% in 2013.