

DEPARTMENT OF TRANSPORTATION'S

REPORT TO LEGISLATURE

OF

THE STATE OF HAWAII

ON

ACT 72

SESSION LAWS OF HAWAII 2005

Relating to Driver Licensing, requiring the Department of Transportation and the Department of Health to determine the effectiveness of the Graduated Provisional Licensing Program in reducing traffic fatalities and accidents in the State.

**PREPARED BY:
STATE DEPARTMENT OF HEALTH
STATE DEPARTMENT OF TRANSPORTATION
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Summary:

The enactment of Act 72, Hawaii's graduated licensing(GDL) program in 2005 was associated with significant decreases in the numbers of 16 and 17 year-olds with driver's licenses from 2006 to 2008. The translation of fewer licensed drivers to lowered teen involvement in crashes was less clear, however, mostly due to incomplete crash data during the post-GDL period (2006-2008). Despite this limitation, there was a significant decrease in the proportion of drivers involved in crashes who were 16 years-old, from 1.5% during pre-GDL periods to 1.1% in 2008. This small change represents an estimated reduction of 66 fewer 16 year-old drivers involved in crashes each year. The decrease was statistically significant only among drivers in Hawaii and Kauai counties. The proportion of crashes involving 17 year-old drivers also decreased significantly from 2.4% in the pre-GDL period to 2.0% in 2008, resulting in an estimated 52 fewer 17 year-old drivers involved in crashes each year. Reductions in teen-aged drivers involved in night time crashes and crashes involving the transport of multiple minor-aged passengers were also described. Future analyses with complete data would provide a more thorough and statistically reliable examination of trends in the number and rate of crashes involving young drivers.

Introduction:

Hawaii's graduated licensing (GDL) program, as stipulated by Act 72, took effect on January 9, 2006. GDL changed both the license application process for 16 and 17 year-olds, and restricted the times and conditions under which they can drive. This evaluation examines trends in the number and proportion of crashes involving teen-aged drivers, using data from pre- and post-GDL time periods.

Methodology:

Prior to GDL, an applicant could obtain a full driver's license at 15 (before 2001) or 16 years of age (2001 and later). GDL instituted a phased process to obtaining a license, so that a resident younger than 18 years of age must obtain in sequence: an instructional permit, a provisional license, and finally a full license. Applicants must be at least 15 years and 6 months of age to receive a permit, at least 16 years old for the provisional license, and at least 17 years old to receive a full driver's license. GDL further prohibits those with a provisional license from transporting more than one other person below age 18 at any time, and from driving between 11:00pm and 5:00am unless accompanied by the driver's parent or guardian. (There are some exemptions to the latter restriction, based on documented need to drive to work or school-authorized activities.)

This report examines annual trends in the number and proportion of crashes involving teen-aged drivers over the 6-year period of 2003 to 2008. The number of all crashes was derived from the Motor Vehicle Accident Report (MVAR) form which is completed at crash scenes by police officers in all counties and submitted to the Hawaii State Department of Transportation (DOT). Data from the Fatal Analysis Reporting System (FARS) of the National Highway Traffic Safety Administration was also used to describe traffic crashes involving a fatality.

At the time this report was prepared, MVAR data from the post-GDL period (years 2006 through 2008) was incomplete, so the results presented here should be considered preliminary.

Table 1 shows that data was missing from Hawaii County for all 3 of those years, for Honolulu County in 2007 and 2008, and for Maui County in 2008. Given the incomplete post-GDL data, this report will consider changes in the proportion of crashes involving teen-aged drivers. Changes in proportion will be unaffected by changes in number of drivers (from incomplete data), with the reasonable assumption that the missing MVAR reports are not biased in terms of the age of drivers. Since complete data is not available, this report will not examine trends in the rates of crashes involving teen-aged drivers. Crash rates are computed using the counts from the above data sources, adjusted for the annual numbers of licensed drivers; data which was provided by the Hawaii Motor Vehicle & Licensing Division. These analyses will be conducted when complete data is available.

Table 1. Annual number of traffic crashes documented by MVAR, by county, 2003-2008.

County	2003	2004	2005	2006	2007	2008
Hawaii	2310	2432	2117	1597	744	819
Honolulu	6650	6518	6396	5990	5416	4253
Kauai	759	675	605	535	575	544
Maui	1079	790	905	874	881	590
state	10798	10415	10023	8996	7616	6206

Apart from the missing post-GDL data, MVAR has other limitations which effect this evaluation. Firstly, there is no place to note a driver's possession of an instructional permit, so this evaluation will only examine the crash rates of drivers aged 16 years and older. Secondly, MVAR is unable to distinguish possession of a provisional license from a full license, so this evaluation cannot assess compliance of those terms of GDL. Thirdly, while MVAR collects age and demographic information on most of the occupants involved in a crash, there is no information on their relationship to the driver. MVAR data therefore cannot establish whether a passenger was a parent or guardian of a teen-aged driver (as stipulated by GDL under certain conditions) or some unrelated person. This evaluation therefore considers only the presence of any passenger aged 32 or older in a car operated by a 16 or 17 year-old; there is no way to determine compliance with the GDL stipulations of a parent or guardian present in the transport of more than one passenger under 18 years of age, or a provisional licensee operating between 11:00 pm and 5:00 am. Finally, data relevant to this evaluation is sometimes missing from MVAR. Table 2 shows the magnitude of missing data for some MVAR elements needed for this evaluation. The time of the crash was missing for 2% of the crashes that involved at least one automobile. Age was missing for about 7% of the drivers of automobiles, and driver gender was missing for 3.7%. Missing data will be excluded from analyses in this report, since there was no trend over time in the proportion of records with missing information. The only exception was automobile passenger age in 2005 (missing for 10.7%), due to missing information for nearly one-third (30%) of passengers involved in crashes on Hawaii County that year.

Table 2. Summary of missing data from key elements of MVAR, by year.

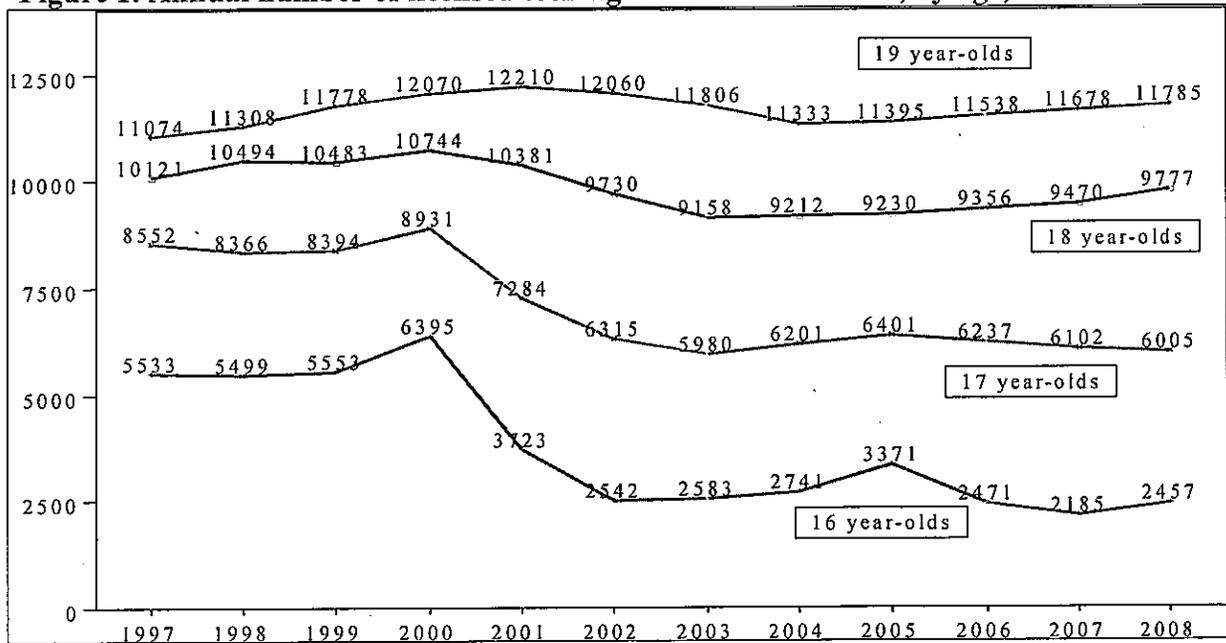
	2003	2004	2005	2006	2007	2008	6-yr. ave
Crashes involving at least one automobile*							
number of crashes	10798	10415	10023	8996	7616	6206	9009
missing time of crash	2.1% (229)	2.5% (262)	1.5% (149)	2.0% (179)	1.7% (128)	2.1% (133)	2.0% (180)
Drivers of automobiles* involved in crashes							
number of drivers	17417	16790	16259	14624	12185	9715	14498
missing driver age	7.3% (1265)	6.3% (1066)	6.5% (1053)	6.5% (954)	6.8% (826)	6.2% (606)	6.6% (962)
missing driver gender	4.0% (698)	3.1% (527)	3.8% (618)	3.8% (559)	4.1% (495)	3.9% (377)	3.7% (541)

*Automobile includes passenger cars, pick-up trucks, vans, and sport utility vehicles. Excludes motorcycles, mopeds, buses, and other specialized vehicles.

Results:

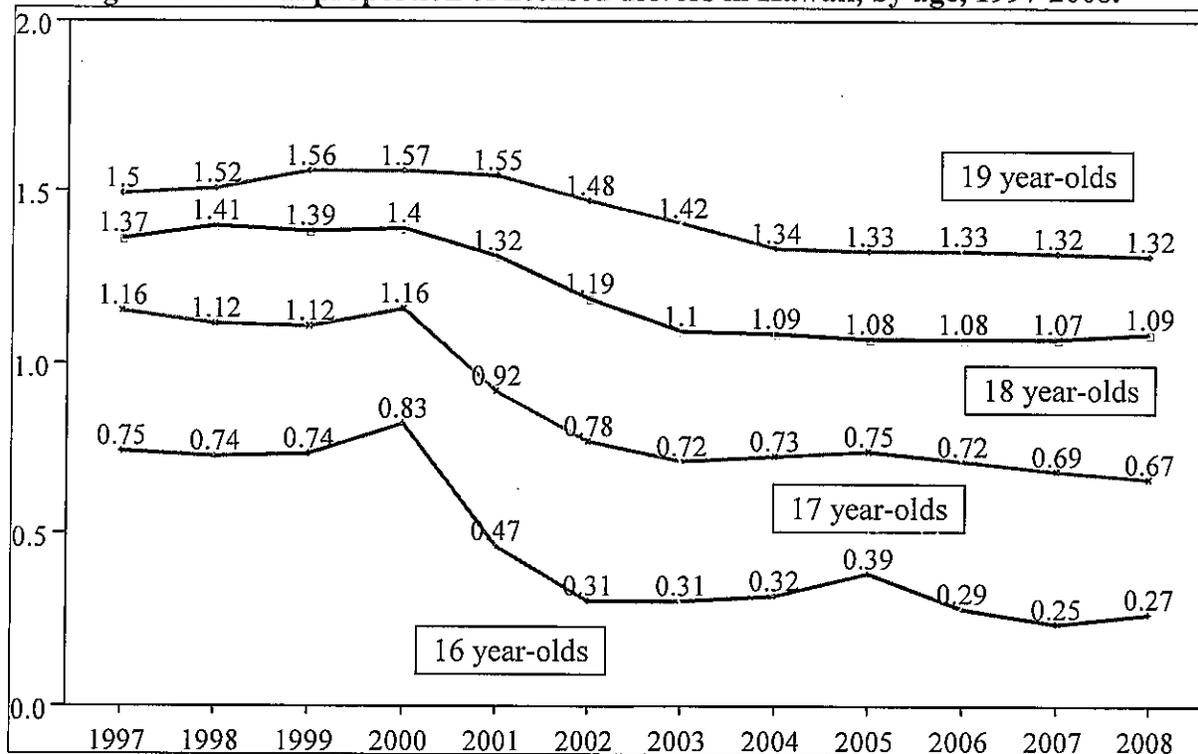
Figure 1 shows the number of 16 year-old licensees has decreased twice in recent years: first in 2001, after the implementation of Act 175 which required driver license applicants under age 18 to complete a certified driver education program and a behind-the-wheel driver training course, and secondly in 2006 after the implementation of GDL. (Note the increases in licenses in 2000 and 2005, possibly in anticipation of these two programs.) There was also a corresponding decrease in the number of 17 year-old licensees from 2005 to 2008, although the decrease in 2006 was much less than for 16 year-olds. The number of 18 and 19 year-old licensees had stabilized a few years after Act 175, and gradually increased over the 2003 to 2008 period. .

Figure 1. Annual number of licensed teen-aged drivers in Hawaii, by age, 1997-2008.



Similar trends were seen in the proportion of licensed drivers who were 16 or 17 years of age (Figure 2): a sharp decrease in 2001 after Act 175, followed by stable levels from 2002 to 2004, and a decrease in 2006 and later, particularly among 16 year-olds. These patterns were consistent across each of the four counties. The proportion of licenses to 16 year-olds in the post-GDL period decreased significantly in all counties when compared to the proportion averaged over the 3-year period of 2003 to 2005. For the state overall, the proportion of licensees who were 16 years old decreased 31% from 2005 (0.39%) to 2008 (0.27%). Figure 1 shows this translated into an average of 1000 fewer 16 year-olds with licenses in the post-GDL period, compared to 2005. The decrease in the proportion of 17 year-old licensees in the state between the two periods was also statistically significant for all counties, with the exception of Maui County (0.74% during pre-GDL vs. 0.76% during post-GDL).

Figure 2. Annual proportion of licensed drivers in Hawaii, by age, 1997-2008.



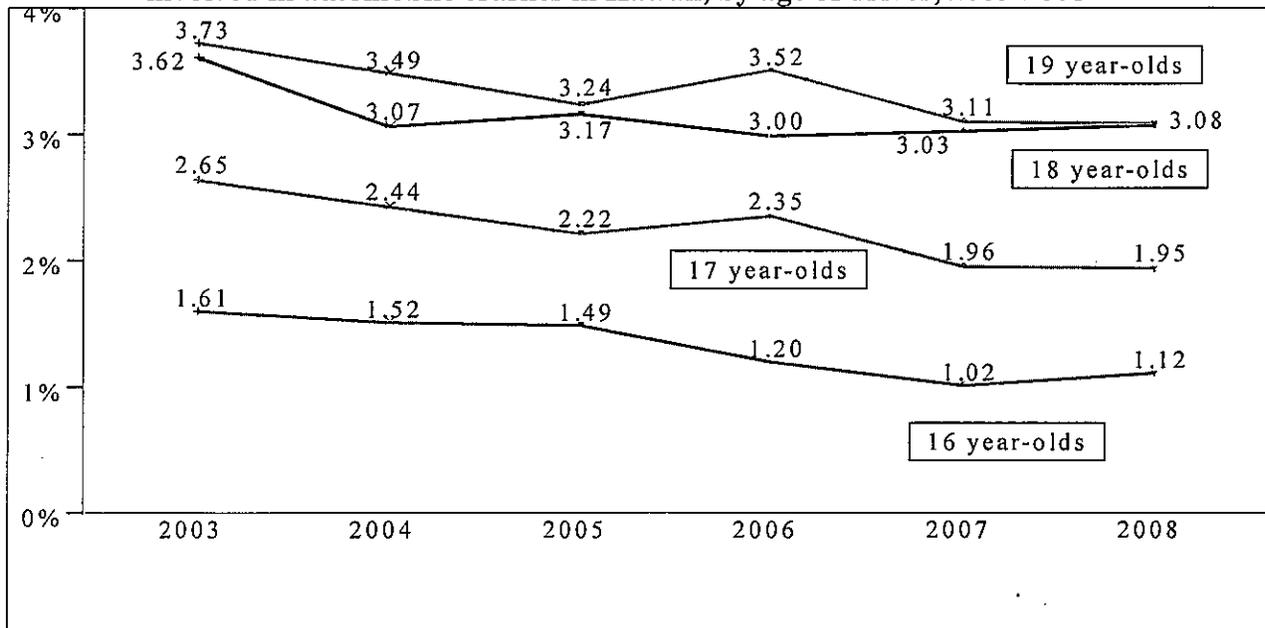
There was a statistically significant decrease in the proportion of automobile crashes that involved a 16 year-old driver during the post-GDL period (years 2006, 2007, 2008 or their combined average), when compared to the average proportion over the 2003 to 2005 period (Table 3 and Figure 3). In the post-GDL period, only 1.12% of drivers involved in crashes were 16 year-olds, an 28% decrease from 1.54% over the 2003 to 2005 period. Using the 2003 to 2005 annual average of 241 drivers of this age, this decrease would translate into 66 fewer 16 year-old drivers who were involved in crashes in the state each year in the post-GDL period. There were also significant decreases in the proportion of both 17 year-old (20% decrease) and 19 year-old drivers (11% decrease) in 2008, compared to the 2003-2005 pre-GDL period. The decrease among 17-year-old drivers would translate into 77 fewer drivers involved in crashes in 2008. There were few other significant differences for drivers of other ages, including an increase in the proportion of drivers who were 75 years of age or older.

Table 3. Annual number and percent of drivers involved in automobile crashes in Hawaii, by age of driver, 2003-2008.

Age	Quantity	2003	2004	2005	2003-2005 ave	2006	2007	2008	2006-2008 ave
16y	number of drivers	259	238	226	241	164	116	102	127
	% of all drivers	1.61	1.52	1.49	1.54	1.20*	1.02*	1.12*	1.12*
17y	number of drivers	426	382	337	382	321	222	177	240
	% of all drivers	2.65	2.44	2.22	2.44	2.35	1.96*	1.95*	2.11*
18y	number of drivers	583	482	481	515	409	343	280	344
	% of all drivers	3.62	3.07	3.17	3.29	3.00	3.03	3.08	3.03*
19y	number of drivers	601	547	492	547	480	352	281	371
	% of all drivers	3.73	3.49	3.24	3.49	3.52	3.11*	3.09*	3.27*
20-29y	number of drivers	4299	4112	4107	4173	3667	2992	2443	3034
	% of all drivers	26.70	26.22	27.08	26.66	26.89	26.42	26.88	26.73
30-44y	number of drivers	4580	4459	4235	4425	3755	3236	2447	3146
	% of all drivers	28.44	28.43	27.92	28.27	27.54	28.57	26.92*	27.72*
45-64y	number of drivers	4089	4163	4106	4119	3729	3125	2548	3134
	% of all drivers	25.39	26.54	27.07	26.32	27.34*	27.59*	28.03*	27.61*
65-74y	number of drivers	739	744	678	720	642	515	474	544
	% of all drivers	4.59	4.74	4.47	4.60	4.71	4.55	5.22*	4.79
75+y	number of drivers	527	556	504	529	470	424	337	410
	% of all drivers	3.27	3.55	3.32	3.38	3.45	3.74	3.71	3.62*

*Denotes statistically significant difference in proportion, compared to the average proportion for the 2003-2005 period.

Figure 3. Annual proportion of teen-aged drivers involved in automobile crashes in Hawaii, by age of driver, 2003-2008



County-specific analyses showed the significant decrease in the proportion of 16 year-old drivers was evident only in Hawaii and Kauai counties (Tables 4 and 6, respectively). There was little change in this proportion among drivers in Maui (Table 7) and especially Honolulu counties (Table 5). These relationships are summarized graphically in Figure 4. Apart from 16 year-olds, county-specific analyses were consistent with those for the state as a whole, in that there were few significant changes in the distribution of driver age in the post-GDL period, compared to the 2003 to 2005 period.

Table 4. Annual number and percent of drivers involved in automobile crashes in Hawaii County, by age of driver, 2003-2008.

Age	Quantity	2003	2004	2005	2003-2005 ave	2006	2007	2008	2006-2008 ave
16y	number of drivers	90	82	66	79	31	15	20	22
	% of all drivers	2.55	2.19	2.05	2.27	1.19*	1.26*	1.57	1.30*
17y	number of drivers	119	117	95	110	81	25	32	46
	% of all drivers	3.37	3.12	2.95	3.15	3.11	2.10*	2.51	2.72
18y	number of drivers	147	132	143	141	96	39	49	61
	% of all drivers	4.17	3.52	4.45	4.02	3.69	3.28	3.84	3.63
19y	number of drivers	137	159	129	142	104	34	45	61
	% of all drivers	3.88	4.24	4.01	4.05	3.99	2.86*	3.53	3.61
20-29y	number of drivers	861	934	806	867	606	277	312	398
	% of all drivers	24.40	24.93	25.06	24.79	23.26	23.30	24.47	23.57*
30-44y	number of drivers	940	956	803	900	645	312	322	426
	% of all drivers	26.64	25.51	24.97	25.72	24.76	26.24	25.25	25.23
45-64y	number of drivers	924	1041	926	964	818	385	385	529
	% of all drivers	26.18	27.78	28.79	27.55	31.40*	32.38*	30.20*	31.33*
65-74y	number of drivers	169	184	146	166	131	67	66	88
	% of all drivers	4.79	4.91	4.54	4.76	5.03	5.63	5.18	5.21
75+y	number of drivers	142	142	102	129	93	35	44	57
	% of all drivers	4.02	3.79	3.17	3.68	3.57	2.94	3.45	3.39

*Denotes statistically significant difference in proportion, compared to the average proportion for the 2003-2005 period.

Table 5. Annual number and percent of drivers involved in automobile crashes in Honolulu County, by age of driver, 2003-2008.

Age	Quantity	2003	2004	2005	2003-2005 ave	2006	2007	2008	2006-2008 ave
16y	number of drivers	107	99	98	101	90	69	60	73
	% of all drivers	1.09	1.02	1.02	1.04	1.02	0.88	0.99	0.96
17y	number of drivers	224	201	177	201	170	138	92	133
	% of all drivers	2.29	2.07	1.84	2.07	1.93	1.76	1.51*	1.76*
18y	number of drivers	324	280	273	292	233	232	180	215
	% of all drivers	3.31	2.89	2.83	3.01	2.64	2.95	2.96	2.83
19y	number of drivers	355	320	304	326	305	245	189	246
	% of all drivers	3.63	3.30	3.16	3.36	3.46	3.12	3.11	3.25
20-29y	number of drivers	2842	2677	2746	2755	2538	2186	1725	2150
	% of all drivers	29.07	27.63	28.51	28.40	28.77	27.80	28.37	28.33
30-44y	number of drivers	2794	2852	2742	2796	2497	2267	1661	2142
	% of all drivers	28.58	29.44	28.46	28.83	28.31	28.83	27.31*	28.22
45-64y	number of drivers	2385	2480	2529	2465	2256	2092	1630	1993
	% of all drivers	24.40	25.60	26.25	25.41	25.58	26.61*	26.80*	26.26*
65-74y	number of drivers	442	451	431	441	422	340	314	359
	% of all drivers	4.52	4.65	4.47	4.55	4.78	4.32	5.16*	4.73
75+y	number of drivers	302	329	333	321	310	294	230	278
	% of all drivers	3.09	3.40	3.46	3.31	3.51	3.74	3.78*	3.66*

*Denotes statistically significant difference in proportion, compared to the average proportion for the 2003-2005 period.

Table 6. Annual number and percent of drivers involved in automobile crashes in Kauai County, by age of driver, 2003-2008.

Age	Quantity	2003	2004	2005	2003-2005 ave	2006	2007	2008	2006-2008 ave
16y	number of drivers	41	32	32	35	14	13	12	13
	% of all drivers	3.78	3.42	3.70	3.64	1.77*	1.49*	1.43*	1.56*
17y	number of drivers	35	41	25	34	30	21	30	27
	% of all drivers	3.23	4.38	2.89	3.50	3.80	2.40	3.57	3.23
18y	number of drivers	57	40	22	40	38	33	19	30
	% of all drivers	5.25	4.27	2.55	4.12	4.82	3.78	2.26*	3.59
19y	number of drivers	44	31	22	32	26	30	25	27
	% of all drivers	4.06	3.31	2.55	3.36	3.30	3.43	2.97	3.23
20-29y	number of drivers	226	198	208	211	181	204	188	191
	% of all drivers	20.83	21.13	24.07	21.90	22.94	23.34	22.35	22.88
30-44y	number of drivers	306	237	240	261	208	259	231	233
	% of all drivers	28.20	25.29	27.78	27.13	26.36	29.63	27.47	27.88
45-64y	number of drivers	291	270	240	267	234	226	250	237
	% of all drivers	26.82	28.82	27.78	27.75	29.66	25.86	29.73	28.35
65-74y	number of drivers	53	47	41	47	29	45	51	42
	% of all drivers	4.88	5.02	4.75	4.89	3.68	5.15	6.06	4.99
75+y	number of drivers	32	41	34	36	29	43	35	36
	% of all drivers	2.95	4.38	3.94	3.71	3.68	4.92	4.16	4.27

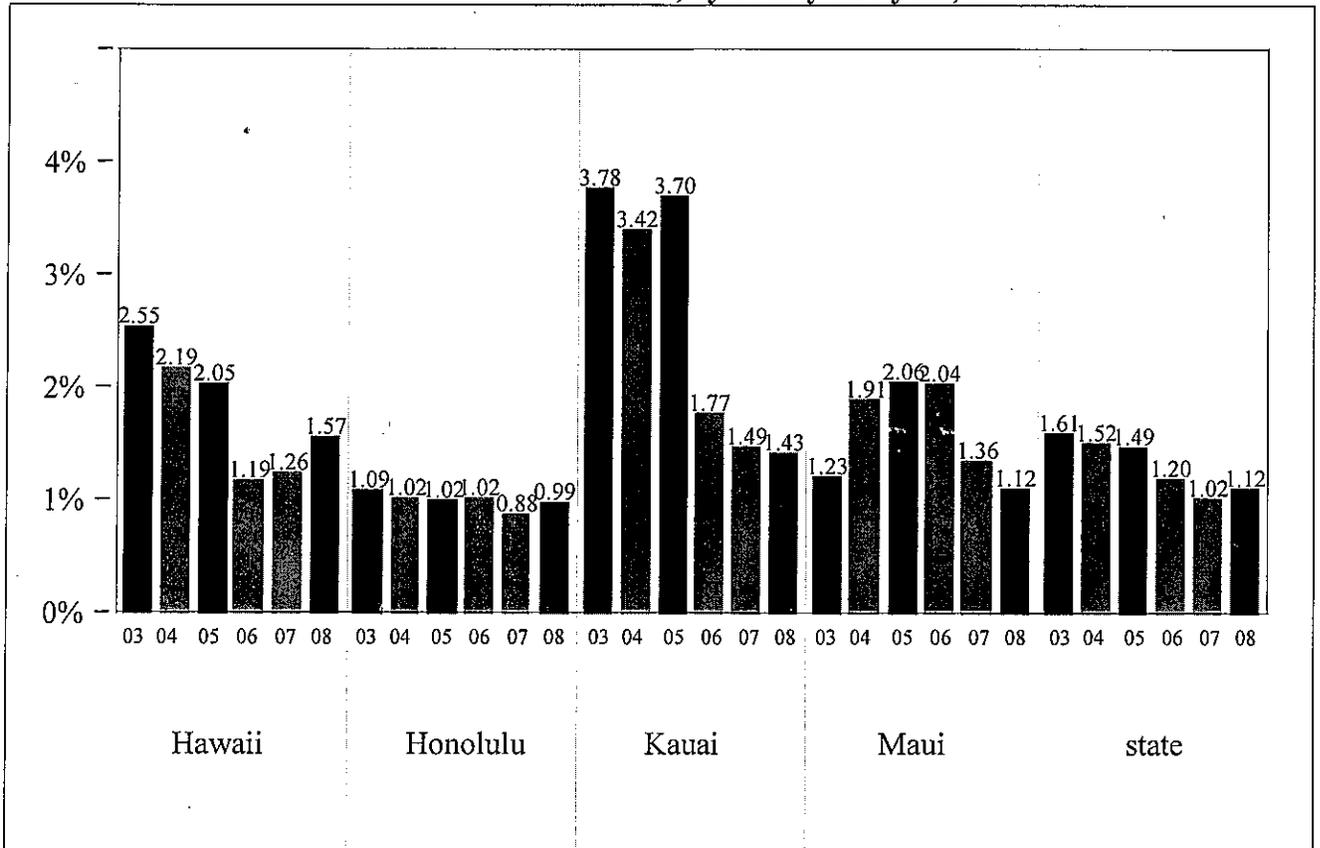
*Denotes statistically significant difference in proportion, compared to the average proportion for the 2003-2005 period.

Table 7. Annual number and percent of drivers involved in automobile crashes in Maui County, by age of driver, 2003-2008.

Age	Quantity	2003	2004	2005	2003-2005 ave	2006	2007	2008	2006-2008 ave
16y	number of drivers	21	25	30	25	29	19	10	19
	% of all drivers	1.23	1.91	2.06	1.70	2.04	1.36	1.12	1.56
17y	number of drivers	48	23	40	37	40	38	23	34
	% of all drivers	2.80	1.76	2.75	2.48	2.81	2.72	2.58	2.72
18y	number of drivers	55	30	43	43	42	39	32	38
	% of all drivers	3.21	2.29	2.96	2.86	2.95	2.79	3.59	3.04
19y	number of drivers	65	37	37	46	45	43	22	37
	% of all drivers	3.79	2.82	2.55	3.10	3.16	3.07	2.47	2.96
20-29y	number of drivers	370	303	347	340	342	325	218	295
	% of all drivers	21.59	23.13	23.88	22.78	24.05	23.23	24.44	23.84
30-44y	number of drivers	540	414	450	468	405	398	233	345
	% of all drivers	31.51	31.60	30.97	31.36	28.48*	28.45*	26.12*	27.90*
45-64y	number of drivers	489	372	411	424	421	422	283	375
	% of all drivers	28.53	28.40	28.29	28.41	29.61	30.16	31.73*	30.33*
65-74y	number of drivers	75	62	60	66	60	63	43	55
	% of all drivers	4.38	4.73	4.13	4.40	4.22	4.50	4.82	4.47
75+y	number of drivers	51	44	35	43	38	52	28	39
	% of all drivers	2.98	3.36	2.41	2.90	2.67	3.72	3.14	3.18

*Denotes statistically significant difference in proportion, compared to the average proportion for the 2003-2005 period.

Figure 4. Proportion of 16 year-old drivers involved in automobile crashes in Hawaii, by county and year, 2003-2008.



An average of fifteen 16 year-old drivers and thirty-nine 17 year-old drivers were involved in crashes between 11:00pm and 5:00am in 2006 without an adult passenger (ages 32 years and older) in the car; a time period in which provisional licensees are prohibited from driving (Table 8). The fifteen 16 year-olds comprised about 1% of all drivers who were involved in crashes during this time period (“night time crashes”), which was 50% lower than the proportion over the 2003 to 2005 period (2.0%). However that proportion changed significantly between the pre- and post-GDL periods only among drivers in Hawaii (in 2006) and Honolulu (in 2007) counties. Note that this proportion actually increased among 16 year-old drivers in Hawaii County from 2006 to 2008. The only statistically significant changes in the proportion of 17 year-old drivers who were involved in night time crashes involved a decrease among drivers in 2008, relative to the 2003-2005 period. This decrease was most apparent among drivers in Kauai County.

Table 8. Annual number and percent of teen-aged drivers involved in night time crashes in Hawaii, by age of driver and county, 2003-2008.

(Night time is defined as between 11:00pm and 5:00am.)

County	2003	2004	2005	2003-2005 ave	2006	2007	2008	2006-2008 ave
<i>16 year-old drivers</i>								
Hawaii	17 (4.6%)	6 (1.6%)	15 (3.6%)	13 (3.3%)	1 (0.3%)*	2 (1.2%)	2 (1.3%)	2 (0.8%)*
Honolulu	22 (1.7%)	13 (1.1%)	11 (0.9%)	15 (1.3%)	12 (1.0%)	4 (0.4%)*	8 (0.9%)	8 (0.8%)
Kauai	5 (3.7%)	8 (6.8%)	6 (5.1%)	6 (5.1%)	2 (2.0%)	1 (0.9%)*	2 (1.9%)	2 (1.6%)
Maui	1 (0.6%)	5 (4.5%)	4 (2.7%)	3 (2.3%)	4 (2.5%)	4 (2.7%)	2 (2.1%)	3 (2.5%)
state	45 (2.2%)	32 (1.8%)	36 (1.9%)	38 (2.0%)	19 (1.1%)*	11 (0.8%)*	14 (1.2%)*	15 (1.0%)*
<i>17 year-old drivers</i>								
Hawaii	22 (5.9%)	13 (3.4%)	9 (2.2%)	15 (3.8%)	11 (3.8%)	7 (4.1%)	2 (1.3%)	7 (3.3%)
Honolulu	35 (2.6%)	33 (2.8%)	32 (2.7%)	33 (2.7%)	27 (2.3%)	24 (2.4%)	18 (2.1%)	23 (2.3%)
Kauai	4 (3.0%)	13 (11.1%)	5 (4.2%)	7 (5.9%)	6 (6.0%)	6 (5.4%)	1 (0.9%)*	4 (4.1%)
Maui	4 (2.3%)	4 (3.6%)	4 (2.7%)	4 (2.8%)	5 (3.1%)	7 (4.7%)	4 (4.3%)	5 (4.0%)
state	65 (3.2%)	63 (3.6%)	50 (2.7%)	59 (3.2%)	49 (2.8%)	44 (3.0%)	25 (2.1%)*	39 (2.7%)

*Denotes statistically significant difference in proportion, compared to the average proportion for the 2003-2005 period.

There was a significant decrease in the proportion of drivers in crashes who were 16 year-olds and transporting 2 or more minor-aged (under 18 years) passengers without a parent or guardian also in the car (Table 9), from 0.25% in the pre-GDL period to 0.14% in the post-GDL period (Table 9). (Again, an adult aged 32 years or older was considered a proxy for parent or guardian in these analyses.) A similar decrease for 17 year-old drivers was seen only for 2007, and only within Hawaii and Honolulu counties. There were no significant changes in this proportion in 2008, for either age group.

Table 9. Annual number and percent of teen-aged drivers involved in crashes in Hawaii, with multiple minor-aged passengers, 2003-2008.

County	2003	2004	2005	2003-2005 ave	2006	2007	2008	2006-2008 ave
<i>16 year-old drivers</i>								
Hawaii	11 (0.31%)	12 (0.32%)	9 (0.28%)	11 (0.30%)	2 (0.08%)*	2 (0.17%)	4 (0.31%)	3 (0.16%)
Honolulu	24 (0.25%)	14 (0.14%)	17 (0.18%)	18 (0.19%)	13 (0.15%)	1 (0.01%)*	6 (0.10%)	7 (0.09%)
Kauai	7 (0.65%)	5 (0.53%)	2 (0.23%)	5 (0.49%)	3 (0.38%)	0 (0.00%)*	2 (0.24%)	2 (0.20%)
Maui	4 (0.23%)	7 (0.53%)	5 (0.34%)	5 (0.36%)	7 (0.49%)	4 (0.29%)	2 (0.22%)	4 (0.35%)
state	46 (0.29%)	38 (0.24%)	33 (0.22%)	39 (0.25%)	25 (0.18%)	7 (0.06%)*	14 (0.15%)	15 (0.14%)*
<i>17 year-old drivers</i>								
Hawaii	20 (0.57%)	15 (0.40%)	9 (0.28%)	15 (0.42%)	14 (0.54%)	0 (0.00%)*	5 (0.39%)	6 (0.37%)
Honolulu	30 (0.31%)	22 (0.23%)	21 (0.22%)	24 (0.25%)	22 (0.25%)	9 (0.11%)*	11 (0.18%)	14 (0.18%)
Kauai	2 (0.18%)	6 (0.64%)	4 (0.46%)	4 (0.42%)	4 (0.51%)	3 (0.34%)	4 (0.48%)	4 (0.44%)
Maui	8 (0.47%)	3 (0.23%)	4 (0.28%)	5 (0.34%)	1 (0.07%)	5 (0.36%)	3 (0.34%)	3 (0.24%)
state	60 (0.37%)	46 (0.29%)	38 (0.25%)	48 (0.31%)	41 (0.30%)	17 (0.15%)*	23 (0.25%)	27 (0.24%)

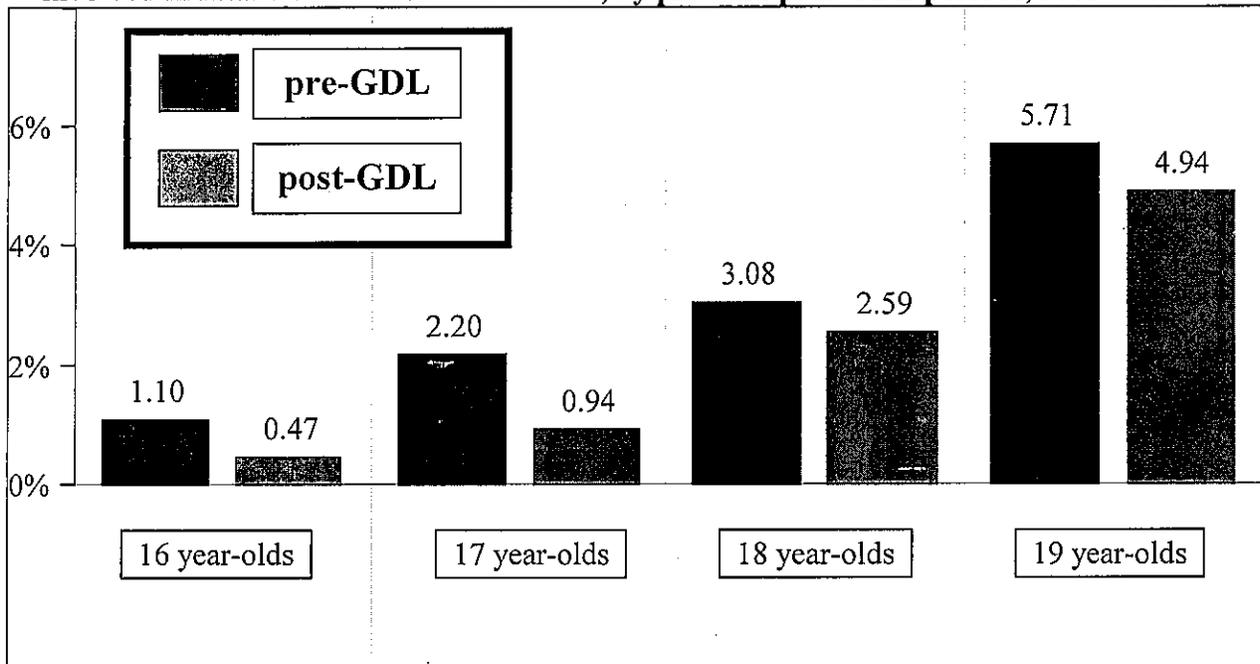
*Denotes statistically significant difference in proportion, compared to the average proportion for the 2003-2005 period.

According to FARS data, only two 16 year-old drivers has been involved in a fatal crash in Hawaii during the post-GDL period, compared to 5 during the pre-GDL period (Table 10). (Unlike MVAR data, FARS data is believed to be complete through 2008 for all fatal traffic crashes in the state.) Similarly, there was a large decrease in the number of 17 year-old drivers involved in fatal traffic crashes, from 10 during the pre-GDL period to 4 in the post-GDL period. In terms of proportions, the percentage of drivers who were involved in fatal crashes decreased for 16 year-olds from 1.10% to 0.47% from pre- to post-GDL periods, and for 17 year-olds from 2.20% to 0.94%, respectively (Figure 5). Neither of these decreases were statistically significant, however, possibly due to the small sample sizes.

Table 10. Annual number of teen-aged drivers involved in fatal traffic crashes in Hawaii, by age and county, 2003-2007.

County	2003	2004	2005	2006	2007	2008
<i>16 year-old drivers</i>						
Hawaii	0	0	1	0	0	0
Honolulu	0	0	0	1	0	0
Kauai	0	2	0	0	0	0
Maui	1	1	0	0	0	1
state	1	3	1	1	0	1
<i>17 year-old drivers</i>						
Hawaii	0	2	0	1	0	1
Honolulu	2	3	1	0	1	0
Kauai	1	1	0	1	0	0
Maui	0	0	0	0	0	0
state	3	6	1	2	1	1
<i>18 year-old drivers</i>						
Hawaii	1	3	0	0	0	1
Honolulu	3	2	1	3	1	2
Kauai	0	1	0	0	0	1
Maui	2	0	1	1	2	0
state	6	6	2	4	3	4
<i>19 year-old drivers</i>						
Hawaii	1	3	2	1	3	1
Honolulu	4	4	4	4	2	3
Kauai	2	1	1	0	1	1
Maui	1	2	1	1	3	1
state	8	10	8	6	9	6

Figure 5. Proportion of teen-agers among drivers involved in fatal traffic crashes in Hawaii, by pre- and post-GDL periods, 2003-2008.



Conclusions:

The results in this report should be considered preliminary, as a significant portion of the post-GDL MVAR data was missing, particularly for Hawaii and Honolulu counties. This limited the interpretation of decreases in the absolute number of crashes involving teen drivers from the post-GDL period (2006-2008) compared to the pre-GDL period (2003-2005). Missing MVAR data also precluded the examination of changes in the rates of crashes involving teen drivers; it was only possible to describe age-specific trends in the proportion of drivers involved in crashes.

These analyses showed a statistically significant decrease in the proportion of 16 year-old drivers involved in crashes during the post-GDL period, particularly in 2007 and 2008. However, significant decreases were evident only among 16 year-old drivers in Hawaii and Kauai counties. The proportion of 17 year-old drivers also decreased in the post-GDL period, although only to a significant degree among drivers in Honolulu County. There were few other significant changes were evident in other age groups, indicating a specific response to GDL among 16 year-old licensees, and to a lesser degree, 17 year-old licensees.

The proportion of 16 year-old drivers involved in nighttime crashes decreased significantly during the post-GDL period for the state and for Hawaii County. There was also a significant decrease in the proportion of 16 year-old drivers who were transporting multiple minor-aged passengers.

The availability of complete data would also allow a more straightforward examination of decreases in the number and rate of crashes involving teen drivers. We anticipate acquiring most of the missing data by June 2010, after which we will compile an updated report.