THE LONG TERM DETERRENT EFFECT OF THE SAFE ROADS ACT

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THE LONG TERM DETERRENT EFFECT OF THE SAFE ROADS ACT

The Safe Roads Act of 1983 made significant changes in the laws affecting drinking and driving. Initial analyses (Lacey, Popkin, et al., 1984) indicated that the law was effective in reducing driving while impaired (DWI). Yet in 1988, over 76,500 North Carolinians were arrested for DWI, an arrest rate or 1.76 per hundred licensed drivers. In spite of a general reduction in driving while impaired (DWI) activity, drinking and driving continues to be a contributing factor in a large proportion of motor vehicle crashes. In 1988 there were 15,301 alcohol related (A/R) crashes in North Carolina in which 15,618 people were injured. Apparently drinking and driving is still a large problem in North Carolina.

This work was sponsored through funding from the Governor's Highway Safety Program. This report presents an updated evaluation of the effectiveness of the Safe Roads Act as of 1988 in terms of reducing A/R crash involvement, nighttime crash involvement (an often used proxy measure of DWI involvement), DWI arrests, and BAC levels over the period from 1980 to 1988. In addition, it presents the levels of conviction for DWI for all those persons arrested for DWI and for those arrested for DWI who exceed the per se.

Background

Throughout the United States in the early 1980's, the passage of stiff drunken driving countermeasures became the focus of considerable legislative action. In June of 1983, the North Carolina General Assembly enacted the Safe Roads Act (SRA) which made sweeping changes in North Carolina's drunk driving laws. These changes were designed to deter persons from driving while impaired (DWI) by imposing more certain and uniformly severe sanctions on those arrested and convicted of DWI. The new law includes an immediate, short term license revocation for persons arrested for DWI who have a blood alcohol concentration (BAC) of .10 or more or who refuse to submit to a chemical test; mandatory jail terms for multiple offenders and those involved in especially

serious cases; strict sentencing guidelines for less serious offenders; the elimination of lesser included offenses which had been plea bargaining alternatives; and several special provisions designed to deter drinking and driving by the youthful driving population including raising the drinking age for beer and fortified wine from 18 to 19. This was subsequently increased to 21 in 1986. Reported changes in alcohol-related driving behavior follow.

DWI Arrests in North Carolina

One measure of the SRA's effect is the volume of DWI arrest activity. As may be seen in Figure 1, the number of DWI arrests per licensed driver has declined since enactment. Nonetheless, there were still 76,563 arrests for DWI in 1988. This represents a 2% increase over 1987 DWI arrest activity. In 1988 1.76 out of every 100 licensed drivers was arrested for DWI.

Table 1 provides the A/R arrest rates by age and sex. The number of DWI arrests per 100 licensed drivers varies considerably by age and sex. Eighty-nine percent of those arrested are male. The highest rates are for males aged 21 to 24; the lowest are for females 75+. On the basis of age, those 21 to 24 have the highest arrest rates - 3.61 per hundred licensed drivers. In spite of the raising of the drinking age, drivers aged 18 to 20 continue to be arrested for DWI (2.77).



* Based on N.C. Driver History file as of 3-30-90. ** Inludes 2073 BAC not stated, 28 BAC injured, 4 BAC unavailable, 427 BAC A/A.



Alcohol-Related Arrest Trends Total Population



Tab	le	1

1988 ALCOHOL-RELATED ARREST RATES BY AGE GROUP AND BY SEX

		NUMBER OF ARRESTS	OF ARRESTS OVER		ARRESTS PER 100 LICENSED DRIVERS	NUMBER OF LICENSED DRIVERS	PERCENT OF DRIVERS
	•••••	 •	AGE	SEX			
<16		18	ļ				
-	M F	13 5	72.22 27.78	0.02			
16-17		2,098	•••••	•··································	1.6760	125,177	2.89
Ī	M F	1,869 229	89.08 10.92	2.76 2.62	2.8020 0.3916	66,703 58,474	1.54 1.35
18-20		7,168		••••••	2.7706	258,721	5.96
	N F	6,470 698	90.26 9.74	9.54 7.97	4.7818 0.5656	135,306 123,415	3.12 2.85
21-24		13,920			3.6122	385,363	8.88
	M F	12,471 1,449	89.59 10.41	18.39 16.55	6.2469 0.7802	199,634 185,729	4.60 4.28
25-54		49,796			1.9364	2,571,580	59.29
ļ	M F	43,681 6,115	87.72 12.28	64.42 69.86	3.4055 0.4744	1,282,672 1,288,908	29.57 29.72
55-64		2,711			0.5428	499,489	11.52
	M F	2,501 210	92.25 7.75	3.69 2.40	1.0018 0.0841	249,663 249,826	5.76 5.76
65-74		758			0.2134	355,128	8.19
	N F	713 45	94.06 5.94	1.05 0.51	0.3965 0.0257	179,842 175,286	4.15 4.04
75+	•••••	94			0.0662	141,937	3.27
	M F	92 2	97.87 2.13	0.14 0.02	0.1238 0.0030	74,315 67,622	1.71 1.56
TOTAL		76,563	100.00	100.00	1.7652	4,337,395	100.00
-	N F	67,797 8,748	% of total arrests:	l 88.57 11.43	3.0984 0.4070	2,188,135 2,149,260	50.45 49.55

Prepared by: The Highway Safety Research Center

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University of North Carolina

Figure 2 presents information on the adjudication of 1988 arrestees. As of March 1990, 65,714 of the 76,563 arrested were adjudicated. Of these, 68% were found guilty. In keeping with the intent of the law, 87% of those whose BAC level was at or exceeded the per se of .10 were found guilty. (In 1982, 72 percent of these people were found guilty. In 1984 92 percent were found guilty). On the other hand, thirty-five percent of those with a BAC less than the per se level were found guilty. Only 74% of those who refused to take the breath test were found guilty.

Statewide DWI conviction rates by county, presented in Table 2, indicate that there is considerable variation in the conviction rates. For the entire state, 67.5% of those arrested for DWI are found guilty. This table also presents information on the number found guilty with counsel. Information about representation by counsel is only computerized for those found guilty. Of those found guilty, 63% were represented by counsel.

Table 3 presents conviction rates for the state and by county of those people who had a BAC equal to or exceeding the per se of .10. Eighty-seven percent of those considered to be legally intoxicated were found guilty. Figure 3 shows the previous DWI activity of those arrested in 1988 and convicted. Thirty-two percent of those people arrested for DWI in 1988 and subsequently adjudicated had one or more previous DWI convictions. If a DWI arrestee had a previous conviction for DWI, there was an increased chance of their being found guilty.



Figure 3. Previous DWI Convictions of Those 1988 DWI Arrestees Adjudicated

IDDE 2 CONVICTION RATES STATEWIDE AND BY COUNTY FOR ALL ALCOHOL-RELATED ARRESTS IN 1988

	NUMBER OF ARRESTS	NUMBER AD JUD I CATED	% GUILTY	% OF GUILTY W/COUNSEL		NUMBER OF ARRESTS	NUMBER AD JUD I CATED	X GUILTY	CUILTY
TATEWIDE	76563	65714	67.4	63.0					
OUNTY	••••••			i	JACKSON	160	149	71.8	47.7
OT STATED	7624	6944	83.4	55.6	JOHNSTON	981	815	56.1	66.1
LAMANCE	1266	1186	76.9	64.6	JONES	80	68	55.9	50.0
	. 			••••••••		4	**********		+
LEXANDER	274	250	74.8	63.1	LEE	428	379	64.1	74.1
LLEGHANY	102	92	65.2	75.0	LENOIR	834	715	60.7	53.0
NSON	347	309	65.0	72.1	LINCOLN	436	385	73.5	68.9
SHE	167	150	62.7	60.6	MC DOWELL	154	141	70.9	43.0
VERY	158	142	35.2	66.0	MACON	159	123	65.9	60.5
EAUFORT	507	463	68.3	50.6	MADISON	272	254	58.3	58.1
	292	266	50.8	35.6	MARTIN	226	195	75.4	45.6
ERTIE	+			• • • • • • • • • •		•			
BLADEN	495	445	51.5	72.1	MECKLENBURG	2905	2576	70.9	63.6
RUNSWICK	458	395	81.8	59.4	MITCHELL	127	115	52.2	83.3
UNCOMBE	1563	1371	78.6	50.8	MONTGOMERY	328	288	65.6	68.8
WRKE	742	636	73.3	81.8	MOORE	616	536	65.3	75.4
ABARRUS	1330	1181	69.3	69.7	NASH	1102	864	51.6	53.1
ALDWELL	737	608	62.5	70.5	NEW NANOVER	1273	1102	73.1	64.9
AMDEN	34	33	72.7	66.7	NORTHAMPTON	287	246	61.0	30.0
				•••••		•••••			
ARTERET	749	652	61.0	71.9	ONSLOW	1309	1143	77.3	59.6
ASWELL	228	201	81.6	73.8	ORANGE	591	518	75.5	71.9
ATAWBA	1405	1197	62.3	76.5	PAMLICO	113	104	54.8	71.9
HATHAM	372	322	71.7	73.6	PASQUOTANK	164	146	76.7	56.3
HEROKEE	148	120	60.0	40.3	PENDER	359	309	68.3	65.9
HOWAN	47	45	46.7	66.7	PERQUIMANS	56	47	59.6	67.9
	70	66	69.7	13.0	PERSON	189	163	79.1	84.5
									
LEVELAND	1087	917	59.4	60.4	PITT	1557	1415	57.4	72.0
OLUMBUS	638	570	54.0	59.1	POLK	149	116	76.7	57.3
CRAVEN	942	815	54.7	73.1	RANDOLPH	734	607	57.7	67.7
UMBERLAND	3093	2518	48.7	65.9	RICHMOND	627	566	55.5	66.6
URRITUCK	154	142	81.0	60.0	ROBESON	1268	1089	71.5	38.1
ARE	551	484	67.4	66.9	ROCKINGHAM	845	735	68.4	83.7
	1174	996	64.6	66.7	ROWAN	1152	1028	70.1	75.0
AVIDSON	+						***********		
DAVIE	311	259	67.2	74.7	RUTHERFORD	638	549	66.7	63.9
DUPLIN	525	462	71.2	47.4	SAMPSON	494	431	57.1	59.3
URHAM	2170	1889	73.5	79.8	SCOTLAND	392	341	80.1	33.0
DGECOMBE	890	651	59.0	56.3	STANLY	449	407	60.4	71.1
ORSYTH	2403	1998	81.5	67.4	STOKES	316	287	71.4	78.5
RANKLIN	369	319	64.3	69.3	SURRY	634	543	77.7	67.5
ASTON	1963	1464	56.9	58.1	SWAIN	195	165	66.1	16.5
						•••••••••			
ATES	110	101	58.4	59.3	TRANSYLVANIA	137	111	63.1	64.3
SRAHAM	83	74	67.6	24.0	TYRRELL	106	94	55.3	59.6
RANVILLE	225	190	68.9	71.8	UNION	708	635	68.2	73.7
REENE	128	104	65.4	44.1	VANCE	627	511	52.4	76.9
UILFORD	3675	3050	51.1	70.3	WAKE	4075	3095	77.9	68.5
ALIFAX	697	595	68.1	34.8	WARREN	247	203	57.6	64.1
**********	1145	946	63.7	35.0	WASHINGTON	72	67	44.8	56.7
IARNETT						••••••••••		+	
AYWOOD	512	461	71.8	40.2	WATAUGA	461	421	53.9	74.9
ENDERSON	514	448	78.1	64.6	WAYNE	1020	869	48.6	75.6
HERTFORD	527	480	46.5	39.5	WILKES	703	632	72.5	66.8
HOKE	539	501	59.3	48.1	WILSON	775	589	69.3	58.8
HYDE	65	61	42.6	69.2	YADKIN	283	252	68.7	68.8
					12222222222222	L 			

Table 3

CONVICTION RATES STATEWIDE AND BY COUNTY FOR ALCOHOL-RELATED ARRESTS IN 1988 WITH BAC READING >.09

	NUMBER OF ARRESTS	NUMBER AD JUD I CATED	X GUILTY	X OF GUILTY W/COUNSEL		NUMBER OF ARRESTS	NUMBER AD JUO I CATED	% GUILTY	COLLTY
STATEWIDE	41092	35855	87.2	63.7.	JACKSON	101	96	89.6	45.3
COUNTY	• • • • • • • • • • •	•		† ••••••	JOHNSTON	554	460	82.4	68.6
ALAMANCE	750	730	96.0	65.8	JONES	46	40	85.0	52.9
ALEXANDER	157	147	97.3	62.2	LEE	237	213	86.9	72.4
	• • • • • • • • • •			•····		***** ***	+		4
ALLEGHANY	58	54	90.7	77.6	LENOIR	500	438	86.5	53.8
ANSON	207	186	88.2	70.1	LINCOLN	260	231	95.7	67.0
ASHE	92	86	91.9	59.5	MC DOWELL	105	95	90.5	41.9
VERY	67	57	71.9	63.4	MACON	97	73	95.9	58.6
BEAUFORT	323	301	88.0	48.3	MADISON	156	145	86.2	56.8
BERTIE	137	129	90.7	33.3	MARTIN	135	121	93.4	46.0
	244	220	88.2	71.6	MECKLENBURG	1803	1672	88.6	63.4
BRUNSWICK	304	278	92.8	59.7	MITCHELL	61	56	78.6	81.8
BUNCOMBE	1032	927	97.5	48.2	MONTGOMERY	196	173	88.4	
	• • • • • • • • • • •			•••••••		•••••	•		68.6
BURKE	482	417	93.5	82.8	MOORE	372	333	87.4	74.9
CABARRUS	803	713	95.7	70.5	NASH	647	482	75.1	54.7
CALDWELL	407	351	83.5	71.0	NEW HANOVER	817	731	88.4	65.8
CAMDEN	21	20	90.0	55.6	NORTHAMPTON	155	134	96.3	27.9
CARTERET	455	394	82.7	70.2	ONSLOW	834	745	97.4	57.4
CASWELL	160	141	96.5	72.8	ORANGE	378	342	95.9	70.7
CATAWBA	840	714	83.6	77.4	PAMLICO	48	44	90.9	72.5
CHATHAM	239	216	92.1	71.9	PASQUOTANK	95	83	98.8	57.3
HEROKEE	72	66	92.4	32.8	PENDER	204	182	92.3	66.1
	• • • • • • • • • • •	20	80.0	56.3	PERQUIMANS	33	26	88.5	
CHOWAN	21								60.9
CLAY	48	47	83.0	12.8	PERSON	122	104	98.1	85.3
CLEVELAND	621	544	83.3	58.5	PITT	883	796	88.1	70.3
COLUMBUS	365	327	75.8	56.9	POLK	95	79	98.7	56.4
CRAVEN	491	431	77.0	72.6	RANDOLPH	409	350	84.0	68.4
CUMBERLAND	1844	1500	65.2	66.7	RICHMOND	358	322	83. 9 j	66.7
CURRITUCK	107	101	95.0	59.4	ROBESON	709	629	96.2	37.4
DARE	352	320	84.1	63.9	ROCKINGHAM	516	447	96.0	83.2
DAVIDSON	684	595	85.5	65.6	ROWAN	710	630	96.0	75.0
DAVIE	172	147	94.6	79.1	RUTHERFORD	326	290	95.5	62.1
• • • • • • • • • • • • • •	338	311	92.9	48.1	SAMPSON	281	250	76.4	58.1
DUPLIN	• • • • • • • • • • •	<i></i> . .				*********			
DURHAM	1373	1220	89.3	80.6	SCOTLAND	228	213	95.8	30.4
EDGECOMBE	550	387	81.4	56.5	STANLY	259	238	89.1	69.8
FORSYTH	1449	1327	95.5	66.5	STOKES	208	190	94.7	78.3
FRANKLIN	215	191	86.4	72.1	SURRY	402	352	97.4	67.1
GASTON	1087	826	79.2	57.5	SWAIN	122	104	91.3	18.9
GATES	55	52	96.2	62.0	TRANSYLVANIA	65	56	83.9	68.1
GRAHAM	44	40	95.0	15.8	TYRRELL	54	48	95.8	56.5
GRANVILLE	138	118	89.0	68.6	UNION	415	373	90.6	73.4
GREENE	71	64	84.4	48.1	VANCE	365	303	74.6	77.0
	• • • • • • • • • • •	• - +				••••••			
UILFORD	2221	1884	69.4	70.8	WAKE	2453	2020	92.5	67.8
ALIFAX	382	349	94.0	32.6	WARREN	147	122	83.6	64.7
ARNETT	681	570	88.1	33.7	WASHINGTON	25	22	86.4	52.6
IAY WOOD	334	307	90.9	36.9	WATAUGA	286	268	72.4	78.4
IENDERSON	338	294	94.6	66.5	WAYNE	645	559	66.9	77.3
HERTFORD	235	218	85.8	36.4	WILKES	450	410	96.6	66.7
HOKE	295	275	89.8	48.6	WILSON	515	402	84.1	59.8
NYDE	22	21	85.7	72.2	YADKIN	154	138	96.4	66.9
	614	537	96.8	66.0		59	55	89,1	77.6

The SRA provides five levels of the DWI offense with Level 1 being the most severe and Level 5 the least. The level of offense influences the sanctions imposed and is determined by the judge evaluating certain aggravating and mitigating factors only after the determination of guilt on the basic offense of DWI is made. It was intended that the most severe sanctions should be imposed on those guilty of a higher level of offense. Thus, levels 1 and 2 carry mandatory active jail terms of 14 and 7 days respectively, as well as other judicially imposed sanctions such as license suspension, fines, community service or an alcohol problem assessment.

Sanctions imposed by level of offense are presented in Table 4. This table is based on dispositions received by DMV for those arrested during 1988. The first column indicates the total number of dispositions received, and the subsequent columns show the number and percent of people by level who received a particular sanction. At levels 1 and 2 almost all offenders receive the active jail sanction mandated by the law. At levels 3 through 5, offenders receive less severe sanctions such as community service and attendance at ADETS. This table also shows the granting of the limited driving privilege which is afforded to those at the lower levels of offense.

This table shows that 65% of those convicted of DWI were required to get a substance abuse assessment. As might be expected, a larger proportion of those offenders in levels 1 and 2 were so ordered. In 1988, a mandatory substance abuse assessment was required for anyone in ten pilot counties who was arrested for DWI. Elsewhere in the state, an assessment was mandatory for anyone who a.) refused the breath test; b.) blew a .15 or greater; and/or c.) had a previous DWI conviction.

Table 5 shows the subsequent arrests for DWI of those 44002 found guilty of DWI. At Level 1, 79% had no subsequent arrest up to March 1990, Level 2, 85%; Level 3, 81%; Level 4, 78%, and Level 5 87%. This is a rudimentary estimate since no adjustment has been made for the passage of time. Similarly, it should be remembered that licensing sanctions may differ for these five groups

Table 4

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Judicially Imposed Sanctions Under the Safe Roads Act by Level of Conviction for Persons Arrested in 1988

Level	Total Dispositions <u>Received</u> *	Active Jail	Community Service	No Operation of <u>Motor Vehicle</u>	<u>Adets</u>	Assessment	Limited <u>Privilege</u>
1	5670	5425	506	447	1072	4180	6
		96%	3%	8%	19%	74%	0%
2	8411	8009	1130	835	2492	6916	15
		95%	13%	10%	30%	82%	0%
3	4101	. 829	2783	646	2736	2834	806
•		20%	68%	16%	67%	69%	20%
4	5651	809	4199	841	4084	3659	1666
·		14%	74%	15%	72%	65%	29%
5	20169	2884	15432	2614	15037	10803	9066
•		14%	77%	13%	75%	54%	45%
Total	44002	17956	24050	5383	25421	28392	11559
		41%	55%	12%	58%	65%	26.3%

*Excludes 306 cases where a level other than 1 through 5 is listed.

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Table 5 Subsequent A/R Arrests for those Arrested for DWI in 1988and Adjudicated

Number of Subsequent Arrests

	N	Q	1	<u>2+</u>
Level 1	5670	79%	16%	4%
Level 2	8411	85%	13%	3%
Level 3	4101	81%	16%	3%
Level 4	5651	78%	18%	4%
Level 5	20,169	87%	11%	2%

The data presented on this table uses those people with an alias counted only under the license with most 1988 DWI activity.

with those at Levels 1 and 2 having their licenses suspended for a minimum of four years by DMV.

Alcohol Related Crashes

The most important objective of the SRA was the reduction of A/R crashes and injuries. Figure 4 presents the percentage of crashes by month. There is a clear decrease during the period after the law took effect, but the proportion of decrease has leveled out. The overall level is lower than that observed prior to the passage of the law.

Figure 5 presents the percentage of crashes which occurred at night. This is an often used proxy measure of A/R crashes. (74% of A/R crashes occurred at night in North Carolina). This table shows a relatively consistent decline in nighttime crashes after the passage of the SRA and a stabilization. Both these figures substantiate the reduction in A/R crashes immediately following the passage of the law. In subsequent years this decrease has slowed, and we now observe a stabilized situation.



Figure 4. Percentage of A/R Crashes by Month Jan 1980 to Dec. 1989



Years in Months

Figure 5. Percentage of Nighttime Crashes by Month Jan. 1980 to Dec. 1989



Years in Months

Figure 6. Percentage of Alcohol Related Crashes by Month for Eighteen Year Olds.

Since the SRA emphasized the youthful offender it is of particular interest to look at the effect of the law on these groups. Figure 6 shows the percentage of A/R crashes for 18 year olds. Figure 7 presents the percentage of crashes for young people that occurred at night. As mentioned earlier, nighttime crashes are a useful proxy measure for alcohol related driving. There have been reported biases in the police reporting of alcohol use for young people. For this reason, nighttime crashes are particularly important. Figures 6 and 7 show a clear decrease in 1983 and another in 1986 when the drinking age was raised to 21.



Figure 7. Percentage of Crashes at Night For Young Drivers.

Alcohol related crashes decreased among other age groups. Figure 8 shows the reduction in the proportion of A/R crashes by age group comparing 1982 with 1988. This figure shows that the greatest impact of the legislation was on those less than 18 years of age. There was an overall 47% reduction in alcoholrelated crashes between 1982 and 1988. Figures 9 and 10 show the percentages of A/R crashes and nighttime crashes by year. In Figure 10 it will be observed that nighttime crashes increased slightly for people older than 74.



Figure 9. Percentage of Alcohol Related Crashes 1976-1988.



Figure 10. Percentage of Crashes at Night. 8pm - 4 am. 1976-1988.





Prepared by the HIghway Safety Research Center, University of North Carolina, Chapel Hill

As shown in Table 6, there were 15,301 crashes involving 22,849 drivers. There were 15, 618 people injured in these crashes including 416 who were fatally injured. Thirty-one percent of drivers killed in single vehicle crashes were intoxicated. Most fatal A/R crashes occur at night (79%). Fifty-nine percent of these fatal crashes occur on the weekend.

The SRA appears to have had a positive effect on serious injury crashes. This effect is shown in Figure 11. Information on the blood alcohol levels of fatally injured drivers is provided by the N.C. Medical Examiner and appears in Table 7. This table shows that of those people tested, 42% had some alcohol in their bodies, and 37% had levels at or above the per se level of .10.

Table 7. BAC Levels of Fatally Injured Drivers Tested byN.C. Medical Examiner - 1988

	Number			BAC Level					
Age	Tested	Q	.001079	<u>.0899</u>	.10149	<u>> .15</u>			
15	2	100%							
16-17	48	88%			4%	8%			
18-20	91	52%	7%	4%	10%	27%			
21-24	89	43%	12%	3%	10%	31%			
25-54	365	52%	3%	1%	6%	38%			
55-64	57	68%	5%	-	9%	18%			
65-74	40	78%	3%	-	3%	18%			
75+	31	100%							
All	723	58%	5%	2%	7%	30%			

Table 6

1988 NORTH CAROLINA MOTOR VEHICLE ACCIDENT STATISTICS

ALL CRASHES

	ALL CR	SHES			FATAL	CRASHES			
	TOTAL	SINGLE VEHICLE	WEEKEND	NIGHT	TOTAL	SINGLE VEHICLE	WEEKEND	NIGHT	
# OF ACCIDENTS	173283	41637	53605	54155	1413	530	628	712	
# OF DRIVERS	316531	41636	91323	87338	2212	530	918	997	
# DRIVERS DRINKING	15082	8040	8876	11250	357	193	218	280	
X OF DRIVERS	4.76	19.31	9.72	12.88	16.14	36.42	23.75	28.08	
# DRIVERS FATALLY INJURED	923	410	398	436	923	410	398	436	
# DRINKING DRIVERS FATALLY INJURED	186	126	116	144	186	126	116	144	
X OF DEAD DRIVERS	20.15	30.73	29.15	33.03	20.15	30.73	29.15	33.03	
# OF PEOPLE FATALLY INJURED	1565	551	694	773	1565	551	694	773	
# OF PEOPLE INJUREJ	11:319	26721	40953	40402	3088	9:6	1409	1449	
# OF TEENS 15-19 FATALLY INJURED	203	96	94	103	203	96	94	103	
# OF TEENS 15-19 Injured	21780	7636	8677	9699	498	183	248	263	

ALCOHOL-RELATED CRASHES

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••••••••••••••••••	ALL CRA	SHES			FATAL	CRASHES		
	TOTAL	SINGLE VEHICLE	WEEKEND	NIGHT	TOTAL	SINGLE VEHICLE	WEEKEND	NIGHT
# OF ACCIDENTS	15301	8040	8971	11396	393	193	239	311
# OF DRIVERS	22849	8040	13281	16563	562	193	329	436
# DRIVERS DRINKING	15082	8040	8876	11250	357	193	218	280
X OF DRIVERS	66.01	100.00	66.83	67.92	63.52	100.00	66.26	64.22
# DRIVERS FATALLY INJURED	226	126	136	171	226	126	136	171
# DRINKING DRIVERS FATALLY INJURED	186	126	116	144	186	126	116	144
X OF DEAD DRIVERS	82.30	100.00	85.29	84.21	82.30	100.00	85.29	84.21
# OF PEOPLE FATALLY INJURED	416	198	252	327	416	198	252	327
# OF PEOPLE INJURED	15618	7399	9427	11529	870	389	523	683
# OF TEENS 15-19 FATALLY INJURED	46	25	31	37	46	25	31	37
# OF TEENS 15-19 INJURED	2478	1352	1590	1991	136	68	83	111

Prepared by: The Highway Safety Research Center

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Years in Months

Figure 11. Percent of A & K crashes which are alcohol-related.

CONCLUSIONS

In summary, under the Safe Roads Act of 1983, the drinking and driving behavior among North Carolina drivers has continued to remain lower than that prior to the law's enactment. However, the dramatic declines have not continued. It appears that these rates have stabilized and are not declining substantially from year to year. There has been a slight erosion in the DWI conviction rate for those at or exceeding the per se level of .10. During 1984 the conviction rate was 92%; in 1988 it has decreased to 87%. Nonetheless, the rate is 15 points higher than it was in 1982 when conviction was 72%.

Sanctions for DWI convictees for the most part appear to be levied in accordance with the intent of the legislation with more serious sanctions being given for more serious offense levels.

REFERENCES

Lacey, JH; Popkin, CL; Stewart, JR; Rodgman EA. Preliminary Evaluation of the North Carolina Safe Roads Act of 1983. June 1984 HSRC publication.

17 .

Popkin, CL: Drinking and driving by young females. AAP 1991 In press.

- Popkin, CL. and Lacey JH, System and deterrence effects of a major change in DWI legislation in North Carolina. Proceedings of the Am.Assoc. for Automotive Med., Washington, D.C. 23-38, 1985.
- Popkin, CL, Rudisill, LC, Waller, PF, Geissinger, SB. Female drinking and driving: recent trends in North Carolina. Accid. Anal. & Prev. 20 (3), 219-225, 1988.