

Driving Under the Influence in the City & County of Honolulu

A Profile of Arrestees, Case Outcomes, Collisions,
Injuries, and Stakeholder Recommendations



Department of Justice Administration
University of Hawaii – West Oahu

&

Research and Statistics Branch
Crime Prevention and Justice Assistance Division
Department of the Attorney General

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ERRATA SHEET

for the report

"Driving Under the Influence in the City & County of Honolulu"

The following errors were identified subsequent to the printing of this report. The Department of the Attorney General and the University of Hawaii-West Oahu regret these errors.

Page 5, Paragraph 4 and Page 22, Paragraph 1:

While the key point that the National Highway Traffic Safety Administration and the U.S. Department of Transportation use a very broad definition of "alcohol-related fatalities" remains valid, the examples used on pages 5 and 22 are overstated; "passenger-only" accidents are not included.

Page 12, Final Paragraph and Page 13, Table 7:

Typographical errors show Blood Alcohol Concentrations (BACs) of .999; in both instances, the correct value should be .099.

Page 17, Table 15:

The Criminal Justice Information System (CJIS) criminal history database included a small number of prior *misdemeanor-level* DUI convictions and arrests. As no such DUI charge severity exists in the State of Hawaii, these cases most likely represent additional charges related to DUI arrests (such as drug possession or causing a severe injury to another person) and/or coding errors in the database.

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We also wish to thank the stakeholders who participated in this project by providing excellent information that appears throughout the report and is especially featured in the final section. We are indebted to Sergeants Robert Lung and Clyde Yamashiro of HPD; William C. Bagasol of the Office of the Public Defender; Jim Fulton and Charles P. Izumoto of the City & County of Honolulu's Department of the Prosecuting Attorney; Connie Abram, Carol McNamee, and Annelise Rossi of Mothers Against Drunk Driving–Hawaii, and R. Patrick McPherson, a private attorney who specializes in handling DUI cases.

Very special thanks are due Janet Davidson, former Project Researcher at the Department of the Attorney General. Without her expertise and efforts, the data analysis for this project would not have been possible.

Executive Summary

Both nationally and locally, detailed statistical data on “driving under the influence” (DUI) are surprisingly limited, and are generally based upon simple arrest tallies, overly broad definitions of “alcohol-related collisions,” and the like. The objectives of the current study are to provide a more comprehensive statistical description of DUI in the City & County of Honolulu and to document the concerns and policy recommendations of key stakeholders associated with DUI-related issues in Hawaii. It is hoped that this effort will prove useful for a variety of purposes, including the formulation of new and improved policy decisions.

To meet the first objective, data from a random sample of 503 DUI arrest reports from the City & County of Honolulu during Calendar Year 2001 were collected and analyzed in tandem with criminal history data for the individual arrestees. To meet the second objective, key stakeholders were invited to a meeting to view and comment upon the preliminary results of this study and, subsequently, to submit written statements outlining their policy-related concerns and recommendations. Follow-up phone calls and emails were used to clarify responses of the stakeholders who provided written comments.

Describing DUI Arrestees

Based on the study sample, the “typical” drunk driver in the City & County of Honolulu is a male in his twenties to early thirties; a county resident; only somewhat more likely to have a lower or middle income-level occupation than a higher paid profession; has a Blood Alcohol Concentration (BAC) in the .129 to .141 range at the time of his arrest (the legal limit in Hawaii is .08); and is a first-time DUI arrestee without an extensive criminal history. In greater detail, the study data reveal the following:

Average Blood Alcohol Concentration

- The average arrestee BAC is .135, but ranges tremendously, from .000 to .323. The BACs of the top 25 percent of the study sample range from .174 to .323. Various issues relating to BAC measurements and policies are discussed in the report.

DUI-Specific and Overall Criminal Histories of DUI Arrestees

The study data suggest that, as a group, DUI arrestees do not have extensive DUI or overall criminal histories.

DUI History:

- Over three-quarters of the sample had no prior DUI convictions at the time of their arrest, and almost 90 percent had no more than one.
- Only 5 percent of the sample had three or more prior DUI convictions at the time of their arrest. Three prior convictions mark the threshold for being charged under Hawaii’s 2001 “habitual drunk driver” law (HRS §291-4.4) as well as the current statute (HRS § 291E-61.5).

Overall Criminal History:

- Approximately two-thirds of the sample had no arrests or convictions of any type at the time of their arrest and, of those who did, three-quarters of the offenses fell in the misdemeanor and petty misdemeanor/violation categories.
- Future research should compare the criminal histories of DUI arrestees to those of both the general population and the criminal subpopulation.

The Relationship Between Criminal History and Blood Alcohol Concentration

- DUI arrestees with prior DUI arrests and/or convictions, and/or prior criminal convictions of any type (but not prior arrests) have significantly higher average BACs than do DUI arrestees without such priors; the average difference is in the range of .02 BAC. As explained in the report, these results should be interpreted with caution.

Case Outcomes

- Approximately 83 percent of the study arrestees were convicted on their DUI charges.
- About 90 percent of the arrestees with BACs above the legal limit of .08 were convicted.

DUI-Related Motor Vehicle Collisions

- Just under one-third of the study cases involved a motor vehicle collision (MVC) of any sort. These MVCs were equally likely to involve single or multiple vehicles.
- Slightly less than one-third of the people who were involved in DUI-related MVCs were injured. Of those who were injured, just over two-thirds sustained injuries that required emergency transportation to a hospital.
- Additional research should be conducted to determine if DUI-related MVCs are more dangerous than non-DUI-related collisions in terms of the likelihood and/or severity of injuries.

Average BAC, Types of MVCs, and Severity of Injuries

- Although one might assume that BAC levels are higher in DUI-related MVCs that result in injuries than in those that do not, the study results indicate that the opposite is actually true –the average BAC is significantly *lower* in study MVCs that resulted in injury. Stakeholders offered a theory to explain this possibly surprising study result.
- No statistically significant differences were found between arrestee age or criminal history and the likelihood or severity of DUI-related MVCs.

Comparing BAC Test Refusers and Consenters

- On average, BAC test “refusers” (arrestees who decline to take a BAC test) have a significantly greater number of prior DUI arrests (1.25 versus 0.59) and prior misdemeanor, petty misdemeanor, and violation convictions (1.71 versus 0.85) than do BAC “consenters.”
- The DUI conviction rate is lower for refusers (69%) than for DUI arrestees in general (83%). However, there were too few refusers in the study sample to determine whether or not this difference is statistically significant.
- The small number of refusers, along with other statistical and methodological issues that are discussed in report, suggest that further research into this group of DUI arrestees is warranted.

Recommendations

A meeting between the research team and a group of key stakeholders on DUI-related issues, including police, prosecutors, public defenders, a private attorney specializing in DUI cases, and representatives of the local chapter of Mothers Against Drunk Driving (MADD-Hawaii), was convened in order to solicit feedback on the preliminary study findings and to provide a forum for outlining general DUI-related concerns and recommendations. Subsequent to this meeting, the stakeholders were asked to submit written comments intended to officially document their concerns and recommendations. Only MADD-Hawaii and the private attorney provided the requested written information, which is fully presented in the report.

Information gleaned from the stakeholders is integrated throughout the report to clarify or otherwise bolster the study findings. Two recommendations that emerged at the meeting garnered unanimously strong support from the stakeholders and are presented immediately below. Given some of the stakeholders’ inherently adversarial professional roles, the unanimity of these recommendations seems especially compelling.

The third and fourth recommendations presented below are based upon some of the available research and related information that were collected in the course of conducting the study.

Simplify the BAC Test Consent Form

The stakeholders strongly agreed that the BAC consent form that HPD officers must read aloud to all DUI suspects and must be signed by “consenters” (see above) should be dramatically shortened and simplified, and that it would be possible to do so in such a way as to still satisfy all legal requirements. The consent forms used by the neighbor island police departments are much shorter than HPD’s version. A proposed revision to the HPD form was created by one of the stakeholders and is included for review in the Appendix section of this report.

Approve PAS Test Results as Legally Admissible Evidence

The Preliminary Alcohol Screening Device (PAS) used by HPD to test BAC levels at arrest locations is not considered legally admissible evidence, creating a situation whereby the legally valid BAC test results that are later collected at the police station are no doubt lower (in some cases, *much* lower) than arrestees’ actual BAC levels at the time of arrest.

According to one stakeholder, PAS test results could be made legally admissible in three steps:

- Urge the State Department of Health to approve the PAS as a blood testing device in Hawaii.
- Set up a program to field test individual PAS devices on a monthly basis in order to assess and ensure accuracy.
- Set up a training program to ensure that police officers use the PAS properly in the field.

Focus Upon Deterring the Largest Group of Potential Impaired Drivers

Nationally and in Hawaii, the significant reductions in DUI over the past twenty years are probably attributable to deterring the “average citizen,” rather than the hardcore alcohol/drug addict, from driving while intoxicated. Since the former group provides the largest pool of potential offenders, efforts in this regard should be continued and strengthened. Research shows that DUI reductions tend to result from *the combined effects* of a number of factors: media advocacy and training, resulting in increased media coverage; additional police officer hours for DUI enforcement; increased use of breathalyzer equipment; increased officer training; and more DUI checkpoints (Room, et. al, 2005; Voas, et. al, 1999; Holder, et. al, 1999). These variables interact to create more DUI enforcement and news coverage, which result in a *greater perceived risk of arrest*, and thus a reduction in DUI. *Government agencies and advocacy groups should work cooperatively to obtain both public and private funding*, as appropriate, for these efforts.

Conduct Additional DUI Research

Several important research topics that could not be addressed in the current study are identified throughout the report.

Background

Nationally, there has been an increase in public attention towards “driving under the influence” (DUI), over the past twenty years, in large part due to the strong political advocacy of Mothers Against Drunk Driving (MADD) (Brown and Russell, 2005; Reinerman, 1988). DUI has also received considerable media attention in Hawaii; recent examples include coverage in the both the *Honolulu Advertiser* (Boylan, 2005 and 2004; Leidermann, 2004a and b) and *Honolulu Star Bulletin* (Fujimori, 2005; Reyes, 2005) newspapers as well as other media sources, indicating that DUI remains a topic of local importance.

In contrast to many other drug-related violations and offenses, national-level data suggest that a dramatic reduction in DUI has occurred since the early-1980s. Even though these reductions appear to have leveled off in the past ten years or so (NHTSA, 2002), extant data indicate that the drop in DUI during the past twenty-five years has saved thousands of lives.

Unfortunately, the most popular statistic used to approximate DUI on a national and state-level basis is based upon “alcohol-related fatal collisions” as reported by the federal government. Although it certainly has some correlation to DUI, this statistic has methodological flaws *that make causation of the accident impossible to determine and inflate the actual number of impaired drivers with alcohol in their system.* 

The National Highway Traffic Safety Administration (NHTSA) defines “alcohol-related fatalities” as having occurred when *any measurable amount of alcohol is found in any person involved in a fatal accident, and includes passengers along with drivers.* Furthermore, the drivers who actually caused the accidents are not determined or otherwise accounted for. Although these data obviously include drunk drivers who caused fatal collisions, perfectly sober drivers who caused accidents are also counted so long as *anyone* involved in the accident had a measurable blood alcohol concentration (BAC). This means, for example, that a case featuring a sober driver who caused a collision that killed a .001 (trace amount) BAC passenger in the other vehicle would be counted.

However, if one keeps these limitations in mind, “alcohol-related fatalities” can be used as a crude estimate of DUI. While not exact, one would expect a rough correlation between DUI and alcohol-related fatalities, and the data show very positive trends. Brown and Russell (2005) reported that, according to the NHTSA, alcohol-related fatalities accounted for 59 percent of all fatal collisions in 1980, but “only” 42 percent in 1994.

The NHTSA provides a more meaningful DUI indicator by reporting the BAC of drivers involved in fatal collisions. These data indicate that the percentage of impaired drivers involved in fatal collisions has fallen considerably since the inception of MADD's campaign to reduce DUI. The percentage of drivers who have alcohol in their system (at least .001 BAC) and are involved in fatal collisions fell from 57 percent in 1982 to 40 percent in 2000.

The decline in fatal collisions among drivers with a BAC of greater than .10 is arguably a better estimate of the actual alcohol impairment of drivers involved in fatal collisions; this figure has dropped from 46 percent to 31 percent over the reported time period. (Interestingly, the overall number of fatal collisions has remained fairly constant.) On the whole, it is apparent that DUI on a national level has decreased dramatically since the early 1980s. See Table 1.

Table 1: BAC level of drivers involved in fatal collisions, United States, 1982-2000 (Percentages)

Year	BAC .00	BAC .01+	BAC .01-.09	BAC .10+	Total # Collisions
1982	43	57	11	46	39,092
1983	45	55	10	45	37,976
1984	47	54	11	43	39,631
1985	48	51	10	41	39,196
1986	48	52	11	41	41,090
1987	49	51	11	40	41,438
1988	50	50	10	40	42,130
1989	51	49	10	39	40,741
1990	51	50	10	40	39,836
1991	52	47	9	38	36,937
1992	54	45	9	36	34,942
1993	57	44	9	35	35,780
1994	59	40	8	32	36,254
1995	59	42	9	33	37,241
1996	59	41	9	32	37,494
1997	62	38	8	30	37,324
1998	61	38	8	30	37,107
1999	62	38	8	30	37,140
2000	60	40	9	31	37,409

Source: NTHSA, 2002: Table 34.

Purpose of the Study

Existing data about DUI arrestees in the City & County of Honolulu have been largely confined to basic group-level, monthly and annual statistics on such measures as average blood alcohol concentration (BAC) levels; the total number of arrests, charges, and DUI-related motor vehicle collisions; and the proportion of arrestees who refuse to take a BAC test. This information provides a good general description of the extent of DUI and DUI enforcement, but the data are not conducive to formulating more complex policy decisions.

As such, the primary purpose for this study is to make an important addition to the otherwise limited amount of information available to describe DUI in Hawaii. Extremely enthusiastic and encouraging discussions with criminal justice and community stakeholders prior to conducting the study indicated the value in proceeding. A secondary purpose of the study is to document the concerns and policy recommendations of these key stakeholders.

The study data are limited to the City & County of Honolulu, rather than including data from all four of Hawaii's counties. This is due solely to time, fiscal, and logistical constraints. It is hoped that this report will nevertheless be of statewide interest, and that the statistics and other data described herein are reasonably representative of DUI cases throughout Hawaii.

Methods

According to the Honolulu Police Department (HPD), there were 2,180 DUI arrests made in the City & County of Honolulu during Calendar Year 2001. A systematic random sample of 503 of these DUI arrests was selected for this study (approximately one-fourth of the total arrests for the year). Every fourth chronological arrest report was selected.

This sampling technique ensured two important things: 1) that the data are representative of the entire calendar year, as DUI arrests can and do vary over the course of the year (for example, if a certain month or time of the year, such as the holidays, have more DUI arrests, those arrests are proportionately represented in the study sample); and 2) that the data come from a probability sample so that inferential statistical techniques can be used to determine "statistical significance."

The HPD arrest data were combined with criminal history records for each arrestee. These latter data were collected from the State of Hawaii's Criminal Justice Information System (CJIS). The CJIS data are maintained by the Hawaii Criminal Justice Data Center located in the Department of the Attorney General. Due to technical difficulties with merging the two data sets, complete criminal history data were unavailable for 42 (8%) of the 503 cases.

Arrest reports from 2001 were used so that the overwhelming majority of cases would have worked their way through the courts and arrived at a final disposition (i.e., case outcome) by the time the study data were collected during the Fall of 2004.

Describing DUI Arrestees

This section of the report examines DUI arrestee demographics (age, gender, occupation, race/ethnicity, and place of residence), blood alcohol concentration (BAC) levels at the time of arrest, prior DUI and total arrests and convictions, and the relationship between BAC levels and DUI/criminal history. These statistics are based on the full study sample of 503 arrestees (with slight reductions as noted below) and were previously unavailable to describe DUI arrestees in Hawaii.

Arrestee Age, Gender, Race/Ethnicity, Occupation, and Place of Residence

The demographic data collected for this study suggest that the “typical” DUI arrestee in the City & County of Honolulu is a male in his twenties or early thirties, of any of the myriad races and ethnicities present in Hawaii, a county resident, and only somewhat more likely to have a lower or middle income-level occupation than a higher paid profession.

Age and Gender

The vast majority (85.7%) of the study arrestees are male. Arrestee ages (at the time of arrest) range from 14 to 78 years old; the average age is 33. A more telling statistic is that over 70 percent of the arrestees are under the age of 39, over half (55.5%) are age 29 or younger, and one-third (33.7%) are under the age of 24. There are no statistically significant differences between the average age of male versus female arrestees. See Tables 2 and 3.

That DUI arrestees in the City & County of Honolulu are largely younger drivers (although relatively few are juveniles) is consistent with general criminological research – arrestees for most types of offenses tend to be young adults. According to the FBI’s Uniform Crime Reports (2005), the national average arrestee age for all included offenses during 1993-2001 was 28 years old.

Table 2: DUI arrestee ages

Age Range (years)	Number*	Percent	Cumulative Percent
14	1	0.2	0.2
15-19	40	8.0	8.2
20-24	128	25.5	33.7
25-29	89	17.8	51.5
30-34	49	9.8	61.3
35-39	47	9.4	70.7
40-44	47	9.4	80.0
45-49	36	7.2	87.2
50-54	38	7.6	94.8
55-59	11	2.2	97.0
60-64	5	1.0	98.0
65-69	5	1.0	99.0
70-74	3	0.6	99.6
75-79	2	0.4	100.0

**Table based on 501 (99.6%) study cases with valid age data.*

Table 3: DUI arrestee ages, by gender

Age Range (years)	Male		Female	
	Number*	Percent	Number	Percent
14-20	58	11.6	6	1.2
21-29	162	32.3	32	6.4
30-39	77	15.4	19	3.8
40-49	75	15.0	8	1.6
50-78	57	11.4	7	1.4

**Table based on 501 (99.6%) study cases with valid age data; age data were missing for two male arrestees. Based on all 503 cases, the proportion of male arrestees is 85.7%.*

Race/Ethnicity

Hawaii's ethnic diversity is well represented in the study sample; there are 37 distinct ethnic combinations recorded in the arrest reports. The categories comprising more than 10 percent of the sample include Caucasian, Hawaiian or Part-Hawaiian, and Japanese. See Table 4.

Table 4: Ethnicities reported by DUI arrestees

Ethnicity	Number*	Percent
Caucasian	152	31.4
Hawaiian or Part-Hawaiian	106	21.9
Japanese	62	12.8
Others	41	8.5
Filipino	35	7.2
Mixed (excl. Part-Hawaiians)	21	4.3
African-American	19	3.9
Other Pacific Islanders	17	3.5
Korean	16	3.3
Puerto Rican	7	1.4
Chinese	5	1.0
Vietnamese	3	0.6

**Table based on 484 (96.3%) study cases with valid ethnicity data.*

Occupation

The self-described occupation of the arrestees is also very diverse; 64 separate job titles were recorded on the arrest reports. As occupation is a reasonable, although imperfect, measure of social class and income, the data were collapsed into groups that roughly approximate income categories.

It is nearly impossible to make a reasonable approximation of two of the categories (student and self-employed) so they are counted separately, but middle and lower income professions comprised half of the sample (49.5%). The proportion of arrestees who reported higher paid professions is only somewhat lower (41.0%). See Table 5.

Table 5: Occupations reported by DUI arrestees

Type of Job	Number*	Percent
<i>Higher Paid Professions – likely to be upper to solid middle class</i>		
White Collar Professional (e.g., teacher, stockbroker, lawyer, nurse, pilot)	62	13.2
Skilled Labor or Service Worker (e.g., carpenter, mechanic, hairdresser, chef)	131	27.8
Subtotal	193	41.0
<i>Middle and Lower Income Professions</i>		
Unskilled Labor or Service Worker (e.g., laborer, landscaper, clerk, wait staff)	99	21.0
Military (enlisted or officer status unknown)	60	12.7
Retired	13	2.8
Unemployed	61	13.0
Subtotal	233	49.5
<i>Unable to Determine</i>		
Self-Employed	31	6.6
Student	14	3.0
Subtotal	45	9.6

*Table based on 471 (93.6%) study cases with valid occupation data.

Place of Residence

The HPD arrest reports feature a section where the “Status of the Arrestee,” an approximation of the place of residence, is recorded. If members of the military are included as residents, 98 percent of DUI arrestees are residents of the City & County of Honolulu. See Table 6.

Table 6: DUI arrestees’ place of residence

Residence Location/Status	Number*	Percent
City & County of Honolulu	429	85.6
Military	62	12.4
Visitor	8	1.6
HPD	1	0.2
Neighbor Island	1	0.2

**Table based on 501 (99.6%) study cases with valid residence data.*

Blood Alcohol Concentration (BAC)

The Complexity of Measuring Average Blood Alcohol Concentration

It is assumed that one of the purposes of the “average BAC” statistic that is commonly reported is to provide an indication of “how drunk” the typical intoxicated driver on our roads actually is. However, this measure only describes the arithmetic average (see below) level of intoxication *for those who are arrested and consent to a BAC test.*

For 2001, the City & County of Honolulu Police Department reported 2,180 arrests, an average BAC of .141, and 138 (6.3%) arrestees who refused to take a BAC test. In the study sample of 503 arrestees, the average BAC is .135 and there are 28 (5.6%) BAC test “refusers.”

The average BAC reported by HPD is actually the “arithmetic average,” or “mean.” To compute the mean, one adds up all of the BACs and divides by the total number for the year. However, the average intoxication level of the “typical” drunk driver arrested can be presented in a few other, and perhaps more instructive, fashions.

For example, arrestee BACs vary greatly (from .000 to .323), especially at the top end of the scale. One way to represent this variation is to cut the BAC into quartiles, with each of the four categories containing approximately 25 percent of the arrestees. In this analysis, about 25 percent of all BACs are below .099, about 50 percent of BACs are below .137, and 75 percent of BACs are below .174. Thus, the three important cutoff levels that separate the four quartiles are .100, .138, and .175. See Table 7.



Table 7: Quartile distribution of arrestee BAC levels



	Number*	Percent of All Arrestees
1 st Quartile 0-25% (.000 to .999 BAC)	116	24.4
2 nd Quartile 25-50% (.100 to .137 BAC)	128	26.9
3 rd Quartile 50-75% (.138 to .174 BAC)	115	24.2
4 th Quartile 75-100% (.175 to .323 BAC)	116	24.4

* Table based on 475 (94.4%) arrestees who consented to a BAC test.

As stated above, these data also demonstrate that BACs in the fourth quartile vary tremendously; in fact, the highest BAC in this quartile (.323) is almost double the BAC at the low end of the same quartile (.175). Due to such a high degree of variation, the BACs for this group are presented in “sub-quartiles,” below, isolated from the entire sample. The mean BAC for this group is .212, and the quartiles illustrate the distribution of the top 25 percent of BACs. See Table 8.

Table 8: “Sub-Quartile” distribution of BAC levels within the quartile of arrestees with the highest BAC levels

	Number	Percent of Arrestees in the 4 th Quartile
1 st “Sub-Quartile” 0-25% (.175 to .189 BAC)	30	25.9
2 nd “Sub-Quartile” 25-50% (.190 to .201 BAC)	28	24.1
3 rd “Sub-Quartile” 50-75% (.202 to .230 BAC)	31	23.3
4 th “Sub-Quartile” 75-100% (.232 to .323 BAC)	27	26.7

The average BAC of arrestees is also influenced by the complexities of arresting and prosecuting intoxicated drivers in the real world. HPD faces a very difficult task, as they must locate, investigate, arrest, and transport each suspected intoxicated driver to a police station in order to perform a legally valid BAC test – such a test requires a BAC test machine that, due to current policy restrictions, cannot be used in the field.

A typical DUI investigation consists of a “field test,” where suspects are asked to perform a number of tasks such as walking in a straight line, touching their nose, etc., and BAC “breath test” using a Preliminary Alcohol Screening (or “PAS”) device. Those who fail either test or are otherwise reasonably suspected of being legally intoxicated are transported to a legally valid testing location; this takes time, during which a suspect’s actual BAC is continuously decreasing.

This means that many arrestees who were legally intoxicated at the time of their arrest may no longer be so by the time that a legally valid BAC is administered. Obviously, the longer the lag between arrest and testing, the lower an arrestee’s BAC will be.

Of course, some arrestees with a BAC of .000 may have failed a field test and yet never ingested any alcohol that day. It is also possible that some of those who test zero (or under the legal limit) simply “got lucky” and had a long transportation period, which allowed the alcohol to work its way out of their system. According to discussions with stakeholders, however, the most likely scenario is that those with zero BACs test positive for illegal drug use.

As such, it is useful to present the proportion of arrestees who test above and below the legal limit, and at zero. See Table 9.

Table 9: Distribution of arrestee BAC levels across legally relevant categories

BAC categories	Number*	Percent
No alcohol detected (.000 BAC)	19	4.0
Below legal limit (.001 to .079 BAC)	61	12.8
Legally intoxicated (.08+ BAC)	395	83.2

**Table based on 475 (94.4%) arrestees who consented to a BAC test.*

The next table shows a similar breakdown, but uses various “measures of central tendency” that are commonly employed in statistical research – the mean (arithmetic average), median (middle value), and mode (the most frequently occurring value). See Table 10.

Table 10: Measures of central tendency for BAC levels, across legally relevant categories

	Entire Study Sample	Below Legal Limit (.000 to .079 BAC)	Legally Intoxicated (.08+ BAC)
Mean BAC	.135	.047	.155
Median BAC	.136	.052	.150
Mode BAC	.000 (19 cases)	.070 (3 cases)	.150 (9 cases)

Table based on 475 (94.4%) arrestees who consented to a BAC test.

Prior DUI and Criminal Histories

The purpose for this subsection of the report is to describe the prior DUI and overall criminal histories of DUI arrestees. To accomplish this, criminal history records were collected from Hawaii's Criminal Justice Information System (CJIS), which is housed within the Hawaii Criminal Justice Data Center of the Department of the Attorney General.

Due to missing offender identification numbers ("SIDs") on 42 (8.3%) of the original police reports, the study sample was reduced from 503 to 461 arrest cases for this subsection of the report.

Prior DUIs

Describing the prior DUI history for the vast majority of the arrestee sample is very straightforward – approximately three-quarters of the arrestees had no prior DUI arrests or convictions at the time of their current DUI arrest. See Tables 11 and 12.

Table 11: Breakdown of DUI arrestees with a prior DUI conviction

	Number	Percent
Prior DUI Conviction(s)	109	23.6
No Prior DUI Conviction(s)	352	76.4

Table 12: Breakdown of DUI arrestees with a prior DUI arrest

	Number	Percent
Prior DUI Arrest(s)	129	28.0
No Prior DUI Arrest(s)	332	72.0

However, the remaining quarter of the sample shows considerable variation in the number of prior DUI convictions and arrests, primarily at the top end of the range. This means that there are extreme values in the data which distort traditional "averages" and render them potentially misleading. As such, simple frequency distributions provide a better description of this group of arrestees. These frequency distributions show that just over 10 percent of arrestees had one or more prior DUI convictions at the time of their arrest, while 5 percent had three or more prior convictions. Three prior convictions is the minimum number of convictions needed to be charged under a 2001 'habitual drunk driver' law (HRS § 291-4.4), as well as under current statutes (HRS § 291E-61.5), that allow charging arrestees with a class C felony. See Table 13.

Table 13: Breakdown of prior DUI convictions

# of Prior DUI Convictions	# of Arrestees	Percent of Sample	Cumulative Percent
0	352	76.4	76.4
1	50	10.8	87.2
2	23	5.0	92.2
3	13	2.8	95.0
4	5	1.1	96.1
5	3	0.7	96.7
6	5	1.1	97.8
7	2	0.4	98.3
8	2	0.4	98.7
9	3	0.7	99.3
10	2	0.4	99.8
12	1	0.2	100

Not surprisingly, the distribution is a bit wider for prior DUI arrests. See Table 14.

Table 14: Breakdown of prior DUI arrests

# of Prior DUI Arrests	# of Arrestees	Percent of Sample	Cumulative Percent
0	332	72.0	72.0
1	17	3.7	75.7
2	55	11.9	87.6
3	9	2.0	89.6
4	18	3.9	93.5
5	3	0.7	94.2
6	9	2.0	96.2
7	2	0.4	96.6
8	5	1.1	97.7
9	1	0.2	97.9
10	4	0.9	98.8
12	3	0.7	99.5
13	1	0.2	99.7
16	1	0.2	99.9
22	1	0.2	100

Severity of Prior DUI Convictions and Arrests

Approximately one-quarter (23.6%) of the arrestees had one or more prior DUI convictions at the time of their arrests, the vast majority of which were for petty misdemeanor/violations. Fewer than one in twenty arrestees (4.6%) had a prior misdemeanor DUI conviction, and less than one percent (0.2%) had a prior felony DUI conviction. The distribution for prior arrests is roughly equivalent. See Table 15.

Table 15: Severity of prior DUI convictions and arrests (Percentages)

	No Priors	1 Prior	2 to 5 Priors	5 or More Priors	At Least 1 Prior
Total DUI Convictions	76.4	10.8	9.6	3.2	23.6
Felonies	99.8	0.2	0.0	0.0	0.2
Misdemeanors	95.4	3.7	0.9	0.0	4.6
Petty Misdemeanors/Violations	78.7	8.9	9.7	2.7	21.3
Total DUI Arrests	72.0	3.7	18.5	5.8	28.0
Felonies	99.8	0.0	0.2	0.0	0.2
Misdemeanors	94.4	3.3	2.3	0.0	5.6
Petty Misdemeanors/Violations	73.8	2.8	18.2	5.2	26.2



Overall Criminal Histories

The original concept for this portion of the study was to describe the overall criminal history of DUI arrestees using the four traditional crime categories of violent, property, drug, traffic, and “other” offense types. However, as discussed in greater detail below, the vast majority of the study arrestees had no prior criminal history at the time of their arrests, leaving a relatively small remainder of cases spread out over the four crime categories. This creates a problem whereby the numbers are simply too small to conduct meaningful statistical analyses.

It should also be cautioned that, while both arrest and conviction data are presented in this section, conscientious observers of the criminal justice system tend to pay greater attention to convictions. Clearly, some unknown portion of truly “guilty” arrestees are never convicted, but in the American criminal justice system, a person should be considered “innocent until proven guilty.”

Number of Arrests and Convictions by Severity of Charge

As would be expected, the DUI arrestees had more prior arrests than prior convictions at the time of their arrests, and their criminal histories are more extensive for less serious charges (i.e., violations and petty misdemeanors) than for more serious charges (i.e., misdemeanors and felonies).

Over one-third (34.5%) of the study sample had at least one prior criminal conviction at the time of their DUI arrest. Less than 5 percent had at least one prior felony conviction, and the proportions with at least one prior misdemeanor or one petty misdemeanor/violation conviction are 20 percent and 27 percent, respectively. Of the arrestees with prior misdemeanor and petty misdemeanor/violation convictions, over 40 percent had only one such conviction. Almost one in ten (9.3%) arrestees had five or more prior convictions of any type. See Table 16.

Table 16: Percentage of DUI arrestees with criminal histories

	No Priors	1 Prior	2 to 5 Priors	5 or More Priors	At Least 1 Prior
Total Criminal Convictions	65.5	13.4	11.8	9.3	34.5
Felonies	95.7	2.0	1.5	0.8	4.3
Misdemeanors	80.0	7.6	8.4	4.0	20.0
Petty Misdemeanors/Violations	73.1	11.5	11.1	4.3	26.9
Total Criminal Arrests	53.6	8.2	11.8	26.4	46.4
Felonies	87.2	5.0	5.4	2.4	12.8
Misdemeanors	67.2	8.7	13.8	10.3	32.8
Petty Misdemeanors/Violations	63.8	7.8	19.1	9.3	36.2

A suggestion for further research is to compare the criminal histories of DUI arrestees to both the general state population and its criminal offender subpopulation. These statistics would answer the interesting questions of whether or not DUI arrestees as a group are more or less criminally involved than either the “average citizen” and/or the “average criminal.”

The Relationship Between DUI/Criminal History and Blood Alcohol Concentration

Another goal of the study is to determine whether or not DUI arrestees with prior criminal histories have higher average BACs than do those without criminal histories. As discussed earlier, it was not possible to investigate every crime category (violent, property, drug, and traffic offenses, etc.) because most DUI arrestees did not have any prior arrests or convictions at the time of their arrest, making the number of arrestees in each crime category too small for meaningful statistical analysis.

As such, the average BAC for those with prior criminal histories is herein compared on four broad measures – the presence versus absence of prior criminal arrests and convictions (regardless of crime type or severity), and the presence versus absence of prior DUI arrests and convictions.

The study results indicate that the average BAC of arrestees with prior *DUI arrests and/or convictions*, and/or *prior overall criminal convictions* is higher than the average BAC for arrestees without such histories, and that the differences are statistically significant, meaning that they are demonstrably at least 95 percent unlikely to be due merely to chance. The differences in average BAC between those with and without *prior criminal arrests* comes close to, but does not reach the $p \leq .05$ (95%) threshold adopted for statistical significance in this study. See Tables 17 through 20.

However, given the relatively small actual differences between the average BACs for each group, these results should be interpreted with caution. The complexities of doing so are discussed in greater detail below.

The study sample for this subsection of the report was reduced from 503 to 433 arrest cases, due to 42 (8.3%) cases that were missing offender identification numbers (see previous subsection for additional information) and 28 (5.6%) cases that involved arrestees who refused to take a BAC test.

Table 17: Average BAC for DUI arrestees with and without prior DUI convictions

	Number	Mean BAC	Difference
No prior DUI convictions	335	.134	-
One or more prior DUI convictions	98	.152	+ .018 BAC
t= -2.65, df=431, $p \leq .01$ ("At least 99% unlikely that the difference is due to chance")			

Table 18: Average BAC for DUI arrestees with and without prior DUI arrests

	Number	Mean BAC	Difference
No prior DUI arrests	317	.134	-
One or more prior DUI arrests	116	.149	+ .015 BAC
t= -2.26, df=431, $p \leq .01$ ("At least 99% unlikely that the difference is due to chance")			

Table 19: Average BAC for DUI arrestees with and without prior criminal convictions

	Number	Mean BAC	Difference
No prior criminal convictions	289	.133	-
One or more prior criminal convictions	144	.153	+ .02 BAC
t= -2.32, df=431, $p \leq .01$ ("At least 99% unlikely that the difference is due to chance")			

Table 20: Average BAC for DUI arrestees with and without prior criminal arrests

	Number	Mean BAC	Difference
No prior criminal arrests	237	.134	-
One or more prior criminal arrests	196	.143	+ .009 BAC
t= -1.45, df=431, p=.076 (<i>“NOT statistically significant as defined for this study”</i>)			

Information gleaned from both the stakeholder meetings and existing laboratory research (Hingson, Herren, and Winter, 1999) suggest that a .02 increase in BAC translates to approximately one and a half drinks for average-sized adult males and females. As such, the study results demonstrate that the DUI arrestees with prior DUI arrests and/or convictions, and/or prior criminal convictions of any type, ingested an average of roughly one to two more drinks than did arrestees without such prior records.

Obviously, the police will routinely arrest any and all legally intoxicated drivers, especially those who are well over the legal limit of .08 BAC, regardless of whether or not the drivers have prior DUI and/or criminal records. However, the study results perhaps lend additional support for increased penalties for repeat DUI offenders (e.g., HRS § 291E-61.5), who are not only by definition persistent threats to community safety, but are now also documented to be significantly more intoxicated on average than their first-time offender counterparts. That said, it is beyond the scope of this study to determine how much more impaired (versus intoxicated) drivers with BACs in the .150 range (i.e., repeat DUI offenders) are than those with BACs in the .135 range (i.e., first-time DUI offenders), and thus how much more “dangerous” these drivers may actually be. Related questions concerning “experienced” versus “inexperienced” drunk drivers, varying ability to “hold” one’s alcohol, general driving skills, and so on are largely topics of conjecture and controversy, and are utterly outside the scope of this study.

DUI Case Outcomes

This section of the report describes case outcomes for the study arrestees. Due to various technical difficulties, the original sample size of 503 cases was reduced as follows: 147 (29.2%) cases deleted due to coding difficulties and errors; 42 (8.3%) cases deleted due to offender identification numbers missing from the original police reports; and 36 (7.2%) cases deleted due to missing charge outcome data. This resulted in a sample size of 278 cases for the following analyses, with additional reductions as noted below.

Approximately 83 percent of the DUI arrests resulted in a conviction. See Table 21.

Table 21: DUI conviction rate

Case Outcome	Number	Percent (Rate)
Convicted	231	83.1
Not Convicted	47	16.9

While the overall conviction rate is very high, there are good reasons to suggest that this figure actually underestimates the effectiveness of the teamwork between police and prosecutors. With a few exceptions (e.g., arrestees under the age of 21 or those who test positive for illegal drugs), one might expect that arrestees with a BAC below the legal limit of .08 to be more difficult to convict than are arrestees with BACs of .08 or higher. Therefore, it should come as no surprise that the conviction rate for arrestees with a BAC in the “legally intoxicated” range (89.3%) is almost six percentage points higher than the overall group rate. See Table 22.

Table 22: BAC level and conviction rate

	Not Convicted	Convicted	Conviction Rate
.000 BAC	2	7	77.7%
.001 to .079 BAC	8	17	68.0%
.08+ BAC	24	207	89.3%

Table does not include 13 arrestees who refused to take a BAC test.

Stakeholders who offered feedback on these statistics indicated that arrestees convicted with a BAC of .000 almost certainly tested positive for illegal drugs. They also stated that arrestees with a BAC between .001 and .079 are very difficult to convict unless they also test positive for illegal drugs, are involved in a collision, or are under the age of 21. Limitations in the study data do not allow for statistical confirmation of these explanations.

In sum, about 90 percent of the study arrestees with a BAC above the legal limit were convicted. But the actual rate may be even higher, as some stakeholders suggested that the CJIS database that provided the criminal history data for this study does not “pick up” convictions as well as the court system’s database.

DUI-Related Motor Vehicle Collisions and Injuries

Of obvious concern to criminal justice practitioners, policymakers, and advocacy groups is the ability to glean meaningful information on the nature and extent of DUI-related motor vehicle collisions (MVCs), injuries, and fatalities. Unfortunately, the existing national and local data on this subject are at best limited, and at worst potentially misleading. The City & County of Honolulu Police Department reports the raw number of DUI-related MVCs on a monthly and annual basis, which does provide some very basic information that may be useful for certain purposes, but does not provide enough information to deeply assess the nature and extent of DUI in Honolulu. For national and state comparison data, the U.S. Department of Transportation (USDOT) reports on the number of “alcohol-related” fatal collisions. Unfortunately, the USDOT definition is far too broad to be of legitimate use, as it includes cases in which *any* person (i.e., including passengers) in a fatal MVC had *any* measurable amount of alcohol in their system at the time of the incident. From a practical standpoint, this definition potentially allows for the inclusion of cases where the drivers were not legally (or even at all) intoxicated, as well as cases in which alcohol use did not play any tangible role.



This section of the report presents statistics on the proportion of DUI arrests involving MVCs, the breakdown of single- and multiple-vehicle collisions, the proportion of MVCs involving injuries and the general severity of those injuries, and the average blood alcohol concentration of DUI arrestees involved in MVCs. It is hoped that these data will provide richer and more useful descriptive information on DUI-related MVCs than was previously available.

Due to limitations in the data source, a statistical examination of DUI-related fatalities was not possible; the study sample contained only one fatal MVC. (This case involved a severe two-vehicle MVC in which the DUI offender and two of his passengers were killed, while the injuries sustained by his third passenger and the driver of the other vehicle required emergency transportation to a hospital.) A study focused strictly on fatal DUI-related MVCs is suggested for future research.

What Proportion of DUI Arrests Involve Motor Vehicle Collisions?

There were 215 DUI-related MVCs reported for the City & County of Honolulu during Calendar Year 2001. The random sample of 503 DUI arrest reports employed for this study contained 151 MVCs, indicating that an excellent representation of the year’s total cases was likely obtained.

A little less than one-third (30%) of the study arrests involved an MVC of any sort. These MVCs were about equally likely to involve single or multiple vehicles. See Table 23.

Table 23: DUI arrests involving MVCs

	Number	Percent of all DUI Arrests	Percent of all DUI Arrests Involving MVCs
Single-Vehicle MVCs	76	15.1	50.3
Multiple-Vehicle MVCs	75	14.9	49.7

Injuries Resulting from DUI-Related MVCs

Obviously, the actual extent and severity of victim injuries cannot always be determined by the police and/or emergency medical technicians at the scene of an MVC. Due to information gleaned from the stakeholders who were consulted for this study, the question emerges as to how consistently and accurately the police investigate and update their records on the physical condition of victims who were injured as the result of DUI-related MVCs. This is an important concern because the severity of victim injuries is a key factor in determining whether a DUI arrest can and should lead to more serious (i.e., negligent injury) charges. If, for example, a victim who is transported to the hospital for what appeared at the scene to be stress-induced hyperventilation is subsequently determined to be suffering from collapsed lungs, then this would indeed constitute a major, life-threatening injury that should be of critical interest to police and prosecutors when considering how to charge the arrestee.

In any event, the most consistently available injury data that could be obtained for this study were subsequently categorized as follows:

- no injury
- minor injury (injured, but released at the scene)
- major injury (required emergency transportation to a hospital)

These descriptors essentially describe the *action taken by responding emergency medical technicians*, which may not always be closely aligned with actual injury severity. In addition to the hypothetical situation described above, for instance, one could argue that a laceration which requires one or two stitches (and thus a trip to the emergency room) is not truly a “major” injury.

Curiously, but perhaps in line with the concern expressed above, the study sample included only one fatality case. As a single case would not be representative of all DUI-related fatal MVCs for the entire year, it is not included in the injury analyses.

Given these potential limitations, the following analyses should be considered as merely suggestive, and consequently interpreted with caution.

Extent and Severity of Injuries

Slightly less than one-third (32.0%) of the 266 people involved in 151 DUI-related MVCs contained in the study sample were injured in the collisions. Of these 85 people, 58 (68.0%) sustained major injuries. See Table 24.

Table 24: Extent and severity of injuries in DUI-related MVCs

Description of Injury	Number	Percent of all Persons Involved in an MVC
No Injury	181	68.0
Minor Injury (Released at Scene)	27	10.2
Major Injury (Required Transportation to Hospital)	58	21.8

Single-Vehicle MVCs

There were 94 persons involved in 76 single-vehicle MVCs in the study sample, and just over half (52.1%) of these sustained no injuries. Approximately one-tenth (10.6%) sustained minor injuries, and more than one-third (37.2%) suffered major injuries. See Table 25.

Table 25: Extent and severity of injuries to drivers/arrestees and passengers in single-vehicle DUI-related MVCs

	No Injury		Minor Injury		Major Injury	
	Number	Percent of Single-Vehicle MVC Injuries	Number	Percent of Single-Vehicle MVC Injuries	Number	Percent of Single-Vehicle MVC Injuries
Driver/Arrestee	44	46.8	8	8.5	27	28.7
Passenger(s)	5	5.3	2	2.1	8	8.5
Totals	49	52.1	10	10.6	35	37.2

Multiple-Vehicle MVCs

There were 172 persons involved in 75 multiple-vehicle MVCs in the study sample, just over three-quarters (76.7%) of whom sustained no injuries. Approximately one-tenth (9.9%) sustained minor injuries, and more than one-eighth suffered major injuries. Curiously, the police data did not show that any passengers in the “other vehicle” were injured. See Table 26.

Table 26: Extent and severity of injuries to drivers and passengers in multiple-vehicle DUI-Related MVCs

	No Injury		Minor Injury		Major Injury	
	Number	Percent of Multiple-Vehicle MVC Injuries	Number	Percent of Multiple-Vehicle MVC Injuries	Number	Percent of Multiple-Vehicle MVC Injuries
Driver/Arrestee	54	31.4	7	4.1	13	7.6
Passenger in Arrestee’s Vehicle	16	9.3	8	4.7	2	1.2
Driver of Other Vehicle	62	36.0	2	1.2	8	4.7
Totals	132	76.7	17	9.9	23	13.4

An interesting follow-up study might compare the injury rates of DUI-related and non-DUI-related MVCs.

Blood Alcohol Concentration of DUI Arrestees Involved in MVCs

This subsection presents three types of BAC-related MVC analyses. First, the average BAC of arrestees involved in MVCs is compared to the average BAC of arrestees who were not involved in MVCs. This is followed by similar comparisons of BACs for arrestees involved in single- and multiple-vehicle MVCs versus arrestees who were not involved in MVCs.

DUI arrestees involved in MVCs overall and those specifically involved in multiple-vehicle MVCs had significantly higher average BACs at the time of their arrests than did arrestees who were not involved in MVCs. See Tables 27 and 28. Table 27 is based on 475 (94.4%) of the study arrestees who consented to take a BAC test. Table 28 also excludes 75 single-vehicle MVCs.

The difference between arrestees involved in single-vehicle MVCs and those who were not involved in MVCs is *not* statistically significant, however. One stakeholder suggested that many of these collisions are actually minor “fender-benders” that occur in parking lots and so forth, and are reported for insurance purposes. It was beyond the scope of this study to disaggregate single-vehicle accidents in this manner, and so this topic is suggested for further research.

Table 27: Mean BAC of DUI arrestees involved in MVCs versus arrestees not involved in MVCs

	Number	Percent of Sample	Mean BAC	Difference
No MVC	328	69.1%	.131	-
MVC	147	30.9%	.143	+ .012 BAC
t=1.839, df=246.8, p<=.05 (“At least 95% unlikely that the difference is due to chance”)				

Table 28: Mean BAC of DUI arrestees involved in multiple-vehicle MVCs versus arrestees not involved in MVCs

	Number	Percent of Sample	Mean BAC	Difference
No MVC	328	84.8%	.131	-
Mult-MVC	72	15.2%	.156	+ .025 BAC
t= 2.69, df=92.5, p<=.01 (“At least 99% unlikely that the difference is due to chance”)				

Average BAC for Injury- versus Non-Injury MVCs

While one might assume that the average arrestee BAC would be higher for MVCs that result in an injury than in MVCs that do not, the study results indicate that the opposite is actually true: the *average BAC is significantly lower in accidents that resulted in injury, and decreases as injury severity increases*. See Table 30.

Table 30: Average BAC of DUI arrestees involved in MVCs, by injury severity

	Number	Mean BAC
No Injury to Anyone in Either Vehicle	83	.158
Minor Injury (Treated at Scene)	21	.144
Major Injury (Transported to Hospital)	43	.115
t= 6.02, df=2, p<=.01 (<i>"At least 99% unlikely that the difference is due to chance"</i>)		

Stakeholders offered a potentially viable explanation for these seemingly contradictory results. First, it could be that the speed of the car(s) involved in an MVC is the most powerful predictor of whether or not an injury will occur, and that drivers with higher BACs are more aware that they are severely impaired and thus attempt to compensate by driving slower, while, conversely, drivers with lower BACs are less aware of the degree of their impairment, drive faster and more recklessly, and thus are more likely to cause an MVC resulting in an injury. It is beyond the scope of this study to test the validity of this theory, and it suggested as a topic for further research.

Lastly, there are no statistically significant differences between arrestee age and injury versus non-injury accidents, or between prior DUI/criminal history and the likelihood of MVCs; single-versus multiple-vehicle MVCs, or injury versus non-injury MVCs.

Blood Alcohol Concentration Test “Refusers” and “Consenters”

This section of the study compares the overall criminal histories, DUI-specific histories, and DUI case outcomes of DUI arrestees who refuse to take a Blood Alcohol Concentration test (“refusers”) versus those who consent to testing (“consenters”).

It is important to acknowledge that while convictions provide a presumably more meaningful measure of “criminal history” than do arrests, arrests are also relevant in this instance because they indicate contact with the criminal justice system and perhaps a more “savvy” arrestee who might be more difficult to investigate and prosecute. In other words, even if one is arrested but not convicted, the mere process of being arrested and charged instructs a potential future “re-arrestee” on the rules and procedures of arrest and prosecution, and possibly how to decrease the chance of conviction.

While it is not herein discussed in greater detail, it should also be noted that no statistically significant differences were found between the gender or age of refusers versus consenters.

Comparing the DUI/Criminal Histories of Refusers and Consenters

While BAC refusers have somewhat more extensive overall criminal histories than do consenters, only one DUI-specific measure reveals a statistically significant difference. These findings are discussed in greater detail throughout this subsection. Due to missing offender numbers on 42 (8.3%) of the arrest reports, the study sample was reduced from 503 to 461 arrestees for these analyses.

DUI Histories of Refusers versus Consenters

Refusers have a significantly greater average number of prior DUI arrests than do consenters. However, the differences are not statistically significant for the average number of prior DUI convictions. See Tables 31 and 32.

**Table 31: Mean number of prior DUI arrests
for BAC refusers versus consenters**

	Number	Mean Number of Prior DUI Arrests
Refusers	28	1.96
Consenters	433	0.99
$t=2.05, df=459, p<=.05$ <i>(“At least 95% unlikely that the difference is due to chance”)</i>		

Table 32: Mean number of prior DUI convictions for BAC refusers versus consenters

	Number	Mean Number of Prior DUI Convictions
Refusers	28	1.25
Consenters	433	0.59
t=1.377, df=28.3, p=.09 ("NOT statistically significant as defined for this study")		

“Statistical significance” is more difficult to attain with smaller rather than larger groups; with smaller groups, there needs to be a much larger difference in the results in order to demonstrate statistical significance. As mentioned earlier, there are only 28 BAC refusers in the study sample of 503 DUI arrestees, which is considered a rather small group for statistical analysis. Consequently, it is entirely possible that statistically significant differences in prior DUI convictions would be found between BAC refusers and consenters if the sample simply included a few more refusers. A study using a larger sample of refusers is suggested as a future project.

Overall Criminal Histories of Refusers versus Consenters

The average number of total prior arrests and convictions for BAC refusers and consenters are next compared in sum and then by offense severity.

Prior Criminal Arrests and Convictions

Strictly speaking, there are no statistically significant differences in the number of either prior convictions or prior arrests for refusers versus consenters, although, once again, the results are extremely close to attaining significance at the $p \leq .05$ (95%) level that is commonly adopted for social science research. However tempting it might be to disregard the question of statistical significance, readers are strongly cautioned to consider the small number of refusers in the study sample (see above) and to avoid citing these statistics as “definitive.” See Tables 33 and 34.

Table 33: Mean number of prior arrests (regardless of crime type or severity) for BAC refusers versus consenters

	Number	Mean Number of Prior Arrests
Refusers	28	8.5
Consenters	433	4.2
t=1.55, df=29.4, p=.066 ("NOT statistically significant as defined for this study")		

Table 34: Mean number of prior convictions (regardless of crime type or severity) for BAC refusers versus consenters

	Number	Mean Number of Prior Convictions
Refusers	28	3.1
Consenters	433	1.7
t=1.502, df=459, p=.067 ("NOT statistically significant as defined for this study")		

Convictions and Arrests by Crime Severity

The average number of convictions and arrests for felonies, misdemeanors, and petty misdemeanor/violations were compared for BAC refusers and consenters, for a total of six statistical tests. Only one test yielded statistically significant results, while another came close to doing so.

Refusers have a significantly greater average number of prior petty misdemeanor and/or violation convictions than do consenters. See Table 35.

Table 35: Mean number of prior petty misdemeanor/violation convictions for BAC refusers versus consenters

	Number	Mean Number of Prior Petty Misdemeanor or Violation Convictions
Refusers	28	1.71
Consenters	433	0.85
t=1.784, Df=459, p<=.05 ("At least 95% unlikely that the difference is due to chance")		

The average number of total prior misdemeanor/violation arrests for refusers versus consenters narrowly missed attaining statistical significance. See Table 36.

Table 36: Mean number of prior petty misdemeanor/violation arrests for BAC refusers versus consenters

	Number	Mean Number of Prior Arrests
Refusers	28	3.54
Consenters	433	1.74
t=1.656, df=29.2, p=.054 ("NOT statistically significant as defined for this study")		

The remaining categories of arrests and convictions for felonies and misdemeanors were not remotely close to attaining statistical significance.

That statistically significant differences were found only in the least serious crime category makes sense. As discussed in the criminal history section for the entire sample, most study arrestees did not have prior criminal histories, and for those who did, the vast majority were for the least serious types of offenses.

Case Outcomes for BAC Refusers and Consenters

An interesting, policy-relevant question is whether or not the DUI conviction rate is lower for BAC refusers than for consenters. As the BAC level is an important factor in establishing that DUI has occurred, it is logical to expect that prosecutions lacking this crucial evidence would be less successful. Given the very small number of refusers in this study sample (which is reflective of the overall DUI arrestee population), it was not possible to test this theory for the various DUI charge severities (felony, petty misdemeanor, etc.). Rather, the charge severities were collapsed into a single category. In doing so, the study results indicate that the conviction rate for BAC refusers is approximately 15 percentage points lower than the rate for consenters. Unfortunately, and again due to the small number of refusers in the study sample, it is not reasonable to test for statistical significance on this measure. See Table 37.

Table 37: Case outcomes for BAC refusers versus consenters

	Convicted	Not Convicted	Conviction Rate
Refusers	9	4	69.2%
Consenters	222	43	83.8%

Table based on 278 (55.7%) study cases (see explanation at the beginning of the "Case Outcomes" section).

Concerns and Recommendations

As part of this project, a meeting between a group of key stakeholders on DUI-related issues was convened in order to solicit feedback on the preliminary study findings and to provide a forum for outlining general DUI-related concerns and recommendations. The meeting participants included representatives from the State of Hawaii Office of the Public Defender, the City & County of Honolulu Police Department and Department of the Prosecuting Attorney, the local chapter of Mothers Against Drunk Driving (MADD-Hawaii), and a private attorney who specializes in handling DUI cases.

Information gleaned from the stakeholders is integrated throughout this report to clarify or otherwise bolster the study findings. Two recommendations that emerged at the meeting garnered unanimously strong support from the stakeholders and are presented immediately below. Given some of the stakeholders' inherently adversarial professional roles, the unanimity of these recommendations seems especially compelling.

The third and fourth recommendations appearing below are based upon some of the available research and related information that were collected in the course of conducting this study.

Simplify the BAC Test Consent Form

The stakeholders strongly agreed that the BAC consent form that HPD officers must read aloud to all DUI suspects and must be signed by "consenters" (see above) should be dramatically shortened and simplified, and that it would be possible to do so in such a way as to still satisfy all legal requirements. The consent forms used by the neighbor island police departments are much shorter than HPD's version. A proposed revision to the HPD form was created by one of the stakeholders and is included for review in the Appendix section of this report (also see below).

Approve PAS Test Results as Legally Admissible Evidence

The Preliminary Alcohol Screening Device (PAS) used by HPD to test BAC levels at arrest locations is not considered legally admissible evidence, creating a situation whereby the legally valid BAC test results that are later collected at the police station are no doubt lower (in some cases, *much* lower) than arrestees' actual BAC levels at the time of arrest.

According to one stakeholder, PAS test results could be made legally admissible in three steps:

- Urge the State Department of Health to approve the PAS as a blood testing device in Hawaii.
- Set up a program to field test individual PAS devices on a monthly basis in order to assess and ensure accuracy.
- Set up a training program to ensure that police officers use the PAS properly in the field.

Focus Upon Deterring the Largest Group of Potential Impaired Drivers

Nationally and in Hawaii, the significant reductions in DUI over the past twenty years are probably attributable to deterring the “average citizen,” rather than the hardcore alcohol/drug addict, from driving while intoxicated. Since the former group provides the largest pool of potential offenders, efforts in this regard should be continued and strengthened. Research shows that DUI reductions tend to result from *the combined effects* of a number of factors: media advocacy and training, resulting in increased media coverage; additional police officer hours for DUI enforcement; increased use of breathalyzer equipment; increased officer training; and more DUI checkpoints (Room, et. al, 2005; Voas, et. al, 1999; Holder, et. al, 1999). These variables interact to create more DUI enforcement and news coverage, which result in a *greater perceived risk of arrest*, and thus a reduction in DUI. *Government agencies and advocacy groups should work cooperatively to obtain both public and private funding, as appropriate, for these efforts.*

Conduct Additional DUI Research

Several important research topics that could not be addressed in the current study are identified throughout this report.

Other Recommendations

The stakeholders were also encouraged at the meeting (and via subsequent follow-up requests and reminders) to submit brief written statements of their concerns and/or policy recommendations about DUI, regardless of whether or not they were directly related to the results of this study.

Only MADD-Hawaii and the private attorney submitted the requested written documentation, and follow-up phone calls and email were used to clarify their responses. As a result of these efforts, MADD-Hawaii offered the written statement included below, and the private attorney drafted a proposed, shortened BAC test consent form that appears in the Appendix of this report.

The presentation of this information does not necessarily indicate verification or endorsement by either the Department of the Attorney General or the University of Hawaii-West Oahu.

MADD-Hawaii’s Recommendations

MADD-Hawaii organized their concerns and recommendations into five major categories: repeat offenders, high-level BAC drivers, BAC test refusers, enforcement, and general concerns. This information is presented below in non-substantively edited format.

Repeat Offenders

- The 2005 State Legislature passed a bill (HB919) and the Governor signed it into law (Act 154) to impose vehicle forfeiture sanctions upon a third DUI conviction. This law needs to be well-implemented and publicized to act as a strong deterrent to hardcore DUI drivers.

- The current law for administrative plate impoundment for all repeat offenders needs to be revisited. It is difficult for the police to obtain data “in the field” to determine whether or not a DUI arrestee has prior convictions.
- The current drug and alcohol assessment of DUI offenders needs to be audited to determine compliance with the law that requires these assessments. The drug and alcohol treatment programs mandated by courts should also be audited to determine how successful they are at preventing repeat DUI offenses.

High-Level BAC Drivers (BACs of .150 and above)

- A law should be passed to apply the current sanctions for a repeat offender to those caught driving with a BAC of .150 or above for a first offense. License plate impoundment is not sufficient because plates cannot be removed at roadside arrest locations.

BAC Test Refusers

- The data collected for this study show that BAC test refusers have a greater average number of prior DUI arrests than consenters (1.96 vs. 0.99). MADD-Hawaii feels that either three DUI convictions, three test refusals, or any combination thereof, should count as a prior offense towards “habitual status” under HRS §291E-61.5 (a class C felony).

Enforcement

- The current DUI paperwork required of police officers in the City & County of Honolulu should be shortened so that officers spend more time patrolling and less time filling out forms. Currently, HPD officers must read 7 to 8 pages of information to arrestees as a result of several appellate court decisions. Neighbor island counties have much shorter forms, and there was broad agreement in the stakeholder meeting for this study that the paperwork can and should be shortened dramatically.
- The training of police officers to be Drug Recognition Experts (DREs) is important and must be expanded so that more officers are able to detect both alcohol- and drug-impaired drivers.
- The current sobriety checkpoint program should be continued.
- A court monitoring program needs to be reestablished to determine whether or not the current DUI laws are being enforced as intended.
- Recently, there have been delays in cases going to trial, and judges have therefore had to dismiss cases because there has not been a “speedy trial.” The reason for these delays must be investigated and changes suggested.

General

- An “Impaired Driving Task Force” needs to be reinstated to provide a forum for identifying and discussing problems with the system. Issues discussed at the July 2005 Law Enforcement Summit in Reno, Nevada need to be addressed by this task force.

- Studies have determined that “brief interventions” in hospital emergency rooms or trauma centers have been effective in reducing DUI-recidivism. A grant proposal for such a program was submitted by a University of Hawaii researcher and should be supported.
- There needs to be more training for DUI prosecutors, judges, and per diem judges.
- All police departments are understaffed in Hawaii. Legislative bills to increase funding for police departments through revenue sharing programs should be introduced.
- More funding is needed for media campaigns to increase awareness of Hawaii’s DUI laws and enforcement programs.

References

BOYLAN, PETER

- 2005 "Hawaii's DUI Deaths Fall 40%." *Honolulu Advertiser*, January 13, available online.
- 2004 "DUI Arrests near 3,000." *Honolulu Advertiser*, November 16, available online.

BROWN, BECKIE AND ANNE RUSSELL

- 2005 "MADD and Traffic Safety: Grassroots Success" available online Shaffer Library of Drug Policy: <<http://www.druglibrary.org/schaffer/misc/driving/s8p1.htm>> downloaded 7/6/2005.

FEDERAL BUREAU OF INVESTIGATION (FBI)

- 2005 *Uniform Crime Reports*, "Age-Specific Arrest Rates and Race-Specific Arrest Rates for Selected Offenses, 1991-2001." available online <<http://www.fbi.gov/filelink.html?file=/ucr/adducr/average%20age%20of%20arrests.xls>> downloaded 6/21/05.

FUJIMORI, LEILA

- 2005 "Checkpoints Credited as Drunken-Driving Deaths Decline." *Honolulu Star Bulletin* January 13, available online.

HINGSON, RALPH, TIMOTHY HERREN, AND MICHAEL WINTER

- 1999 "Preventing Impaired Driving." *Alcohol Research and Health*. Vol. 23, No. 1: 31-39.

HOLDER, HAROLD, D., ROBERT SALTZ, JOEL GRUBE, ROBERT VOAS, PAUL GRUENWALD, AND ANDREW TRENO

- 1999 "A community prevention trial to reduce alcohol-involved injury and death: An overview." *Addiction*. Vol. 92 (Supplement 2): S155-S171.

CITY & COUNTY OF HONOLULU POLICE DEPARTMENT (HPD)

- 2002 "A Monthly Comparison of D.U.I. Arrest Statistics 12/01-12/31/2001."

LEIDERMAN, MIKE

- 2004a "DUI Deaths Rising" *Honolulu Advertiser*, August 26, available online.
- 2004b "More DUI Checkpoints Slated" *Honolulu Advertiser*, September 28, available online.

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (NHTSA)

- 2002 "Alcohol Involvement in Fatal Collisions 2000." DOT HS 809 419, March 2002, available online at <<http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/Rpts/2002/00AlcoholRpt/Index.htm#contents>> downloaded 7/6/2005.

REINARMAN, CRAIG

- 1988 "The social construction of an alcohol problem." *Theory and Society*, 17: 91-120.

REYES, B.J.

- 2005 "Vehicle Seizure for Drunken Driving Revisited." *Honolulu Star Bulletin*, April 6, available online.

ROOM, ROBIN, THOMAS BABOR, AND JURGEN REHM

2005 "Alcohol and Public Health." *Lancet*. Vol. 365: 519-530.

VOAS, RICHARD, HAROLD HOLDER, AND PAUL GRUENWALD

1999 "The effect of drinking and driving interventions on alcohol-involved traffic collisions within a comprehensive community trial." *Addiction*. Vol. 92 (Supplement 2): S221-S236.

Appendix: Proposed Revised BAC Consent Form (Draft)

SANCTIONS FOR USE OF INTOXICANTS WHILE OPERATING A VEHICLE & IMPLIED CONSENT FOR TESTING

ARRESTEE'S NAME: _____ REPORT NO.: _____

SOCIAL SECURITY NO: _____ DATE OF ARREST: _____

I, _____, a police officer, swear that the following statements were read to the arrestee:

Pursuant to chapter 291E, Hawaii Revised Statutes (HRS), Use of Intoxicants While Operating a Vehicle, you are being informed of the following:

1. _____ Any person who operates a vehicle upon a way, street, road, or highway or on or in the waters of the State shall be deemed to have given consent to a test or tests for the purpose of determining alcohol concentration or drug concentration of the person's breath, blood, or urine as applicable.
2. _____ You are NOT entitled to an attorney before you submit to any tests or tests to determine your alcohol concentration and/or drug concentration.
3. _____ If you choose to take an alcohol concentration test and the test result is below the legal limit of .08, the administrative revocation proceedings will be terminated with prejudice.
4. _____ The administrative revocation of driver's license and motor vehicle registration consequences for taking or refusing to take a test are as follows:
 - a. _____ If you refuse to take any tests and your record shows no prior alcohol or drug enforcement contact during the five years preceding the date the notice of administrative revocation was issued, your license and privilege to operate a vehicle will be revoked for a period of one year.

However, if you choose to take a test and fail it, your license and privilege to operate a vehicle will be revoked for a minimum of three months up to a maximum of one year.

- b. _____ If you refuse to take any tests and your record shows one prior alcohol or drug enforcement contact during the five years preceding the date the notice of administrative revocation was issued, your license and privilege to operate a vehicle, and the registration of any motor vehicle registered to you, will be revoked for a period of two years.

However, if you choose to take a test and fail it, your license and privilege to operate a vehicle, and the registration of any motor vehicles registered to you, will be revoked for a minimum of one year up to a maximum of two years.

- c. _____ If you refuse to take any tests and your record shows two prior alcohol or drug enforcement contact during the seven years preceding the date the notice of administrative revocation was issued, your license and privilege to operate a vehicle, and the registration of any motor vehicle registered to you, will be revoked for life.

However, if you choose to take a test and fail it, your license and privilege to operate a vehicle, and the registration of any motor vehicles registered to you, will be revoked for life.

- d. _____ If you refuse to take any tests and your record shows three or more prior alcohol or drug enforcement contact during the ten years preceding the date the notice of administrative revocation was issued, your license and privilege to operate a vehicle, and the registration of any motor vehicle registered to you, will be revoked for life.

However, if you choose to take a test and fail it, your license and privilege to operate a vehicle, and the registration of any motor vehicles registered to you, will be revoked for life.

- e. _____ If you are under the age of eighteen years and are arrested for operating a vehicle while under the influence of an intoxicant, your license and privilege to operate a vehicle will be revoked either for the period remaining until your eighteenth birthday or, if applicable, for the appropriate revocation period.
 - f. _____ If your test result is .08 or above, and if you do not have any prior alcohol and/or drug enforcement contacts within five years preceding the date of arrest, you may request a conditional permit after a minimum period of absolute license revocation of thirty days, to drive for work-related purposes or to attend substance abuse treatment which may be ordered for the remainder of the revocation period.
 - g. _____ If you refuse to take any tests, the administrative revocation proceeding will not be terminated, and you will not qualify for a conditional permit.
 - h. _____ If your motor vehicle registration is revoked, you will be ordered to surrender the license plate(s) and motor vehicle registration of all motor vehicles which you own. Failure to surrender your motor vehicle license plates is a criminal misdemeanor.
5. _____ Criminal charges may be filed against you under part IV, Prohibited Conduct, section 291E.

ACKNOWLEDGMENT OF RECEIPT OF SANCTION INFORMATION & IMPLIED CONSENT TESTING CHOICE

REPORT NO. _____

ALCOHOL CONCENTRATION

After I informed the arrestee of the aforementioned sanctions and the choice of taking a blood test, a breath test, both, or refusing to take a test to determine the alcohol concentration, the arrestee:

_____ AGREED TO TAKE A BREATH TEST AND REFUSED THE BLOOD TEST

_____ AGREED TO TAKE A BLOOD TEST AND REFUSED THE BREATH TEST

_____ AGREED TO TAKE BOTH A BREATH TEST AND A BLOOD TEST

_____ REFUSED TO TAKE EITHER A BREATH TEST OR A BLOOD TEST

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