

# **Circumstances of Drinking Prior to DUI Arrest:**

*A Report of the Orange County Drinking Driver Program Survey*



August 2008

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A Report of the Orange County Drinking Driver Program Survey**

August, 2008

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# Executive Summary

A survey was conducted to investigate the environmental circumstances and other factors associated with driving under the influence (DUI) incidents in Orange County. The primary purpose of the research was to gather information to be used in developing community-based DUI prevention strategies and interventions.

Survey participants were voluntarily recruited from the population of DUI offenders participating in the court-mandated Orange County Drinking Driver Program (DDP) primarily during the month of May 2005. All survey materials were printed in both English and Spanish languages and were distributed to each of the seven state-licensed, county-contracted DDP providers in Orange County. The survey questionnaire was group-administered to volunteers within three different levels of the Drinking Driver Program: Level I, a 3-month program for first-time DUI offenders; Level II, a 6-month program for first offenders with exceptionally high blood alcohol concentration (BAC) test levels at the time of arrest; and Level III, an 18-month program for multiple DUI offenders. All questionnaire responses were anonymous in that no personal-identifying information was recorded.

All differences presented in this report were significant at the  $p < .05$  level of significance.

Compared with a statewide compilation of the total number of DUI arrests reported by city in Orange County in 2004, our sample contained proportionately fewer respondents who were arrested for DUI in certain cities (e.g., Garden Grove, Huntington Beach), but more respondents who were arrested in other cities (e.g., Aliso Viejo, Laguna Hills, San Juan Capistrano). To correct for this over- and under-sampling, we created a city-based weighting variable that was applied to all statistical analyses in this report. All estimates reported herein represent the total population of individuals arrested for DUI in Orange County during the time frame under study.

## **Overall Findings**

- According to the California Department of Motor Vehicles, the top cities where DUI arrests occurred in Orange County in 2004 were Huntington Beach, Costa Mesa, Santa Ana, Anaheim, and Garden Grove. Similarly, according to our survey, the most common cities of last drink (i.e., the cities in which individuals were drinking just prior to DUI arrest) were Huntington Beach, Anaheim, Newport Beach, Santa Ana, and Costa Mesa (see attached maps and accompanying description).
- Newport Beach had more people who reported drinking in that city than were arrested in that city. In fact, almost 40% of individuals who were drinking in Newport Beach were arrested for DUI in Costa Mesa, Huntington Beach, Laguna Beach, Irvine, or Santa Ana.
- Cities with a higher density of alcohol retail establishments (the number of establishments per 10,000 adult residents) were more likely to be reported as a city of last drink before DUI arrest, suggesting that the density of alcohol-serving establishments in a city is a significant community-level risk factor for alcohol-impaired driving.
- Only 59% of individuals were arrested for DUI in the same city in which they had last been drinking prior to arrest, indicating that a significant proportion of intoxicated drivers (4 out of 10) may travel some distance before being arrested for DUI.

- One-third of individuals arrested for DUI had at least one passenger with them when they were arrested, placing those passengers at immediate risk of injury from riding with an alcohol-impaired driver.
- Over half of the individuals (52%) arrested for DUI had their last drink in a bar, restaurant, or other establishment licensed to sell alcohol for on-site consumption, while 34% had their last drink in a private residence, and 13% had their last drink in another type of setting (e.g., park, beach, vehicle, other setting).
- The vast majority of individuals who were last drinking in Costa Mesa, Fullerton, Irvine, Laguna Beach, Newport Beach, and Orange had been drinking in a *public* establishment (i.e., restaurant, bar, or private club). In contrast, almost half of those who were last drinking in Anaheim and almost 60% of those who had been drinking in Santa Ana were drinking in a *private* setting (i.e., own home or other person's home).
- Nearly half of individuals (47%) arrested for DUI had been at their place of last drink for more than 2 hours before being arrested, and had consumed an average of 4-6 drinks during that time. While these two circumstances of last drink would seem to present ample opportunity for an impaired-driver intervention, what appears to be lacking in many drinking environments is an informed, observant, and motivated host or server—perhaps the most critical circumstance for effective prevention of alcohol-impaired driving.
- Only 35% of all DUI offenders reported that any effort had been made to prevent them from driving while impaired, efforts that obviously were not successful. The most commonly-attempted intervention was the general suggestion from a server or someone else that the person not drive, followed by the recommendation that they wait before driving. Only 1% were refused service by a bartender or server, and only 2% were offered a cab.
- Nearly half of the individuals (49%) who were arrested for DUI thought their ability to drive safely was “not at all” impaired or impaired “very little,” and three-quarters thought it was “not at all” or “not very” likely that they would get arrested for DUI. Only 23% thought their ability to drive safely was impaired “a fair amount or very much” and only 8% thought they were “fairly or very likely” to get arrested for DUI.
- When asked about drinking and driving behavior in the 12 months prior to their latest DUI arrest, 57% reported driving at least once per month within two hours after drinking, with 30% doing so 1 or more times per week.
- Almost half (47%) of DUI arrests were made on Fridays and Saturdays, and 73% were made between the hours of 8:00 p.m. and 4:00 a.m.

### **Individual Differences**

Several differences in the circumstances surrounding DUI and drinking patterns emerged in reference to individual differences in gender, ethnicity, acculturation level, BAC level, and the type of setting in which the individual had last been drinking prior to DUI arrest.

- Women were more likely than men to be drinking in public, especially in restaurants; however, women consumed fewer drinks and were less likely to be refused service or offered a cab than men.
- Compared with non-Hispanic Whites, Hispanic individuals were more likely to have had passengers when they were arrested for DUI, were more likely to have been drinking in a private setting, drank for a longer period of time and consumed a greater number of drinks at their place of last drink, and were more likely to receive attempted interventions. However, Hispanic individuals had a lower average BAC at time of DUI arrest (.138) than Non-Hispanic Whites (.165).
- Findings based on acculturation level reflected the same pattern of differences between Hispanic and non-Hispanic Whites. Compared with more-acculturated Hispanics (i.e. individuals who identified themselves as Hispanic but completed the survey in English), those who were less-acculturated (i.e., individuals who identified themselves as Hispanic and completed the survey in Spanish) were more likely to have been drinking in a private setting or vehicle, consumed a greater number of drinks at their place of last drink, and were more likely to receive attempted interventions. Additionally, although less-acculturated individuals had a lower average BAC at time of arrest than those who were more acculturated, they believed they were more likely to get arrested for DUI.
- Individuals with a high BAC at time of DUI arrest (i.e., 2+ times the legal limit) believed they were more impaired, believed they were more likely to get arrested for DUI, and were less likely to have had passengers when they were arrested than those with a lower BAC. Although they were more intoxicated, individuals with a high BAC were not more likely than those with a lower BAC to have been offered an intervention by someone at their place of last drink.
- Individuals who were drinking in a public setting spent less time and consumed fewer drinks at their place of last drink than those who were drinking in a private setting. They also were more likely to be offered some sort of intervention, including being offered a cab or refused service. However, they were less likely to be told not to drive, asked to wait before driving, or told to eat or drink something before driving.
- Individuals who consumed a greater number of drinks and/or spent more time at their place of last drink received more attempted interventions, including being refused service, being told not to drive or to wait before driving, or being offered a ride home.
- In general, individuals who consumed a greater number of drinks at their place of last drink prior to DUI arrest believed they were more impaired and thought they were more likely to get arrested for DUI. However, one-fifth of individuals who had consumed more than 12 drinks believed they were “not at all” impaired, and approximately one-third believed they were “not at all” likely to get arrested for DUI.
- Individuals who had been drinking at their place of last drink for longer periods of time believed they were more impaired. However, the majority, regardless of how long they had been drinking believed they were “not at all” or “not very” likely to get arrested for DUI, suggesting that individuals consistently underestimate their likelihood of DUI arrest.

### **Analysis of City of Arrest in Relation to City of Last Drink**

A basic premise of all DUI prevention efforts is that alcohol-impaired driving poses a serious threat to public safety. A corollary assumption is that the degree of threat to public safety increases with the distance traveled by an alcohol-impaired driver, i.e. the further an alcohol-impaired driver travels, the greater the likelihood that someone will be injured or killed. Thus, it is of some interest to ask how far the impaired drivers in the present survey traveled before they were stopped and arrested.

All survey participants identified both the city where they had their last drink and the city where they were arrested, two geographic reference points that establish the inter-city parameters of distance traveled while driving under the influence of alcohol.

A majority of individuals were arrested in the same city in which they had their last drink, although the percentage of same-city arrests varied. Specifically, more than 70% of the individuals who had been drinking in Huntington Beach and Costa Mesa were arrested for DUI in those cities, respectively, suggesting that DUI enforcement efforts in those cities were highly effective.

Approximately half of individuals who were last drinking in Santa Ana, Anaheim, or Newport Beach were arrested in those cities, with approximately one-quarter to one-third being arrested in neighboring cities.

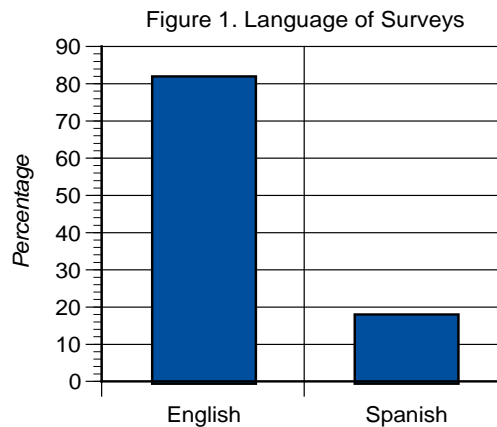


# FINDINGS

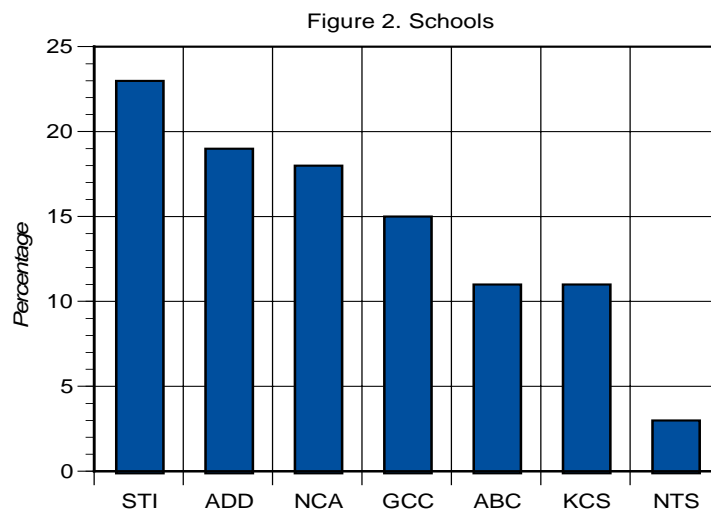
## DESCRIPTION OF SURVEY RESPONDENTS

During the timeframe that surveys were distributed, a total of 7,269 people were enrolled in the three specified program-levels at all DDP sites. With a return of 2,875 completed surveys, the voluntary sample for this survey comprised 40% of the specified DDP population in Orange County.

Of the 2,875 surveys that were completed, 82% (n = 2,348) were completed in English and 18% (n = 527) in Spanish (Figure 1).



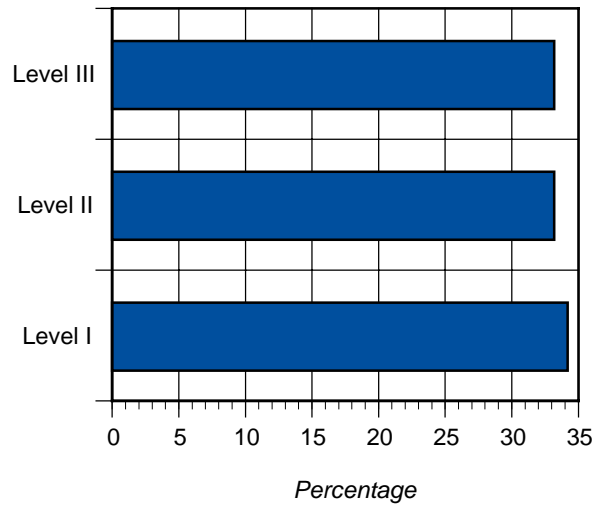
Surveys were completed by DUI offenders from each of the seven local drinking driver programs. Predictably, the greatest response (23% of all completed surveys) came from the school with the largest enrollment, School Ten, Inc., while 19% came from Academy of Defensive Driving, 18% from National Council on Alcoholism and Drug Dependence, 15% from Gold Coast Counseling, 11% were from ABC Traffic Schools, 11% from K.C. Services, and 3% from National Traffic Safety Institute (Figure 2).



There was a relatively equal number of respondents from each of the three levels of the drinking driver program (Figure 3), including 852 (34%) in Level I, 818 (33%) in Level

II, and 807 (33%) enrolled in a Level III program. Nearly 400 respondents did not identify their program level.

Figure 3. Program Levels



Most respondents were men (79% men, 21% women; Figure 4) and their racial/ethnic background was predominantly non-Hispanic white (55%) or Hispanic/Latino (33%). Figure 5 shows the ethnic/racial characteristics of the study sample. In this report, non-Hispanic whites will be referred to as “Whites.”

Figure 4. Gender of Respondents

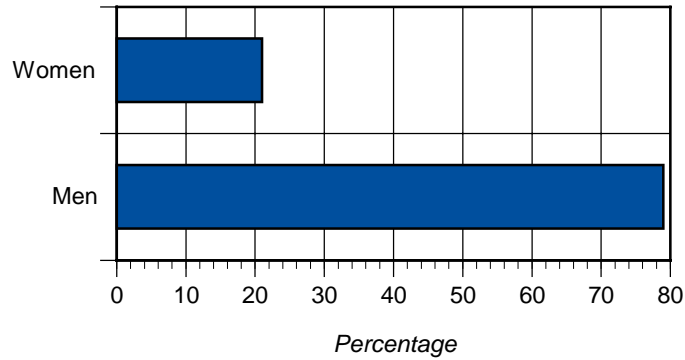
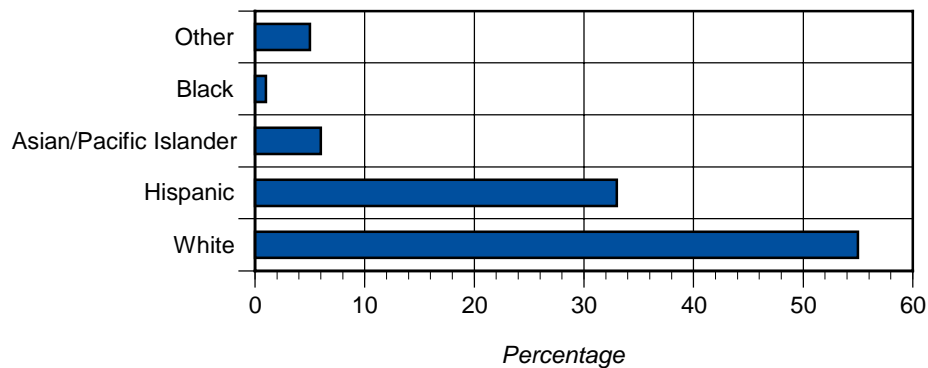
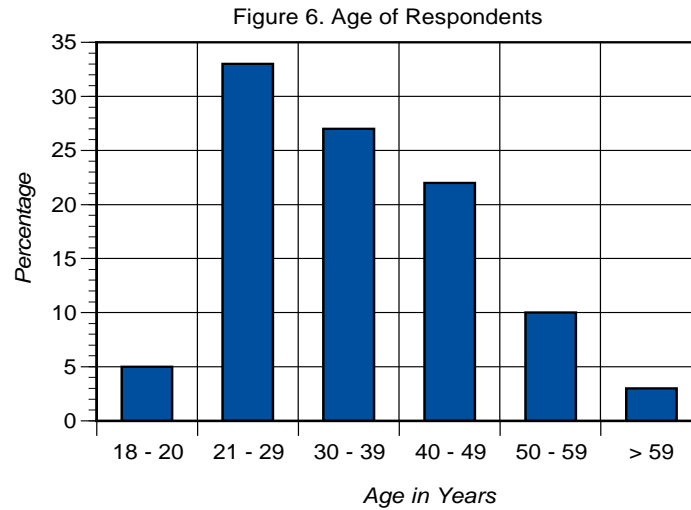


Figure 5. Race of Respondents



The average age of respondents was 35.6 years ( $SD = 11.6$ ). The vast majority of respondents (83%) were between 21-49 years of age (Figure 6).



#### *CITY OF DUI ARREST AND CITY OF LAST DRINK INFORMATION*

**City of DUI Arrest.** According to the California Department of Motor Vehicles' 2005 *Annual Report of the California DUI Management Information System*,<sup>1</sup> the top cities where DUI arrests occurred in Orange County in 2004 were Huntington Beach and Costa Mesa, accounting for nearly one in five DUI arrests. Table 1 shows the top ten cities of DUI arrest.

**Table 1. Top Ten Cities of DUI Arrest (2004)**

<i>City</i>	<i>Percentage of Total DUI Arrests</i>
1. Huntington Beach	10.6%
2. Costa Mesa	8.3%
3. Santa Ana	7.4%
4. Anaheim	7.0%
5. Garden Grove	6.9%
6. Laguna Beach	6.6%
7. Orange	6.2%
8. Newport Beach	5.9%
9. Irvine	5.9%
10. Brea/Yorba Linda	4.7%

*Note: Rates for all cities can be found in Appendix A.*

<sup>1</sup> *Source:* CA DMV, 2005 Annual Report of the CA DUI Management Information System. Compiled by Bob Marlowe, Mothers Against Drunk Driving (MADD).

Our survey showed that most individuals who were arrested for DUI outside of Orange County were arrested in neighboring counties including Los Angeles, Riverside, and San Diego.

Compared with a statewide compilation of the total number of DUI arrests reported by city in Orange County in 2004, our sample contained proportionately fewer respondents who were arrested for DUI in certain cities (e.g., Garden Grove, Huntington Beach), but more respondents who were arrested in other cities (e.g., Aliso Viejo, Laguna Hills, San Juan Capistrano). To correct for this over- and under-sampling, we created a city-based weighting variable that was applied to all statistical analyses in this report. All estimates reported herein represent the total population of individuals arrested for DUI in Orange County during the time frame under study.

**City of Last Drink.** The five most common cities in which individuals had their last drink before being arrested were Huntington Beach (8%), Anaheim (8%), Newport Beach (8%), Santa Ana (6%), and Costa Mesa (6%). Table 2 presents the top five cities of last drink, not adjusting for population.

**Table 2. Top Cities of Last Drink (Weighted, Not Adjusted for Population)**

<i>City</i>	<i>Percentage of Reported Cities of Last Drink</i>
Huntington Beach	8%
Anaheim	8%
Newport Beach	8%
Santa Ana	6%
Costa Mesa	6%

Again, these rates identify the cities where the greatest number of individuals had been drinking before their DUI arrest, but do not take into consideration the size of the population in each city.

Therefore, city-of-last-drink rates also were calculated as the number of individuals who reported drinking in each city per 10,000 adult residents of that city. Adjusting for population, the cities with the highest rates of drinking before DUI arrest were: Laguna Beach, Newport Beach, Costa Mesa, Huntington Beach, and Los Alamitos. Table 3 presents the five most commonly-reported cities of last drink, adjusting for population. (Rates for all cities can be found in Appendix A).

**Table 3. Most Common Cities of Last Drink (Weighted, Population-Adjusted)**

<i>City</i>	<i>Rate per 10,000 Adult Residents</i>
Laguna Beach	56.87
Newport Beach	29.60
Costa Mesa	17.45
Huntington Beach	13.65
Los Alamitos	13.33

Only 59% of individuals were arrested for DUI in the city in which they had last been drinking prior to DUI arrest.

Cities outside of Orange County in which individuals were drinking before their arrest included Los Angeles, Long Beach, Riverside, and San Diego.

### **Maps: Analysis of City of Arrest in Relation to City of Last Drink**

A basic premise of all DUI prevention efforts is that alcohol-impaired driving poses a serious threat to public safety. The most recent statewide compilation of DUI arrests in California reports that 15% of all DUI arrests in 2002 were associated with a traffic crash and over one-third (34%) of all California traffic fatalities in 2002 were alcohol-involved.

A corollary assumption is that the degree of threat to public safety increases with the distance traveled by an alcohol-impaired driver, i.e. the further an alcohol-impaired driver travels, the greater the likelihood that someone will be injured or killed. Indeed, a primary objective of police officers assigned to DUI enforcement operations is to get drinking drivers off the road as soon as possible. Thus, it is of some interest to ask how far impaired drivers in the present survey traveled before they were stopped and arrested.

All survey participants identified both the city where they had their last drink and the city where they were arrested, two geographic reference points that establish the inter-city parameters of distance traveled while driving under the influence of alcohol. These data were analyzed for each of the top five cities of last drink (not adjusting for population size; i.e., Anaheim, Newport Beach, Huntington Beach, Costa Mesa, and Santa Ana) and the results were geo-plotted on five separate maps to show the percentage of impaired drivers who were arrested in the same city of their last drink as well as the percentages who traveled to a neighboring or even more distant city before being arrested.

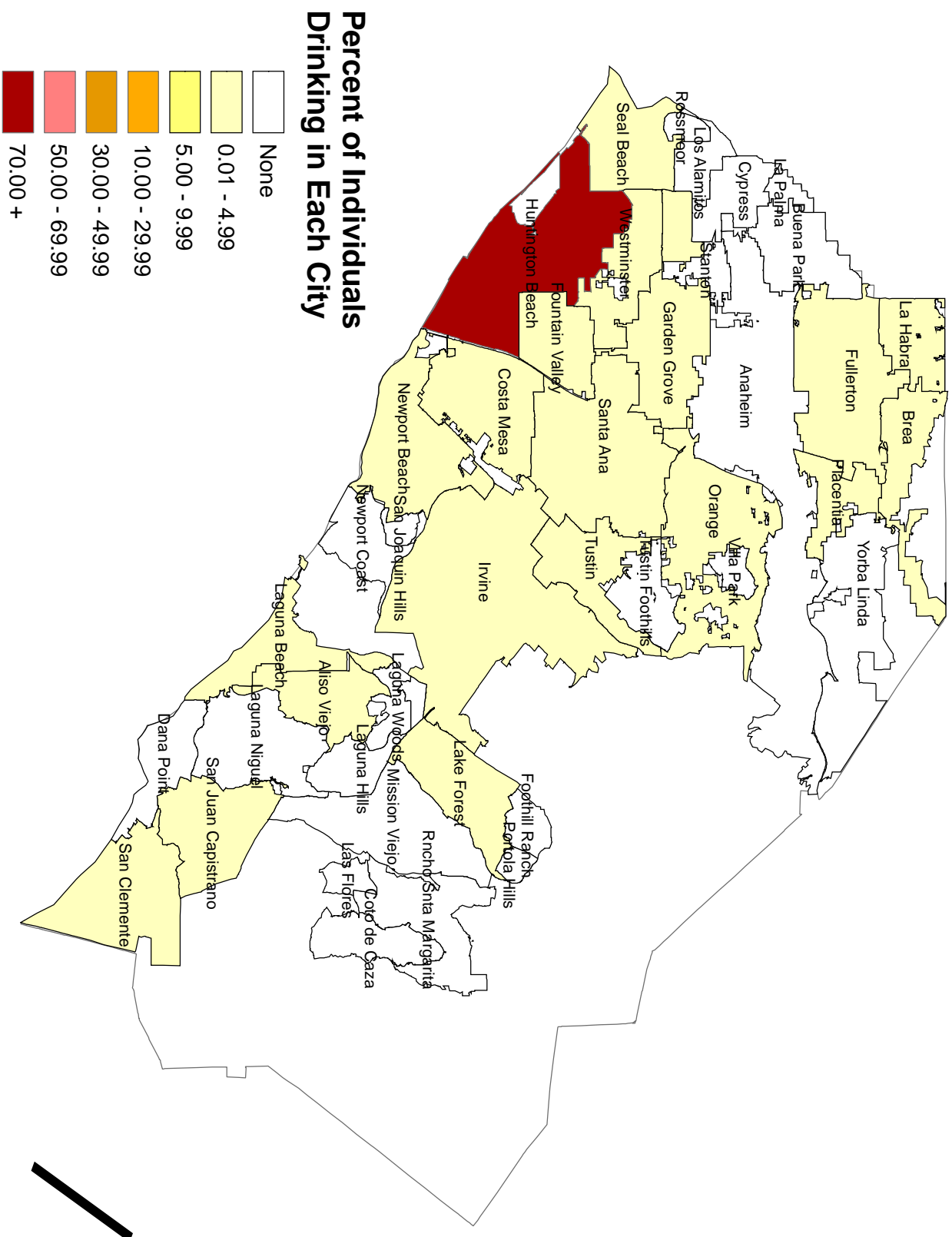
Each of the five maps below shows that a majority of individuals were arrested in the same city in which they had their last drink, although the percentage of same-city arrests varied. Specifically, more than 70% of individuals who had been drinking in Huntington Beach and Costa Mesa were arrested for DUI in those cities, respectively (see Maps 1 and 2), suggesting that DUI enforcement efforts in those cities were highly effective.

Just over half of individuals (52%) who had last been drinking in Santa Ana were arrested in Santa Ana, while another 22% were arrested in Costa Mesa, Garden Grove, and Anaheim, collectively (see Map 3).

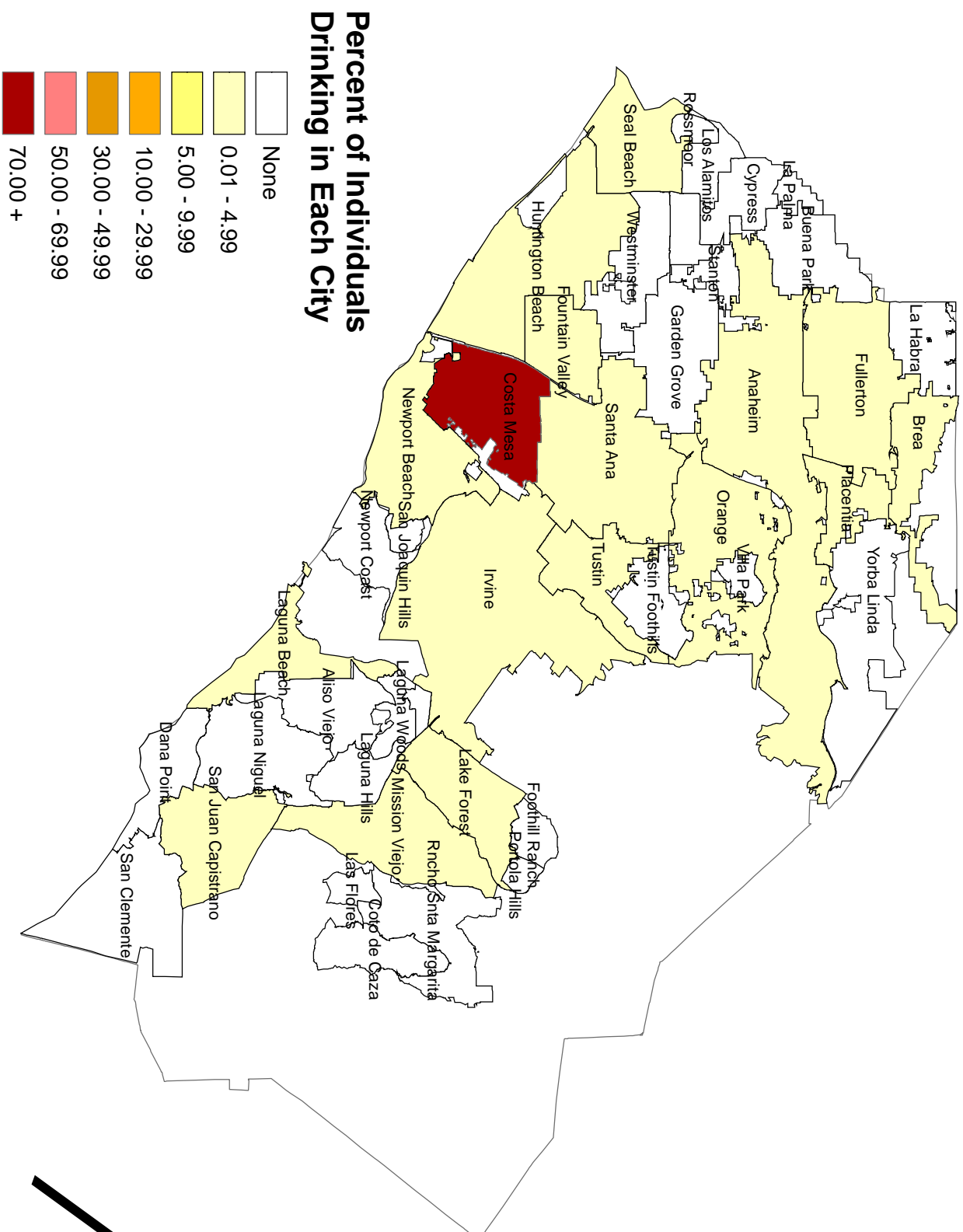
Similarly, just under half of individuals (47%) who had last been drinking in Anaheim were arrested in Anaheim, while another 22% were arrested in the combined cities of Garden Grove, Orange, and Santa Ana (see Map 4).

Finally, less than half of individuals (48%) who had their last drink in Newport Beach were arrested there, while 11% were arrested in Costa Mesa and 27% were arrested in other neighboring cities including Huntington Beach, Laguna Beach, Santa Ana, and Irvine, collectively (see Map 5).

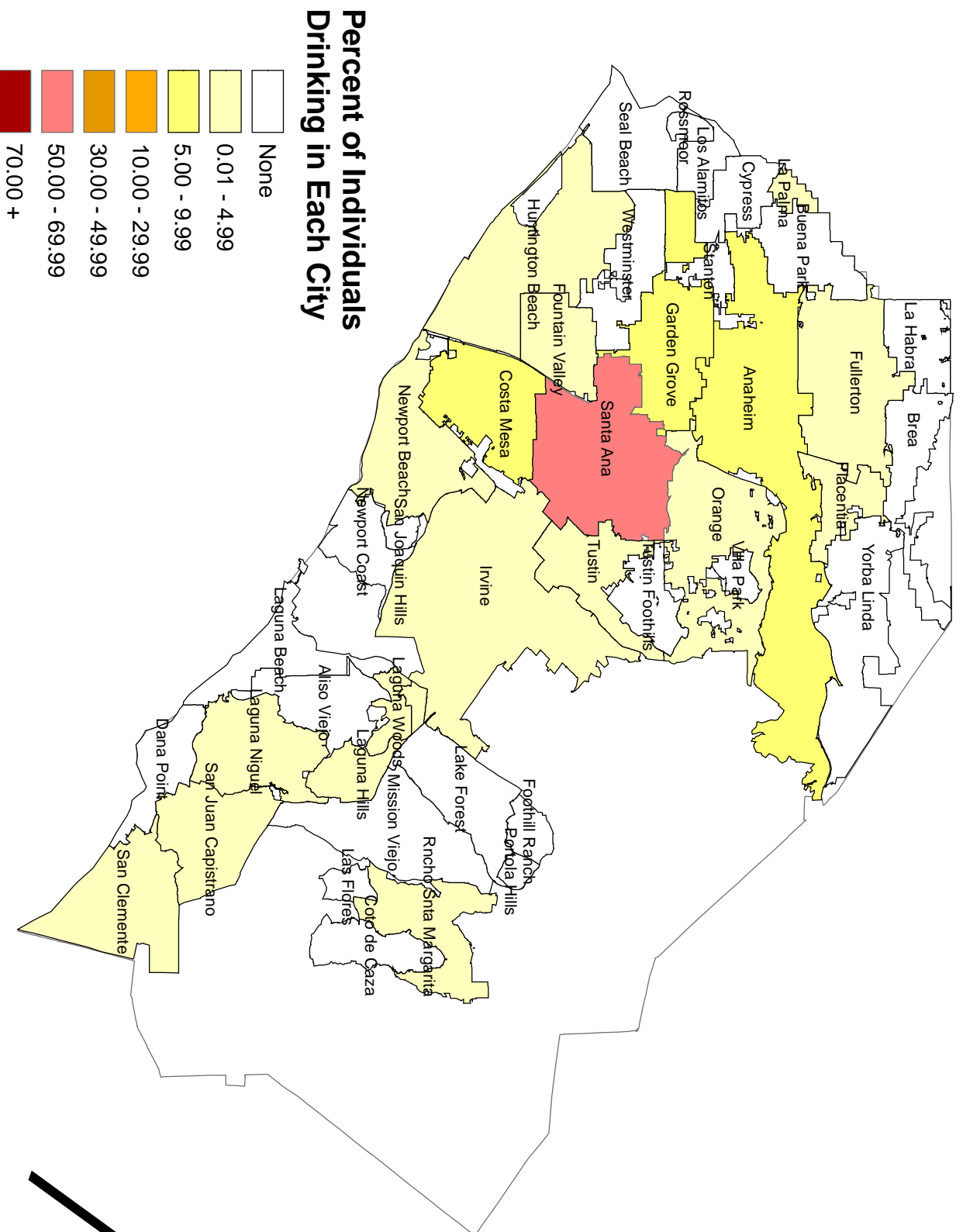
Map 1. Individuals Who Were Drinking in Huntington Beach: Where Were They Arrested?



Map 2. Individuals Who Were Drinking in Costa Mesa: Where Were They Arrested?

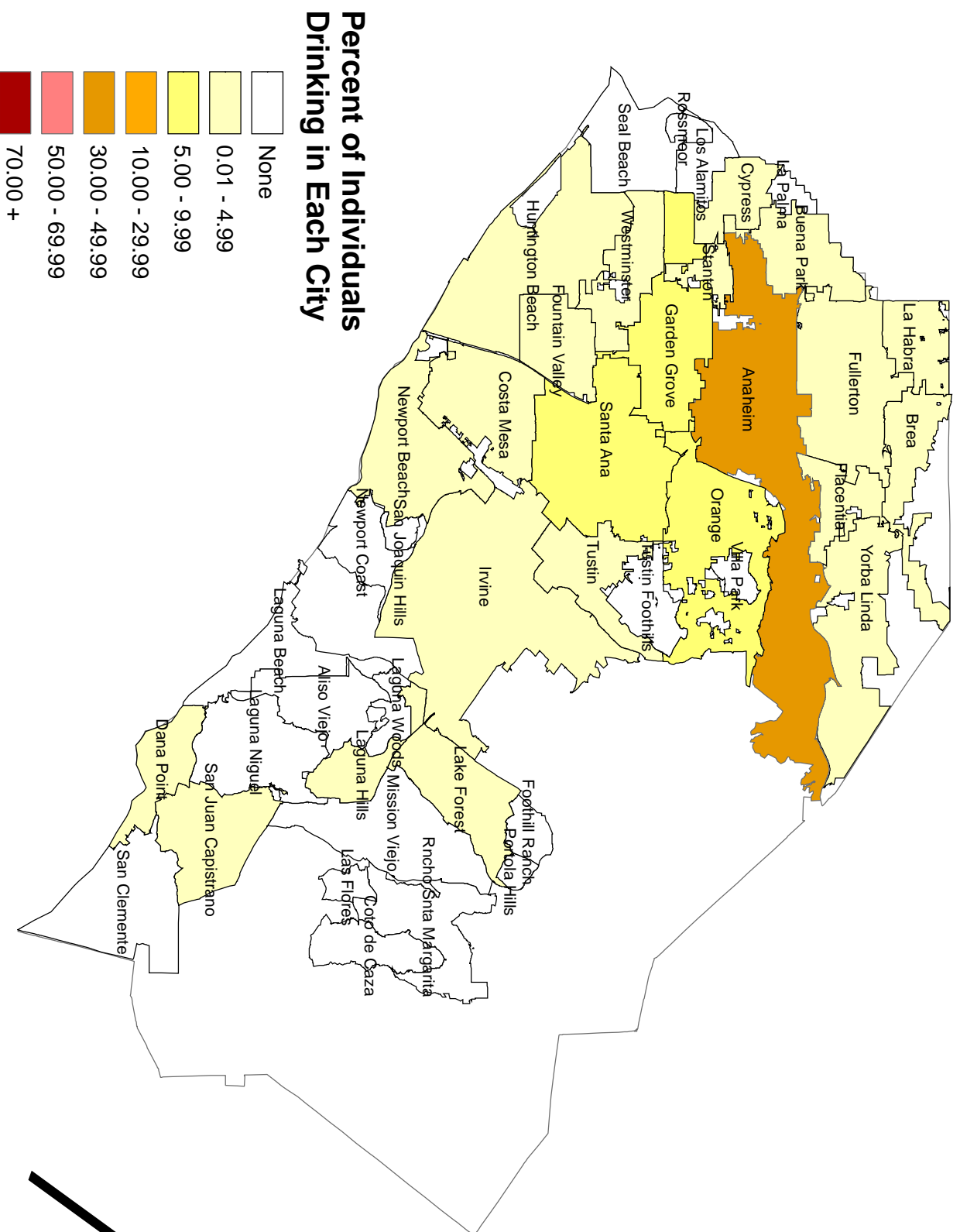


Map 3. Individuals Who Were Drinking in Santa Ana: Where Were They Arrested?

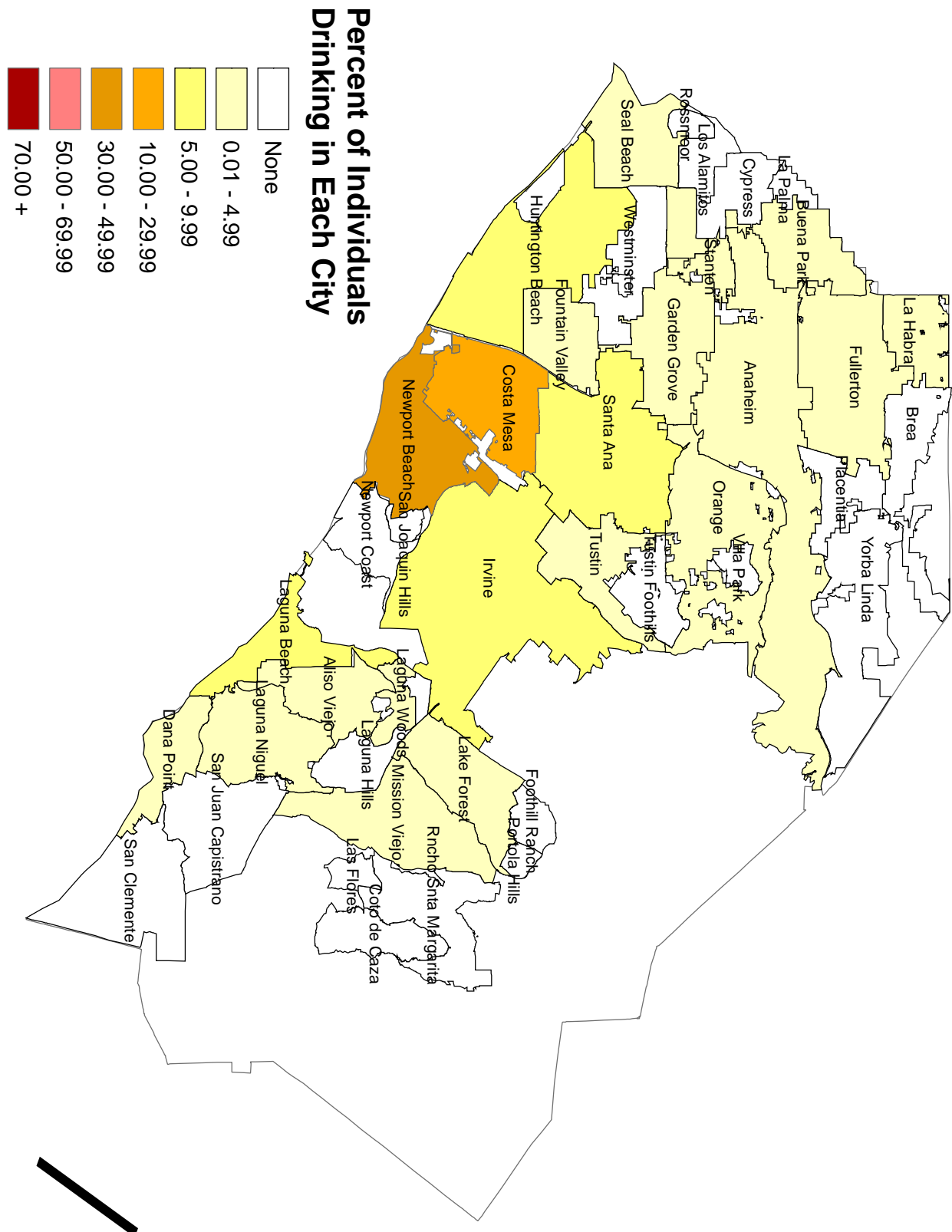




Map 4. Individuals Who Were Drinking in Anaheim: Where Were They Arrested?

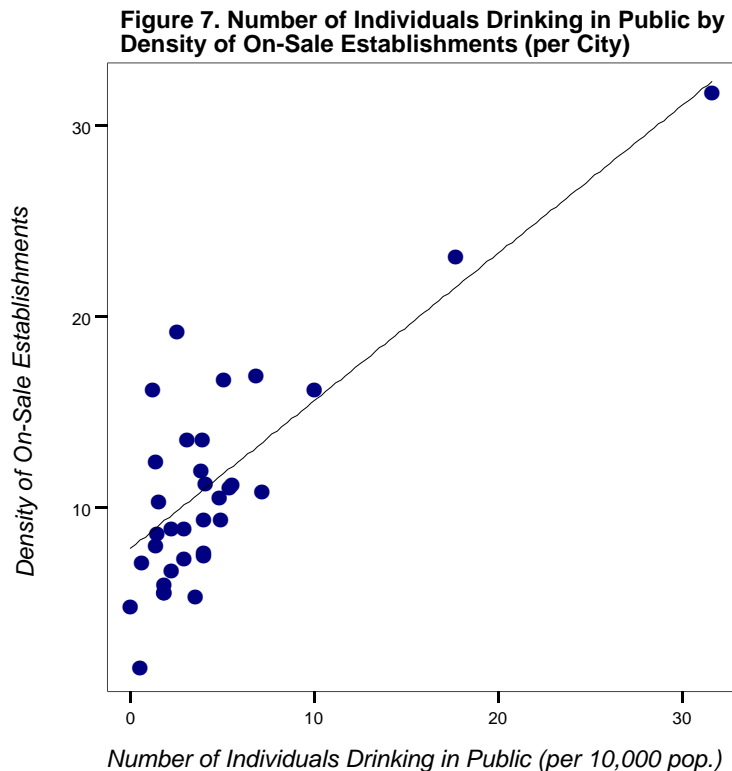


Map 5. Individuals Who Were Drinking in Newport Beach: Where Were They Arrested?



### Correlation of City of Last Drink with Alcohol Outlet Density

Cities with higher density of alcohol-serving establishments are at greater risk for various community health and safety problems that are known to be alcohol related. Several studies have demonstrated a positive correlation between a community's density of retail alcohol outlets (number of outlets per population) and various community problems, including DUI arrests, traffic crashes, injuries and deaths, assaults, and homicides. The present study examined the relationship between alcohol-outlet-density rates and city-of-last-drink rates. A Pearson correlation was computed using the city-of-last-drink rates (for individuals who had their last drink in a public establishment, adjusted for population) and the alcohol-outlet density for each city (i.e., number of on-sale licensed establishments per 10,000 people). This analysis revealed that cities with a higher density of alcohol-serving establishments were more likely to be reported as the city of last drink before DUI arrest ( $r = .76$ ,  $p < .01^2$ ; Figure 7), suggesting that the density of alcohol-serving establishments in a city is a significant community-level risk factor for alcohol impaired driving.



### Relationship Between City and Setting of Last Drink

The vast majority of individuals who were last drinking in Costa Mesa, Fullerton, Irvine, Laguna Beach, Newport Beach, and Orange had been drinking in a *public* establishment (i.e., restaurant, bar, or private club). In contrast, almost 60% of those who had been drinking in Santa Ana and almost half of those who were last drinking in Anaheim were

<sup>2</sup> After excluding outliers (i.e., two cities with a very high rate of drinking in public establishments and a very high rate of on-sale establishments), the correlation between alcohol-outlet density and city-of-last-drink rates was still significant,  $r = .37$ ,  $p < .05$ .

drinking in a *private* setting (i.e., own home or other person’s home; Table 6). This latter finding may be due to the high concentration of Hispanics who live in Santa Ana and Anaheim, who are more likely to drink in a private setting (see also Figure 23 in the “Individual Differences” section of this report).

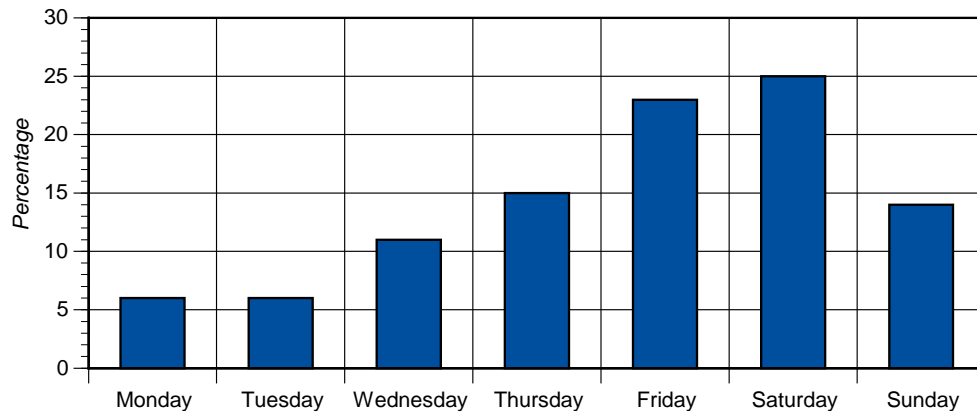
**Table 6. Setting of Last Drink by City of Last Drink**  
(For cities with 100+ mentions)

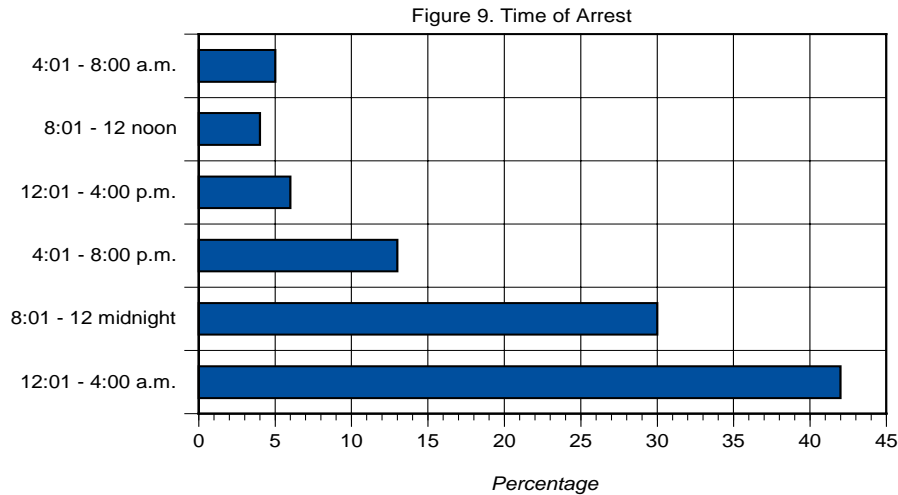
City	Private Setting	Public Setting
Anaheim	45%	55%
Costa Mesa	30%	70%
Fullerton	27%	73%
Huntington Beach	39%	61%
Irvine	23%	77%
Laguna Beach	23%	77%
Newport Beach	21%	79%
Orange	29%	71%
Santa Ana	58%	42%

#### *CIRCUMSTANCES OF DUI ARREST*

**Day of Week and Time of Day.** The most common days of the week for DUI arrests were Fridays (23%) and Saturdays (25%), while the least common days were Mondays (6%) and Tuesdays (6%). Most arrests occurred between 8 p.m. and 4 a.m., with 31% occurring between 8 p.m. and midnight and 42% occurring between midnight and 4 a.m. Figures 8 and 9 show days and times of arrest.

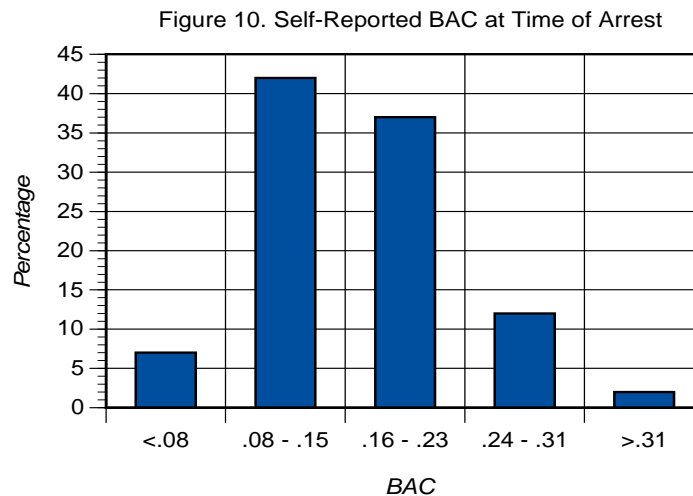
Figure 8. Day of Arrest





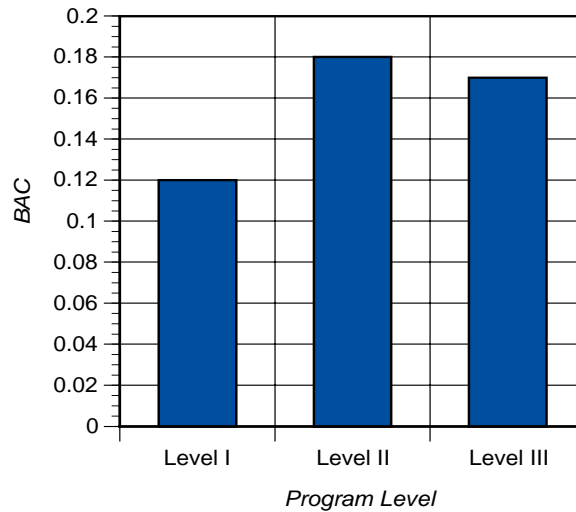
It is important to note that findings related to the day of the week, time of day, and city of arrest may be strongly influenced by police patrol patterns (i.e., where and when police officers patrol) and departmental priorities for DUI enforcement.

**Blood Alcohol Concentration (BAC) at Time of Arrest:** The average BAC at the time of arrest reported by all respondents was 0.154, almost twice the legal limit of 0.08. Of those who provided a BAC, more than one-third reported having a BAC between 0.16 - 0.23 (i.e., 2-3 times the legal limit), another 12% were between 0.24 - 0.31 (i.e., 3-4 times the legal limit), and 2% reported having a BAC that was at or above 4 times the legal limit (Figure 10).



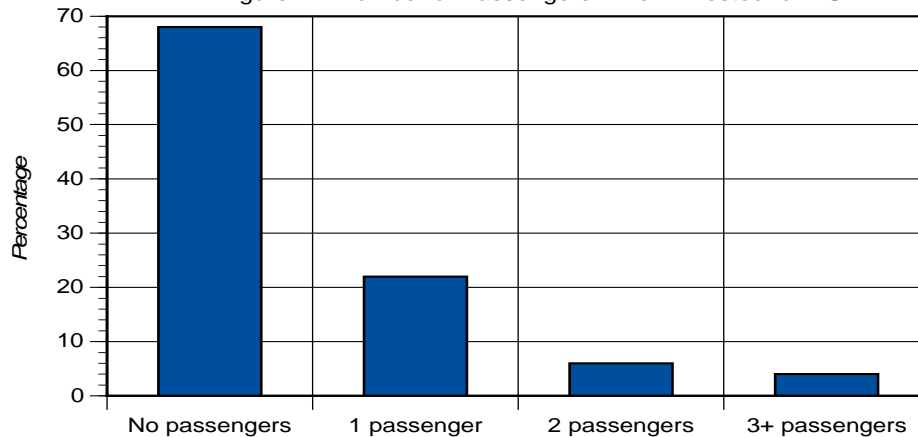
As shown in Figure 11, differences in the average blood alcohol concentration (BAC) across the three program levels were largely a reflection of the criteria that determine drinking driver program assignment. Specifically, Level II respondents (first-time DUI offenders with an exceptionally high BAC) had the highest average BAC of 0.18, while Level III respondents (multiple DUI offenders who, presumably, have a high tolerance for alcohol) had the second-highest average BAC of 0.17, followed by Level I (first-time DUI offenders with a lower BAC at time of arrest) at 0.12.

Figure 11. Average Reported BAC by Program Level



**Passengers at Risk.** When arrested, most individuals (68%) were alone in their car. However, nearly one-third (32%) of individuals arrested for DUI had placed at least one other person (i.e., a passenger) at risk for injury by driving under the influence of alcohol. Specifically, 22% of individuals had one other person in the car, 6% had two passengers, and 4% had three or more passengers (Figure 12).

Figure 12. Number of Passengers When Arrested for DUI



#### *CIRCUMSTANCES OF LAST DRINK*

**Setting of Last Drink.** Over half the individuals arrested for DUI had their last drink in a bar (34%), restaurant (14%), private club (5%), or other establishment licensed to sell alcohol for on-site consumption (Table 7). These data have important implications for community-based prevention efforts that focus on changing environmental conditions that contribute to impaired driving incidents. Specifically, these findings show that the practice of serving alcohol to already-intoxicated individuals is quite prevalent among the county's licensed on-sale establishments, a practice that is a direct violation of their licensure under California state law.

One-third of individuals arrested for DUI (33%) had been drinking in a private residence prior to their arrest (14% at their own home and 19% at another person's home just before being arrested for DUI; see Table 7).

Responsible beverage service (RBS) training is a prevention strategy that has proven effective in reducing the risks for alcohol impaired driving, including the practice of serving intoxicated individuals, in both commercial and private drinking environments.

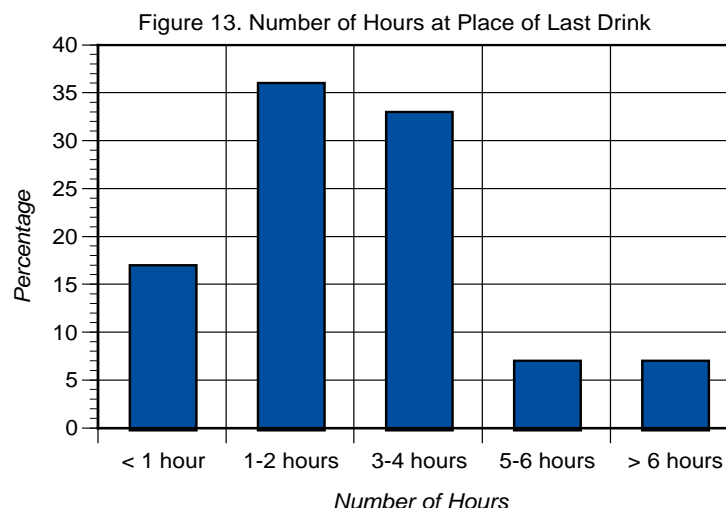
**Table 7. Setting of Last Drink**

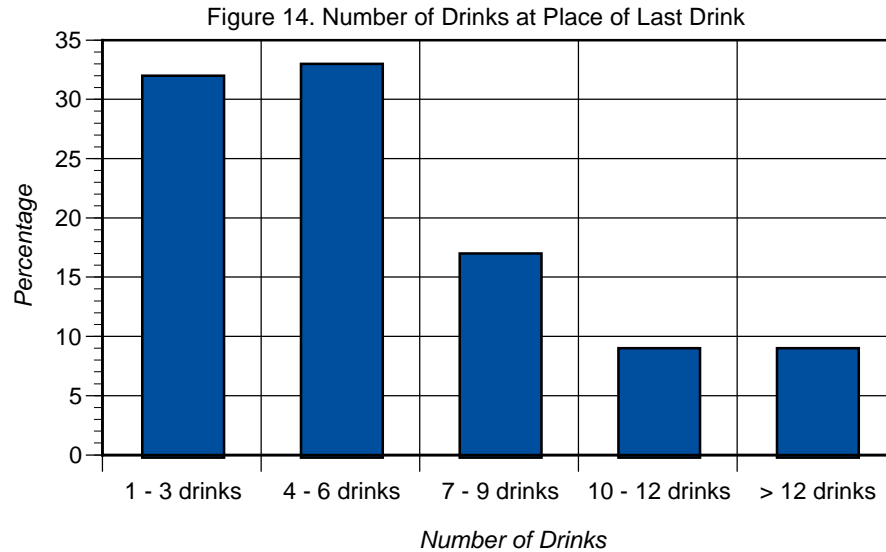
<i>Setting</i>	<i>Percentage</i>
Bar	34%
Another's Home	19%
My Own Home	14%
Restaurant	14%
Vehicle	6%
Private Club	5%
Other Location	5%
Park	1%
Stadium/Arena	1%
Beach	1%

Aside from the locations listed above, the most common locations where individuals had been drinking prior to DUI arrest include work, hotels, and casinos.

#### **Number of Drinks Consumed and Amount of Time Spent at Place of Last Drink.**

More than half of individuals had been at their place of last drink for 2 hours or less before being arrested for DUI, and had consumed an average of 4-6 drinks during that time. Most individuals had been at their place of last drink for 1-4 hours (69%) and most had consumed 1-6 drinks at that place (65%). Figures 13 and 14, respectively, show the amount of time individuals spent and the number of alcoholic drinks they consumed at their place of last drink.





#### *ATTEMPTED INTERVENTIONS*

Respondents were asked which, if any, of six recommendations or attempted interventions were made by someone at their place of last drink. Slightly more than one-third (35%) of individuals who were arrested for DUI received any type of attempted intervention. The most common intervention was the general suggestion that the person not drive. This recommendation was made to 18% of individuals who were arrested for DUI. The second most commonly-attempted intervention was the recommendation that they wait before driving, made to 9% of individuals who subsequently were arrested for DUI. Additionally, 6% of individuals were offered a ride by someone, 6% were told to eat food or drink coffee before driving, 2% were offered a cab, and 1% were refused service by a bartender or server (see Table 8). Despite these attempted interventions, these individuals clearly did not heed the warnings and instead decided to drive under the influence.

**Table 8. Attempted Interventions**

<i>Intervention</i>	<i>Percentage</i>
Someone recommended I not drive	18%
Someone recommended I wait before driving	9%
Someone offered to give me a ride	6%
Someone recommended I eat food or drink coffee before I drive	6%
Someone offered to call me a cab	2%
I was refused service by a bartender/server	1%

Given the duration of time spent at the place of last drink and the number of drinks consumed at those establishments by many individuals, it seems apparent that bartenders/servers would have had ample opportunity to attempt a preventive intervention with these clients. However, very few intervention attempts were reported overall and only 1% of individuals arrested for DUI were refused service. It must be noted, however,

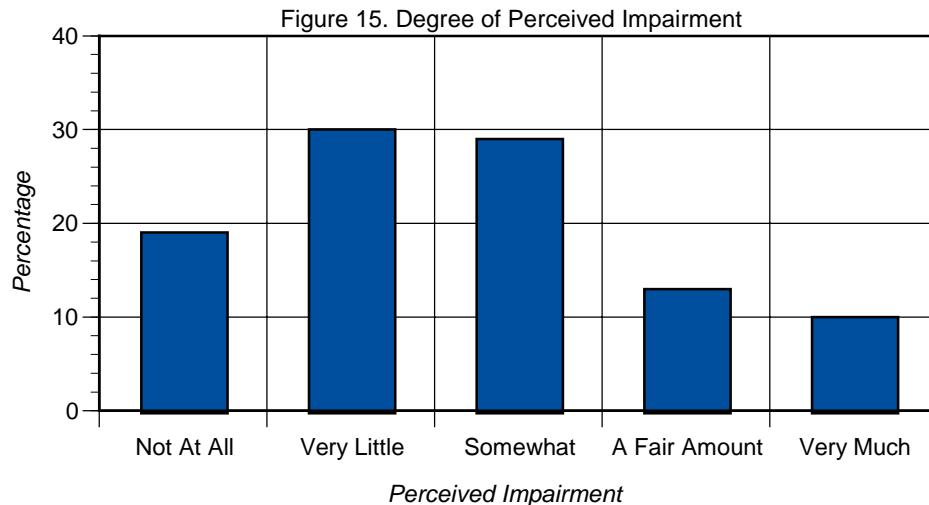


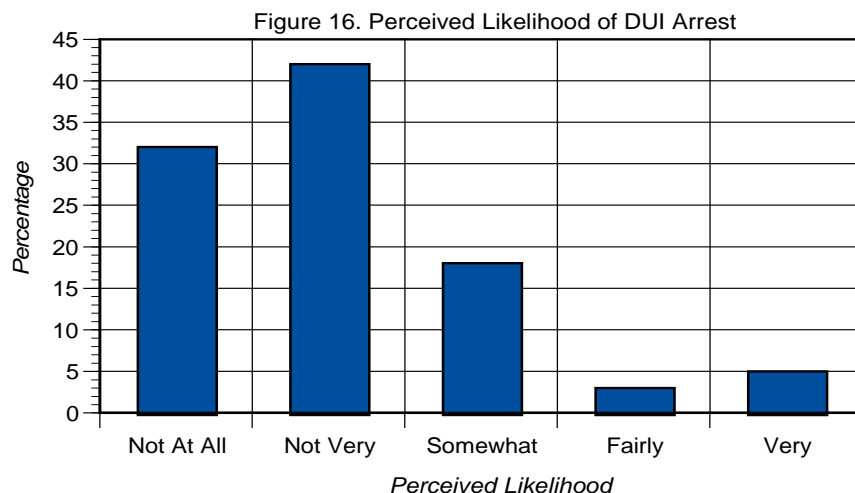
that it is impossible to know from this survey how many other drinkers at these establishments may have complied with an intervention recommendation and thereby avoided a DUI arrest.

#### *PERCEIVED RISK OF DRIVING UNDER THE INFLUENCE*

Individuals' judgments of their ability to drive safely, together with their estimation of the likelihood of being arrested for DUI, are factors that presumably influence the decision about whether or not to drive following a drinking episode. The problem, as evidenced by the survey findings reported below, is that the consumption of alcohol severely impairs a person's ability to render such critical judgments and to make rational decisions.

Half of individuals arrested for DUI (49%) thought their ability to drive safely was "not at all" impaired or impaired "very little" and three-quarters (74%) thought that it was "not at all" or "not very" likely that they would get arrested for DUI. Keep in mind these individuals reported an average BAC of 0.155 at the time of arrest, almost twice the legal limit of 0.08. Only 23% thought their ability to drive safely was impaired "a fair amount or very much" and only 8% thought they were "fairly or very likely" to get arrested for DUI (see Figures 15 and 16).

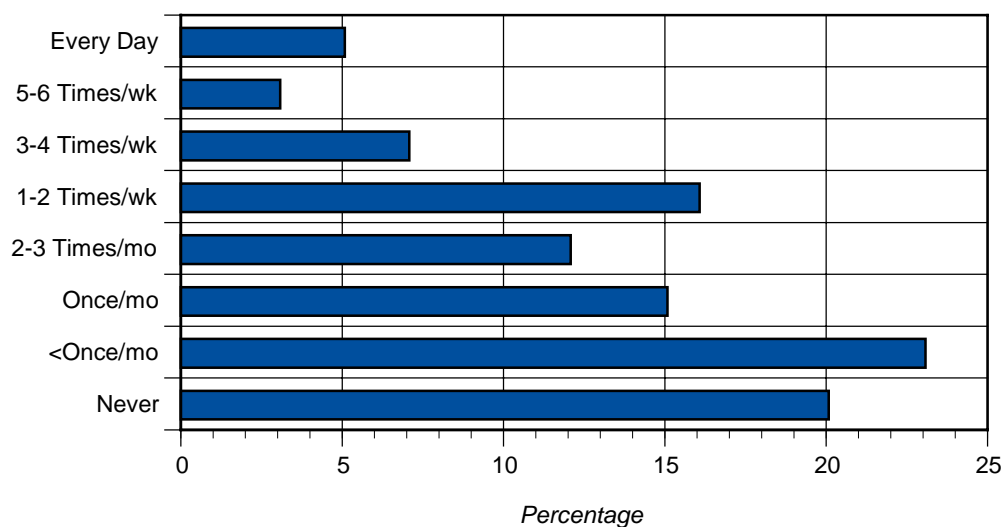




### *PRE-DUI ARREST DRINKING & DRIVING BEHAVIOR*

In the 12 months prior to their latest DUI arrest, approximately 57% had driven at least once per month within two hours after drinking, with 30% doing so 1 or more times per week. In contrast, 20% never drove within two hours after drinking in the prior 12 months, and 23% drove less than once per month within two hours after drinking (see Figure 17).

Figure 17. In 12 Months Prior to DUI Arrest, Frequency of Driving Within 2 Hours of Drinking



## Individual Differences

Differences in the circumstances surrounding DUI arrest were examined by gender, ethnicity, level of acculturation, program level, BAC level, setting type (public vs. private), and amount of time and number of drinks consumed at the place where individuals had last been drinking.

**Gender:** Women were more likely than men to be drinking in public, especially in restaurants (Figure 18); however, women consumed fewer drinks (Figure 19) and were less likely to be refused service or offered a cab than men (Figure 20). Moreover, women believed they were less likely to get arrested for DUI than men (Figure 21).

Figure 18. Setting of Last Drink by Gender

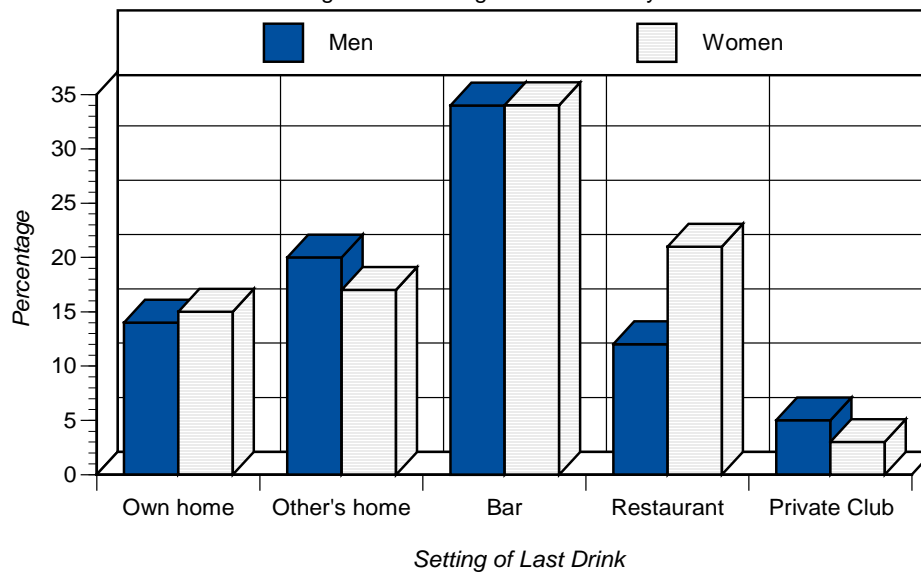
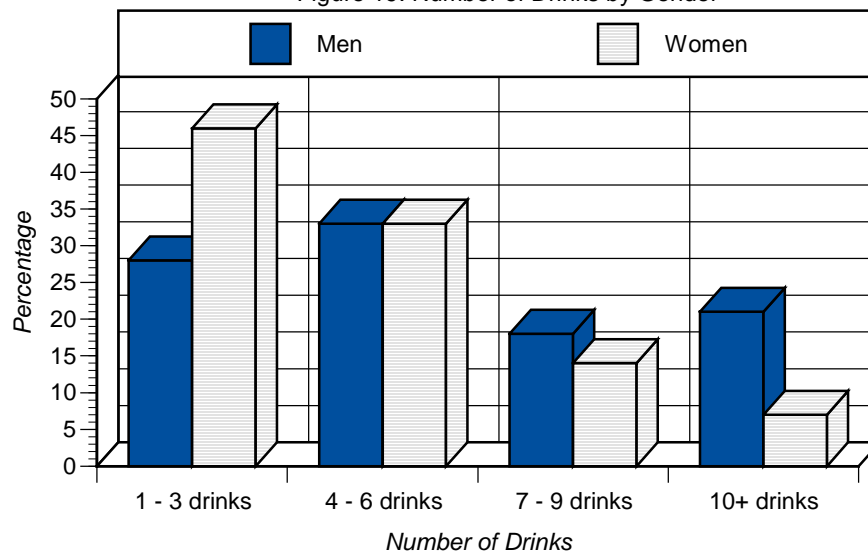
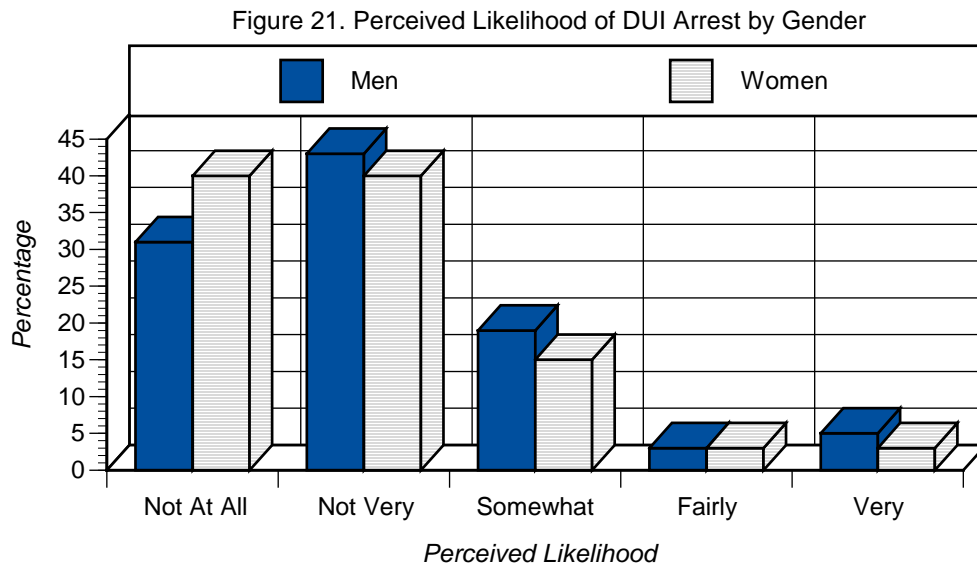
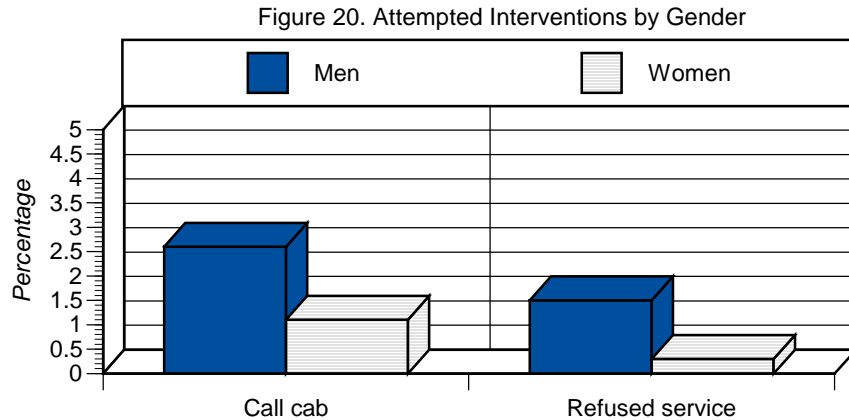


Figure 19. Number of Drinks by Gender





**Ethnicity:** Compared with non-Hispanic White individuals, Hispanic individuals were more likely to have passengers when they were arrested for DUI (Figure 22), were more likely to have been drinking in a private setting (Figure 23), drank for a somewhat longer period of time and consumed a greater number of drinks at their place of last drink (Figure 24), and were more likely to receive attempted interventions (Figure 25). Despite Hispanic individuals rating themselves as somewhat more impaired (Figure 26) and more likely to be arrested for DUI than non-Hispanic White adults (Figure 27), Hispanic individuals had a lower average BAC at time of DUI arrest (.138) than Non-Hispanic Whites (.165). Finally, Hispanics were less likely to report driving within two hours after drinking within the previous 12 months before their DUI arrest (Figure 28).

Figure 22. Number of Passengers by Ethnicity

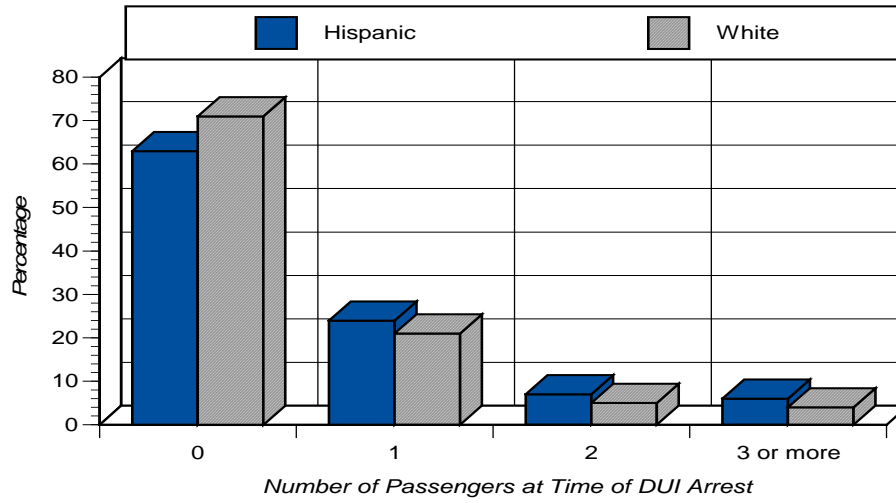


Figure 23. Setting of Last Drink by Ethnicity

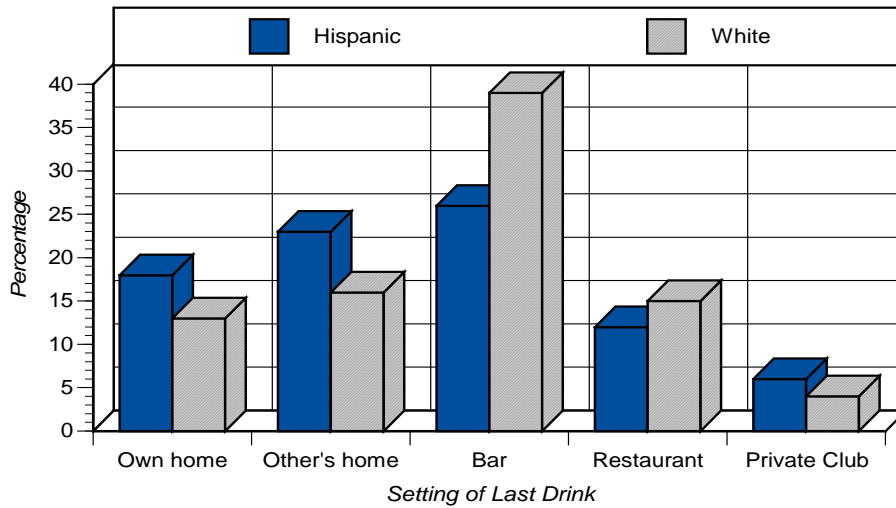


Figure 24. Number of Drinks by Ethnicity

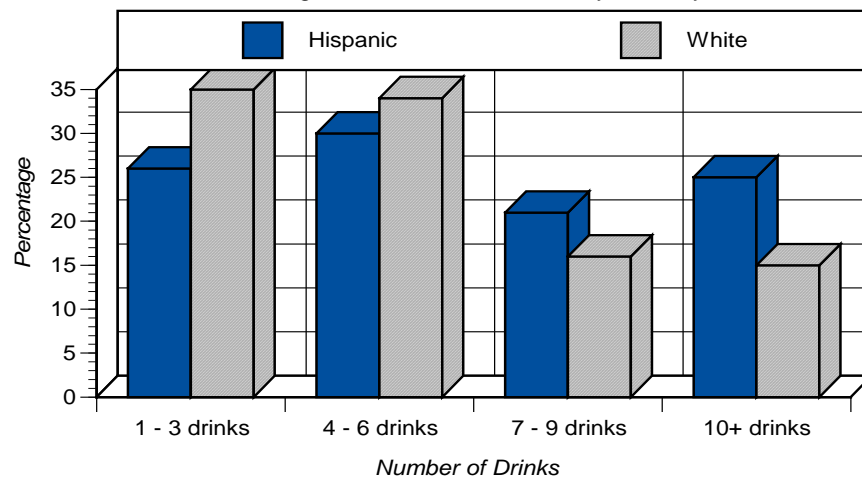


Figure 25. Attempted Interventions by Ethnicity

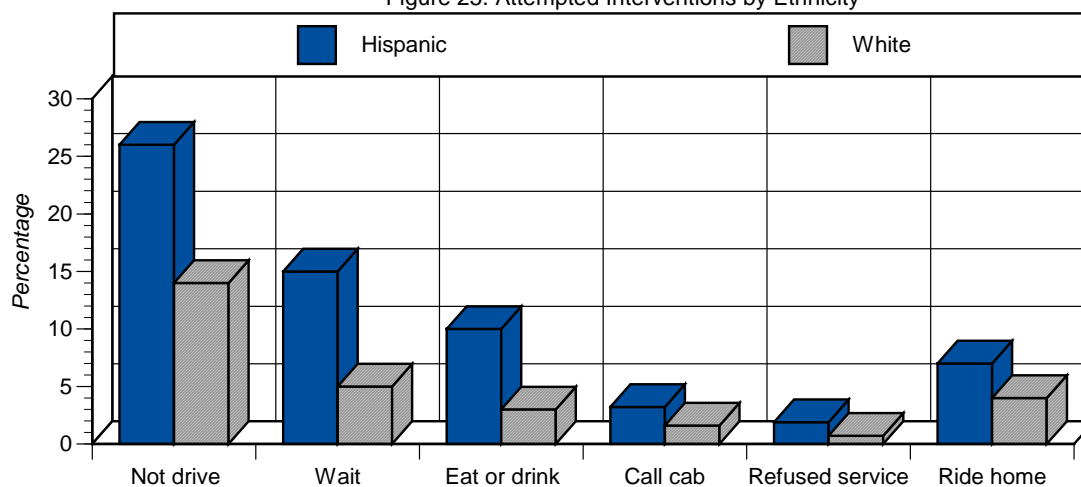


Figure 26. Perceived Impairment by Ethnicity

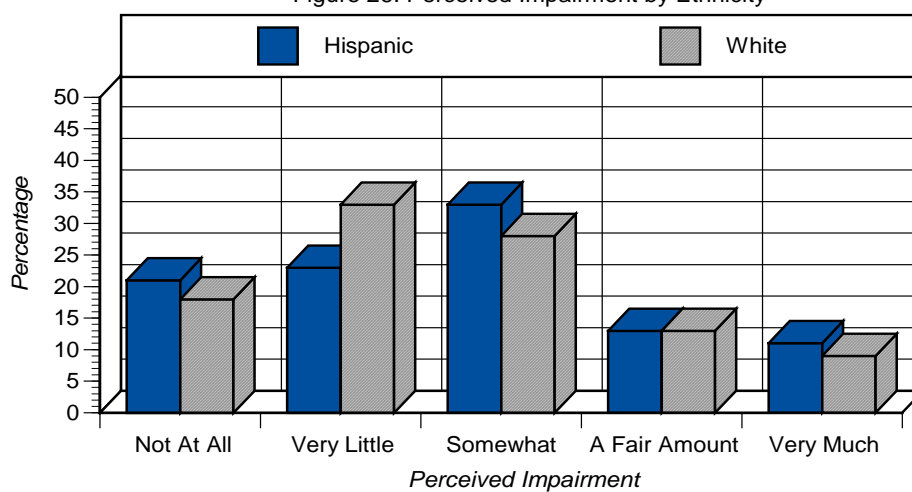
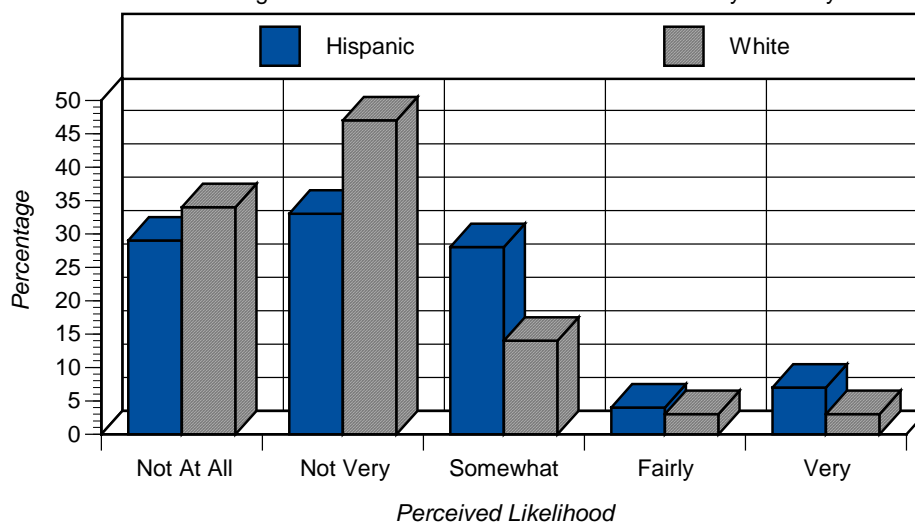
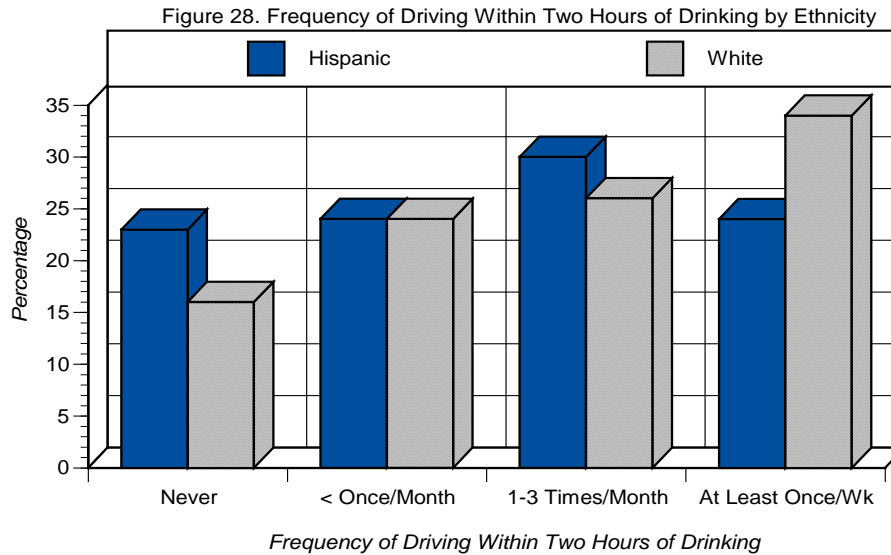


Figure 27. Perceived Likelihood of DUI Arrest by Ethnicity





**Acculturation Level of Hispanic Adults:** For purposes of this analysis, the term “more-acculturated Hispanics” refers to respondents who indicated that their ethnic background was Hispanic/Latino and completed the survey in English, while “less-acculturated Hispanics” refers to respondents who indicated that their ethnic background was Hispanic/Latino and completed the survey in Spanish. Cross-tabulations revealed that less-acculturated Hispanic adults were more likely to be drinking in their own home or in a vehicle and less likely to be drinking at a bar or private club than more-acculturated individuals (Figure 29). Less-acculturated Hispanic individuals also consumed a greater number of drinks at their place of last drink (Figure 30), although they did not differ in the length of time they spent at their place of last drink. Moreover, less-acculturated individuals were more likely to be offered an intervention, including being told not to drive, being asked to wait before driving, being told to eat or drink something before driving, being offered a cab, and being refused service (Figure 31). Although less-acculturated individuals had a lower average BAC at time of arrest than those who were more acculturated, they believed they were more likely to get arrested for DUI (Figure 32). Finally, more-acculturated individuals were more likely to have driven at least once per week within two hours of drinking within the previous 12 months (Figure 33).

Figure 29. Setting of Last Drink by Acculturation Level

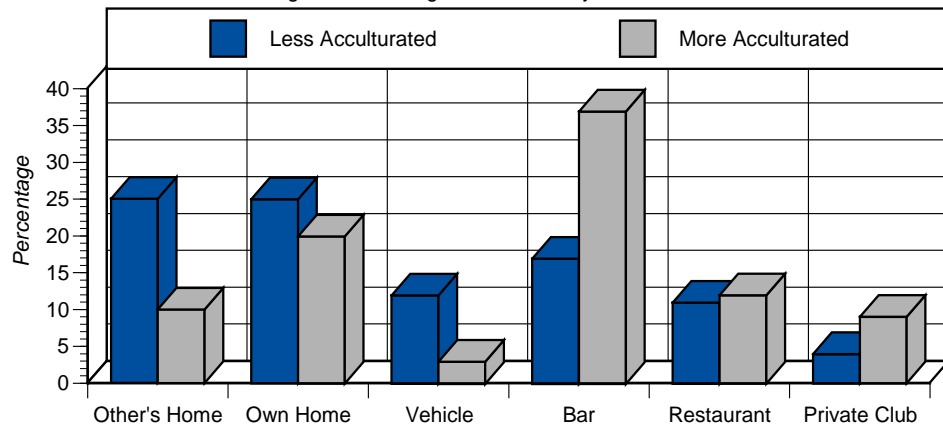


Figure 30. Number of Drinks by Acculturation Level

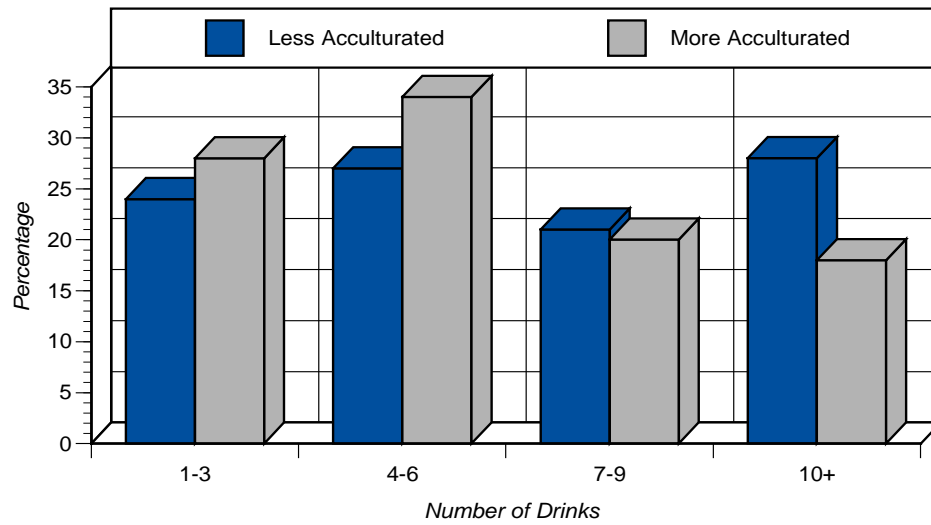


Figure 31. Attempted Interventions by Acculturation Level

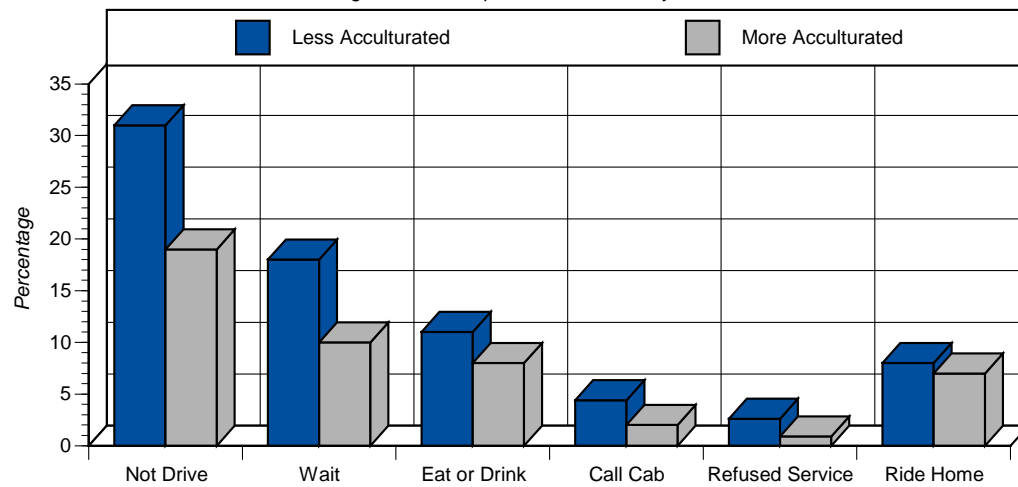




Figure 32. Perceived Impairment by Acculturation Level

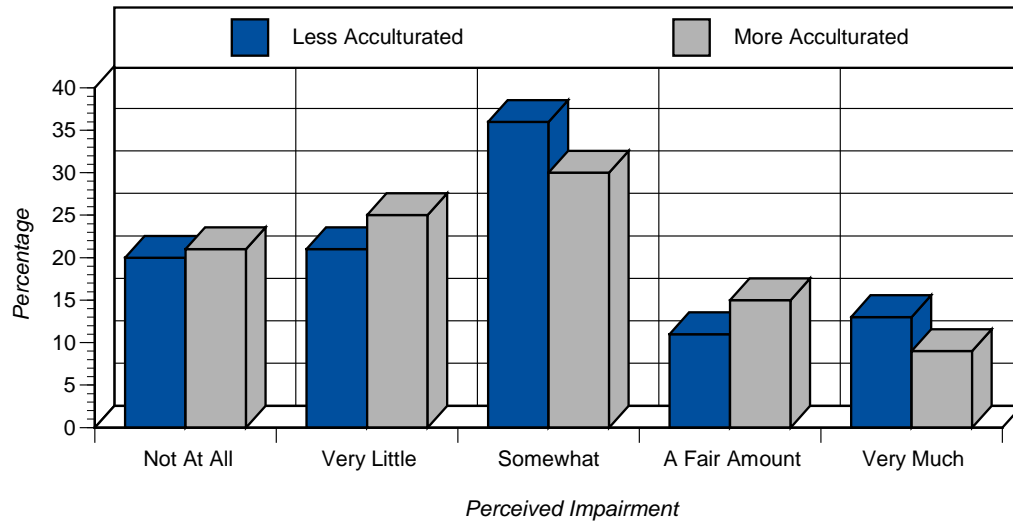
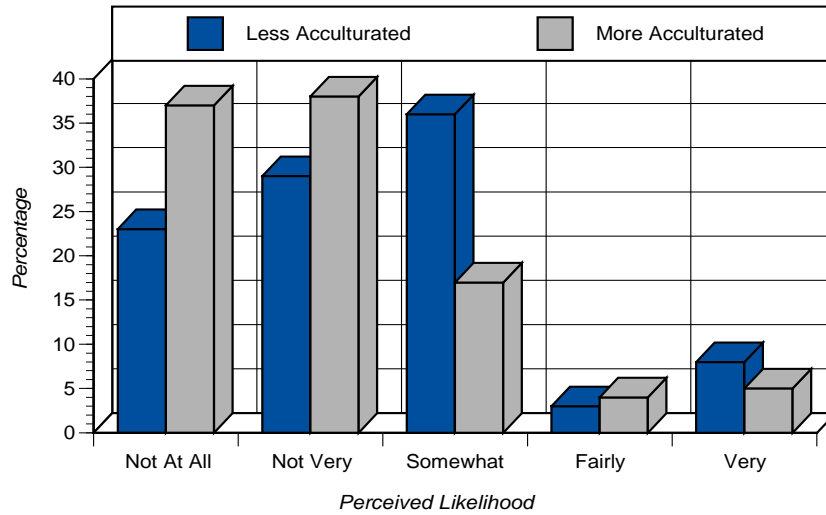
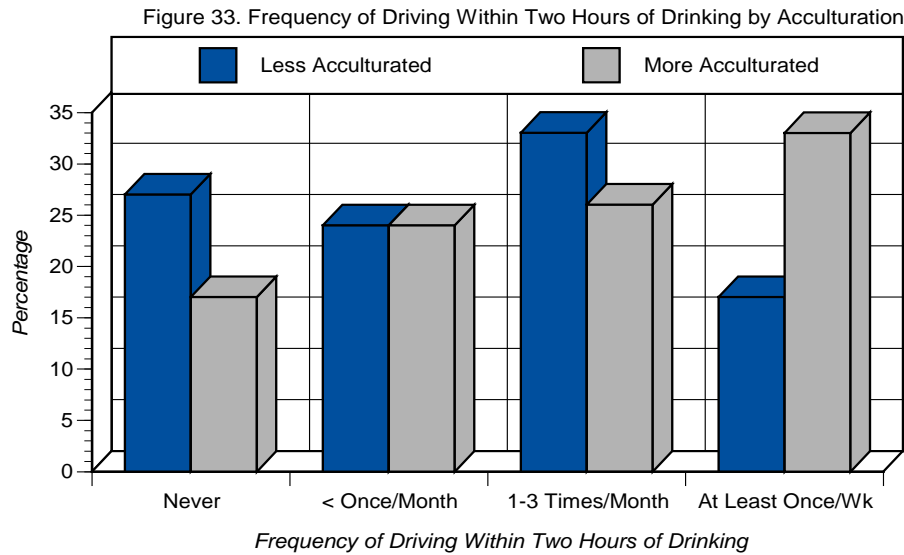


Figure 32. Perceived Likelihood of DUI Arrest by Acculturation Level





**Program Level:** As would be expected, individuals in Level II programs were more likely to have a high Blood Alcohol Concentration (BAC) than individuals in Level I. Interestingly, individuals in Level III also had a higher BAC than those in Level I, although it was slightly lower than the BAC levels of those in Level II (Figure 34). The general profile of drinking behaviors for individuals in Level II was quite similar to the profile of Level III offenders. Specifically, individuals in Level II and III programs were more likely to have been drinking in a public setting (Figure 35) and consumed a greater number of drinks at their place of last drink (Figure 36). They also were more likely to believe they were impaired (Figure 37) and would get arrested for DUI than individuals in Level I programs (Figure 38). Moreover, individuals in Level II and III programs were more likely to have driven within two hours after drinking within the 12 months prior to their DUI arrest (Figure 39), but were less likely to have passengers when they were arrested for DUI (Figure 40).

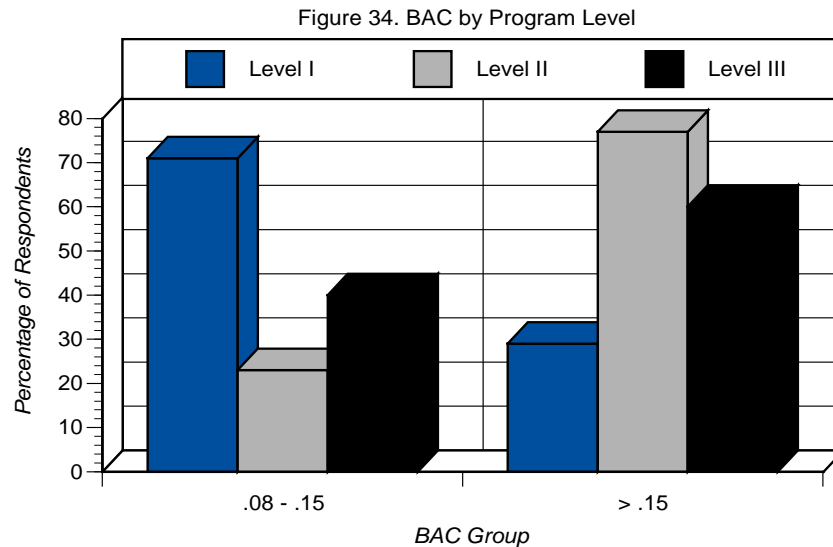


Figure 35. Type of Setting by Program Level

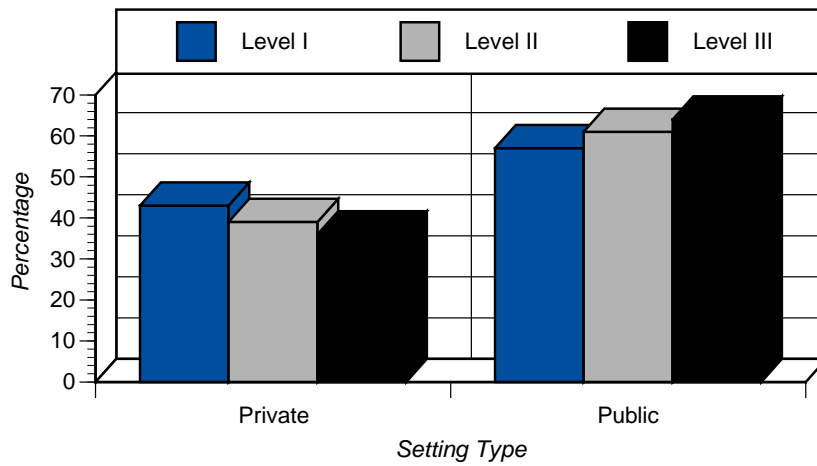


Figure 36. Number of Drinks by Program Level

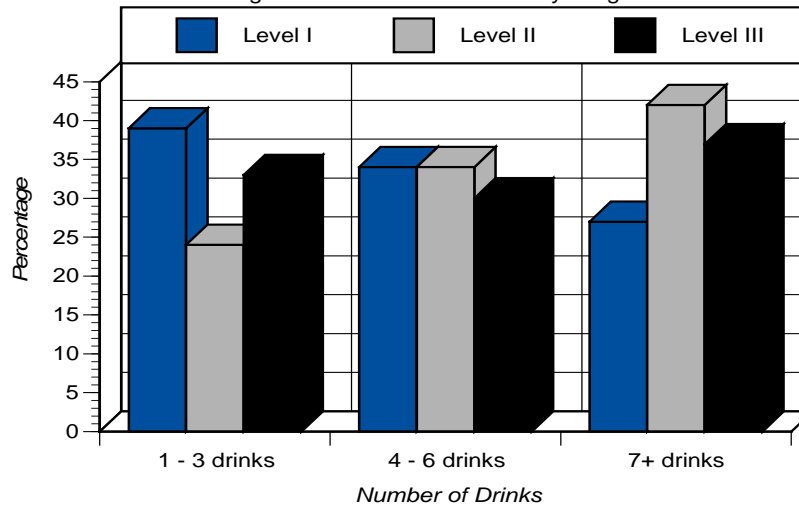


Figure 37. Perceived Impairment by Program Level

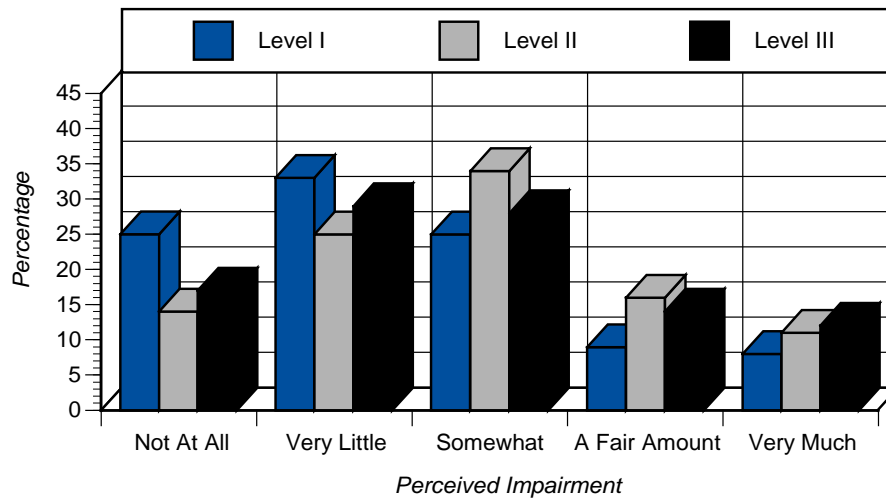


Figure 38. Perceived Likelihood of DUI Arrest by Program Level

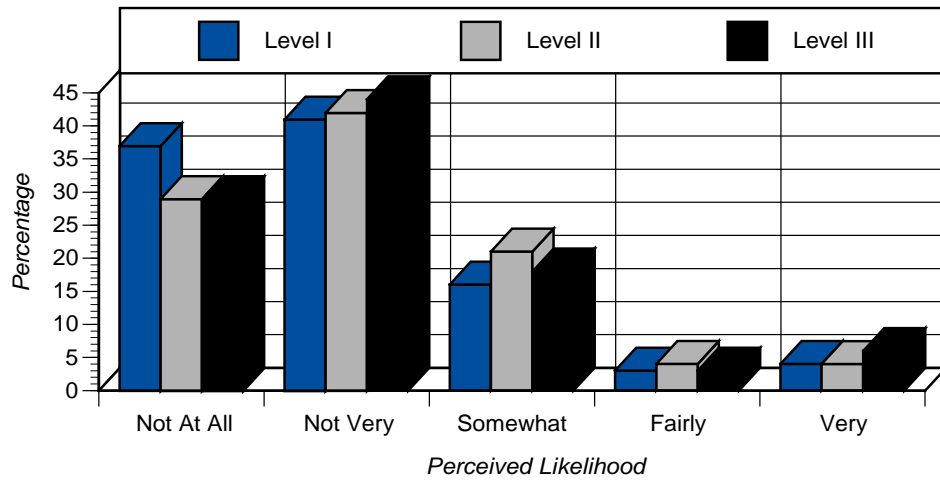


Figure 39. Frequency of Driving Within Two Hours of Drinking by Program Level

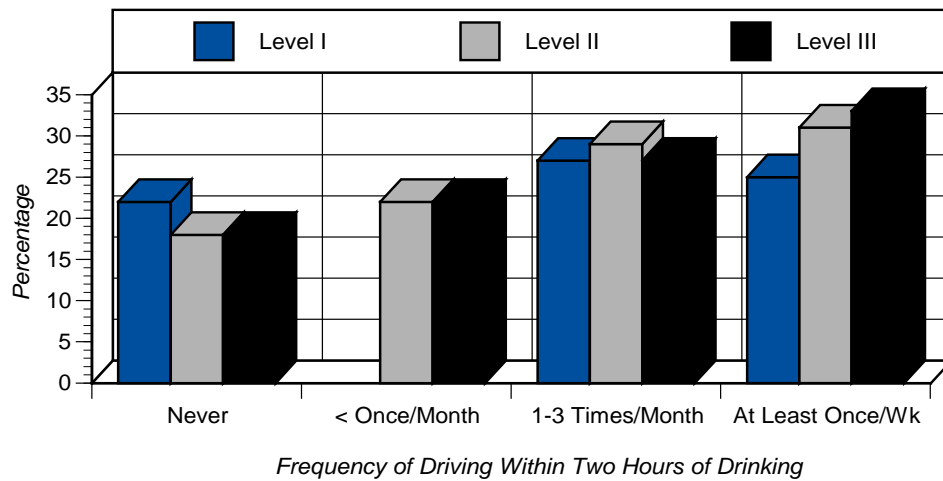
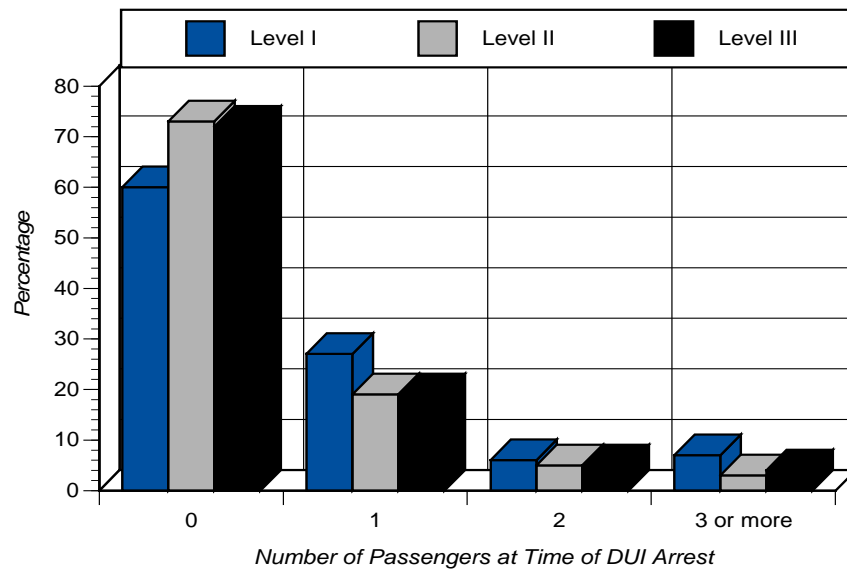


Figure 40. Number of Passengers by Program Level



**Blood Alcohol Concentration (BAC) Level:** As expected, individuals with a higher BAC (i.e., 2+ times the legal limit) at time of DUI arrest had consumed more drinks (Figure 41) and spent more time at their place of last drink than individuals with a lower BAC (Figure 42). Additionally, they were more likely to have been told not to drive (Figure 43), and were less likely to have passengers when they were arrested (Figure 44). Those with a higher BAC also believed they were more impaired (Figure 45), believed they were more likely to get arrested for DUI (Figure 46), and reported driving more often within two hours of drinking in the previous 12 months than those with a lower BAC at time of arrest (Figure 47).

Figure 41. Number of Drinks at Place of Last Drink by BAC Level

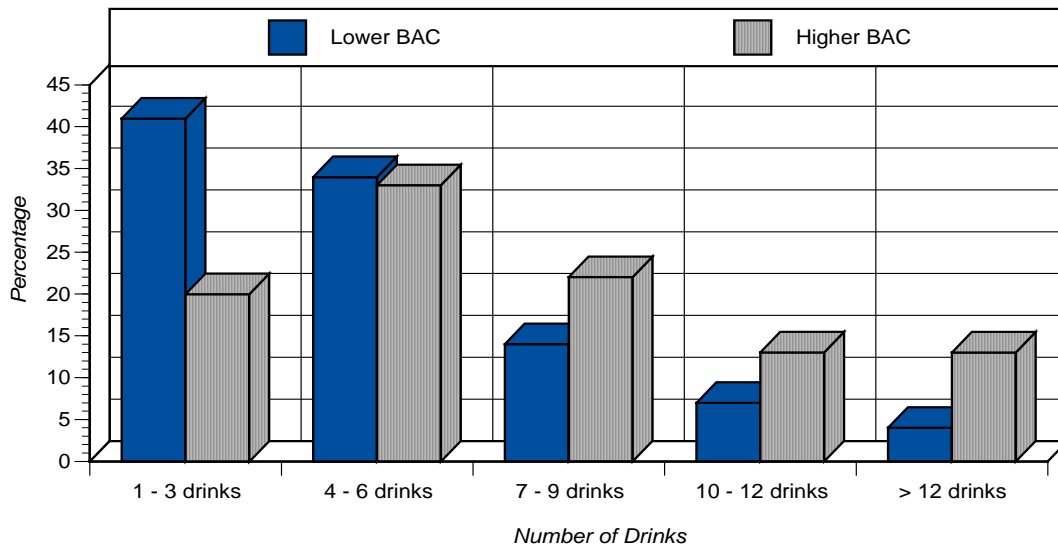


Figure 42. Number of Hours at Place of Last Drink by BAC Level

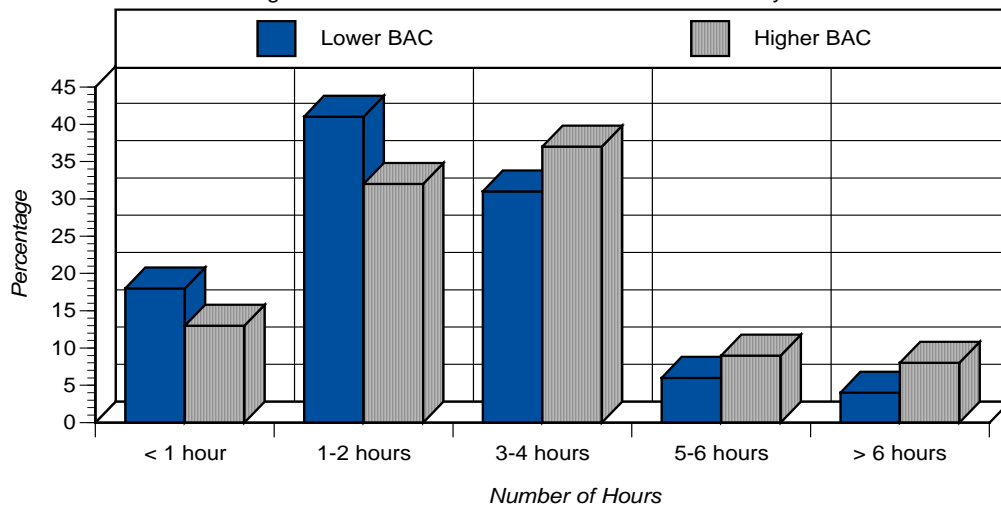


Figure 43. Attempted Interventions by BAC Level

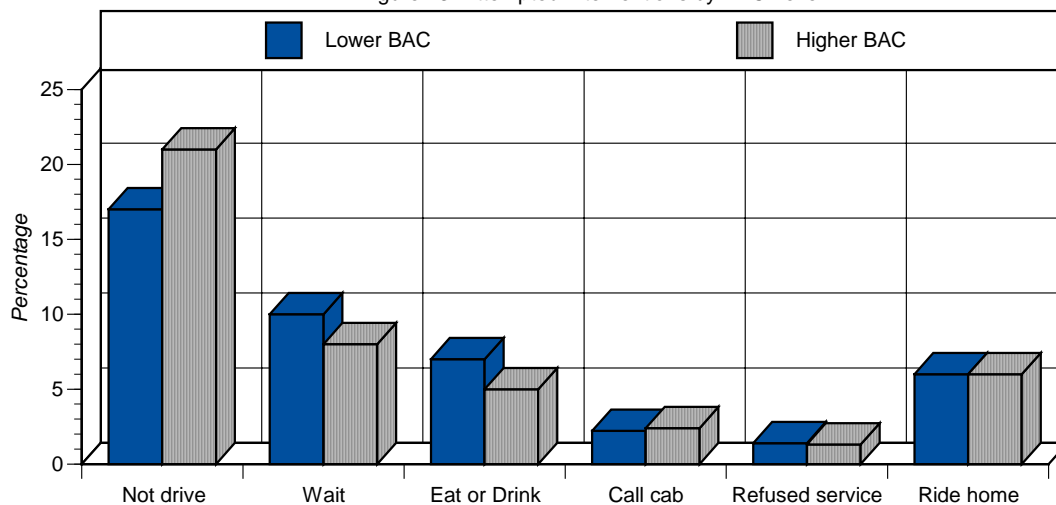


Figure 44. Number of Passengers by BAC Level

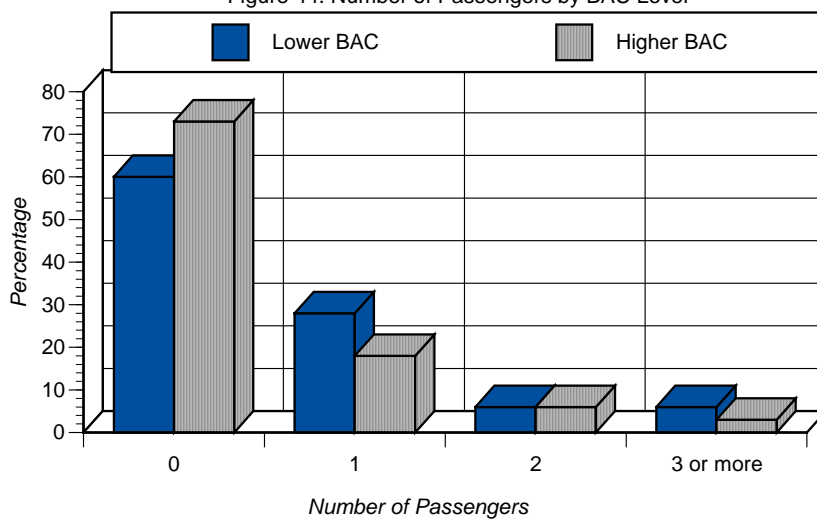
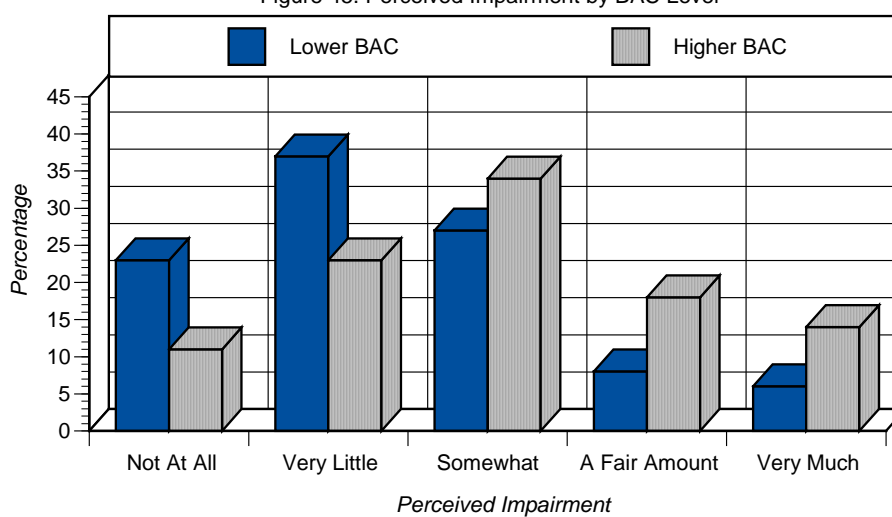
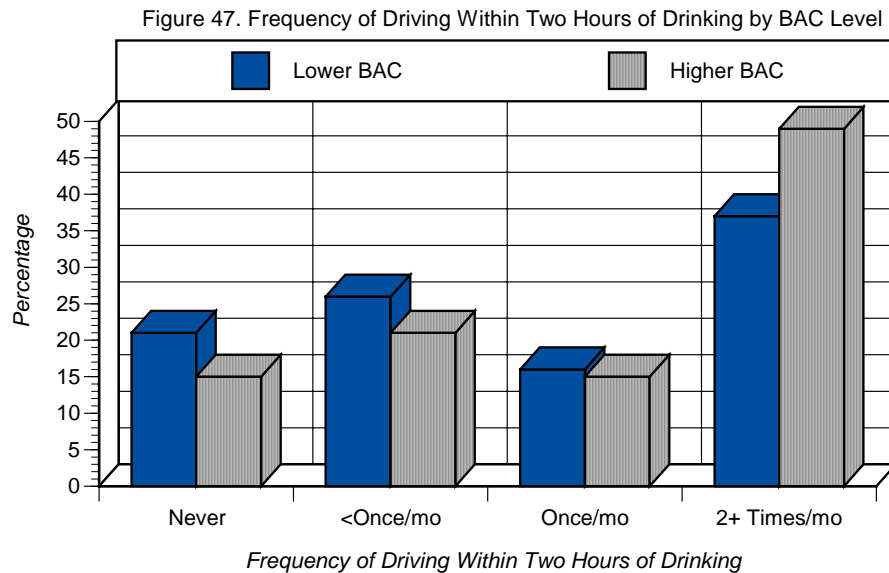
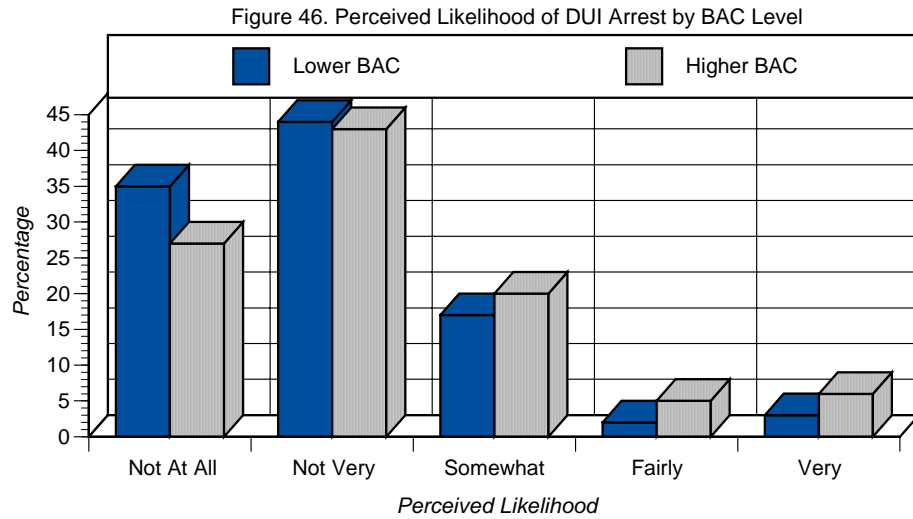


Figure 45. Perceived Impairment by BAC Level





**Setting Type:** Individuals who were drinking in a *public* setting (bar, restaurant, or club) were more likely to have a passenger when they were arrested for DUI (Figure 48), and were more likely to have driven within two hours after drinking in the 12 months prior to DUI arrest (Figure 49). However, they spent less time (Figure 50) and consumed fewer drinks at their place of last drink than those who were drinking in private settings (Figure 51). Individuals who were drinking in a *private* setting were more likely to be offered some sort of intervention, including being told not to drive, being asked to wait before driving, or being told to eat or drink something before driving. In contrast, they were less likely to be offered a cab or refused service (Figure 52).

Figure 48. Number of Passengers by Setting of Last Drink

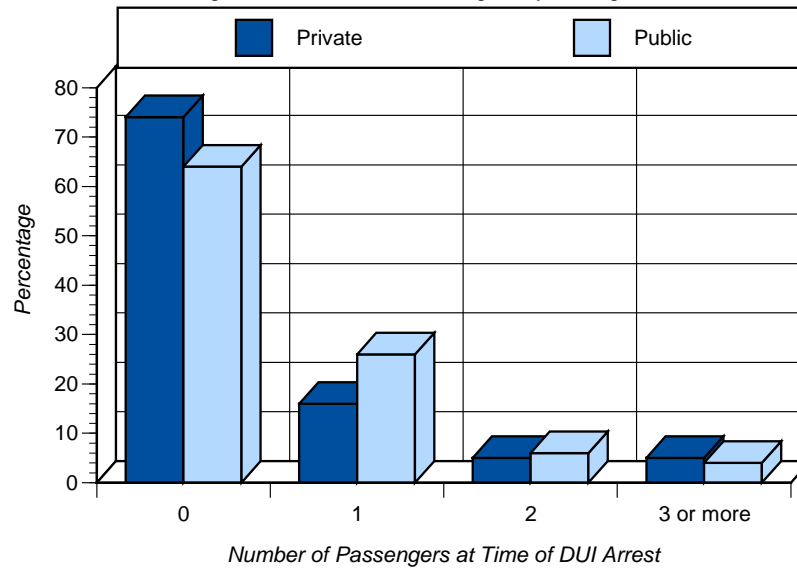


Figure 49. Frequency of Driving Within Two Hours of Drinking by Setting of Last Drink

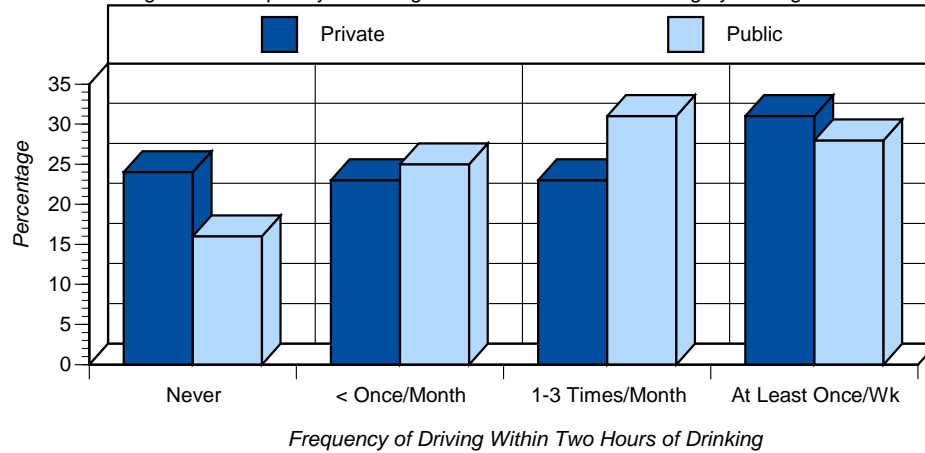
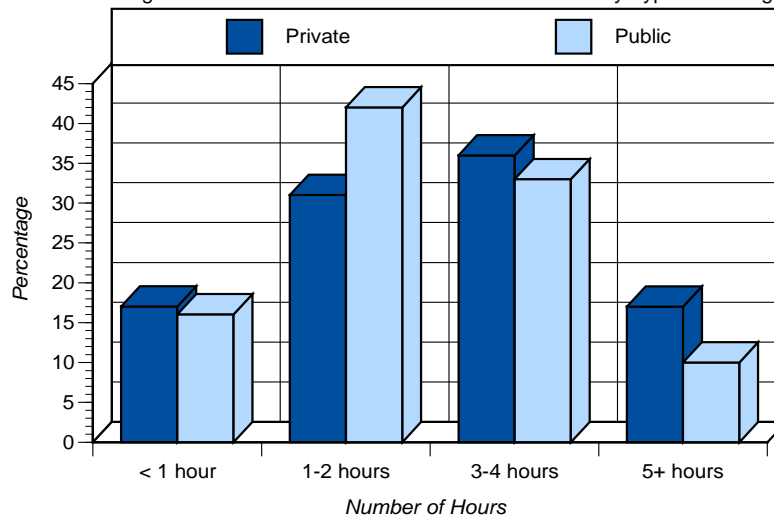
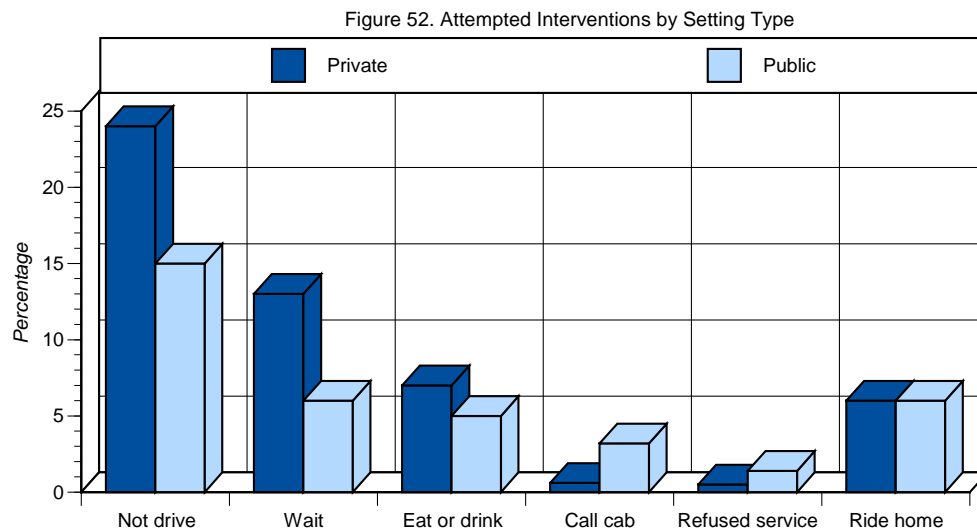
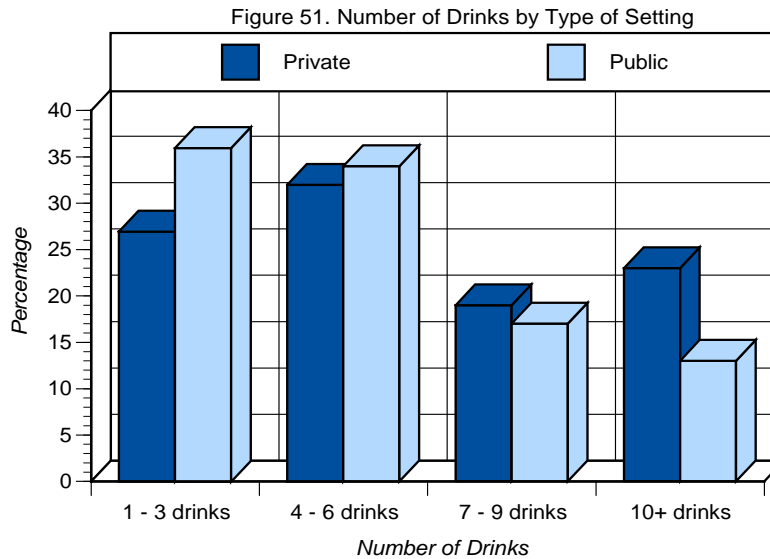


Figure 50. Number of Hours at Place of Last Drink by Type of Setting







### Attempted Interventions, Perceived Impairment, and Likelihood of DUI

**Arrest as a Function of Number of Drinks Consumed:** Individuals who consumed a greater number of drinks at their place of last drink received more attempted interventions, including being refused service, being told not to drive or to wait before driving, or being offered a ride home (Figures 53 and 54). Moreover, individuals who consumed 7 or more drinks at their place of last drink believed they were more impaired and more likely to get arrested for DUI than those who consumed fewer drinks. However, one-fifth of individuals who had consumed more than 12 drinks believed they were “not at all” impaired, and approximately one-third believed they were “not at all” likely to get arrested for DUI (Figures 55 and 56).

Figure 53. Percentage of Respondents Offered Any Intervention by Number of Drinks Consumed

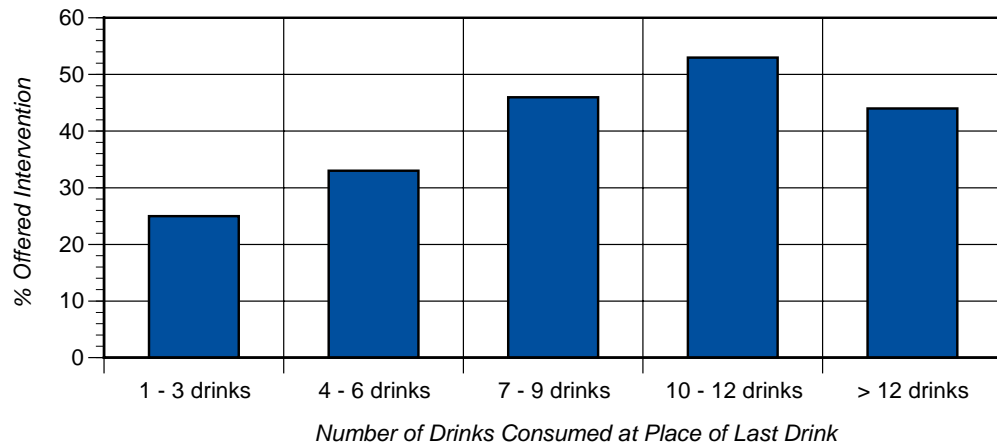
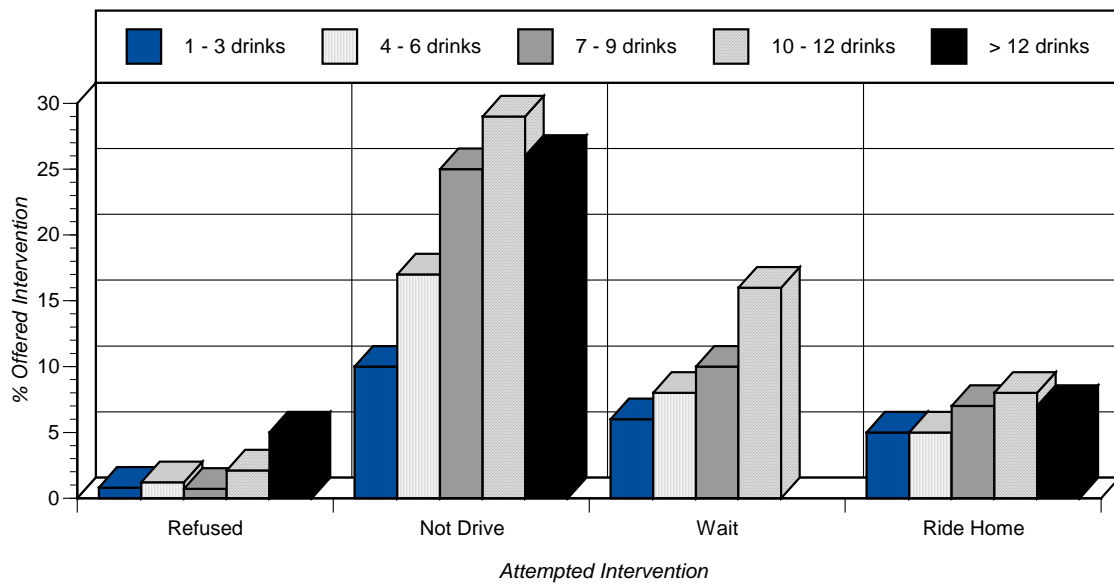
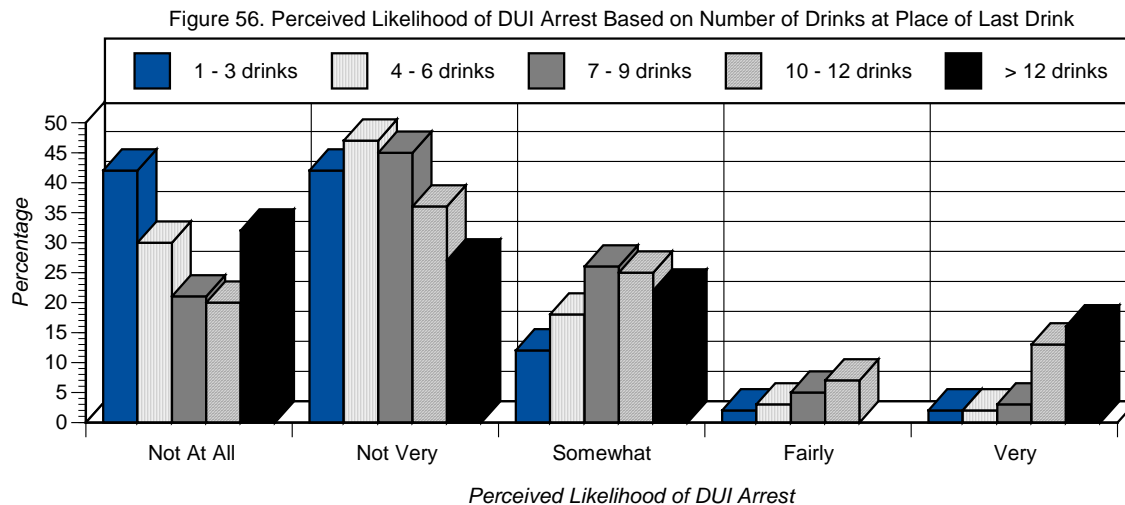
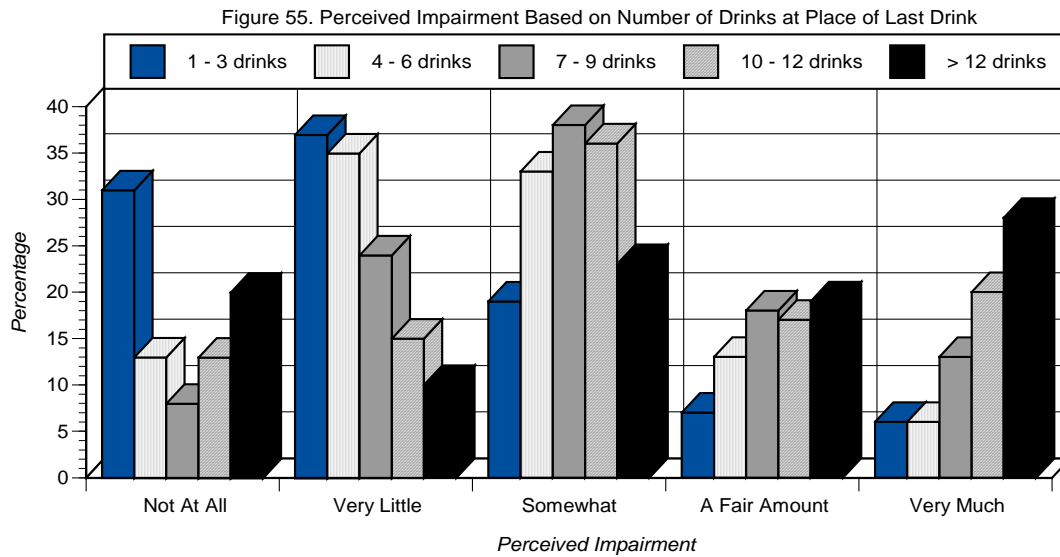


Figure 54. Percentage of Respondents Offered Interventions by Number of Drinks Consumed





**Attempted Interventions, Perceived Impairment, and Likelihood of DUI Arrest as a Function of Time Spent at Place of Last Drink:** Individuals who spent more time at their place of last drink received more attempted interventions, including being refused service, being told not to drive or to wait before driving (Figures 57 and 58). Individuals who had been drinking at their place of last drink for longer periods of time also believed they were more impaired. However, the majority, regardless of how long they were drinking believed they were “not at all” or “not very” likely to get arrested for DUI. In fact, more than one in four individuals who had been drinking for more than six hours believed they were “not at all” impaired, and more than one-third believed they were “not at all” likely to get arrested for DUI (Figures 59 and 60).

Figure 57. Percentage of Respondents Offered Any Intervention by Time Spent at Place of Last Drink

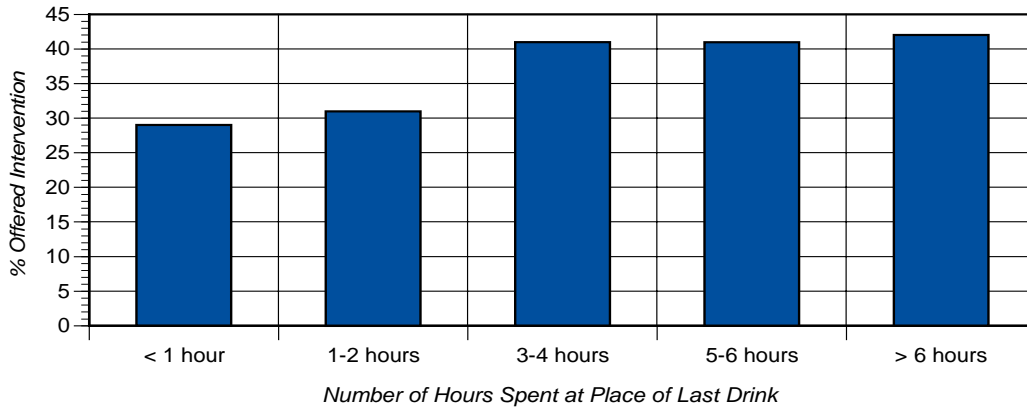


Figure 58. Percentage of Respondents Offered Interventions by Time Spent at Place of Last Drink

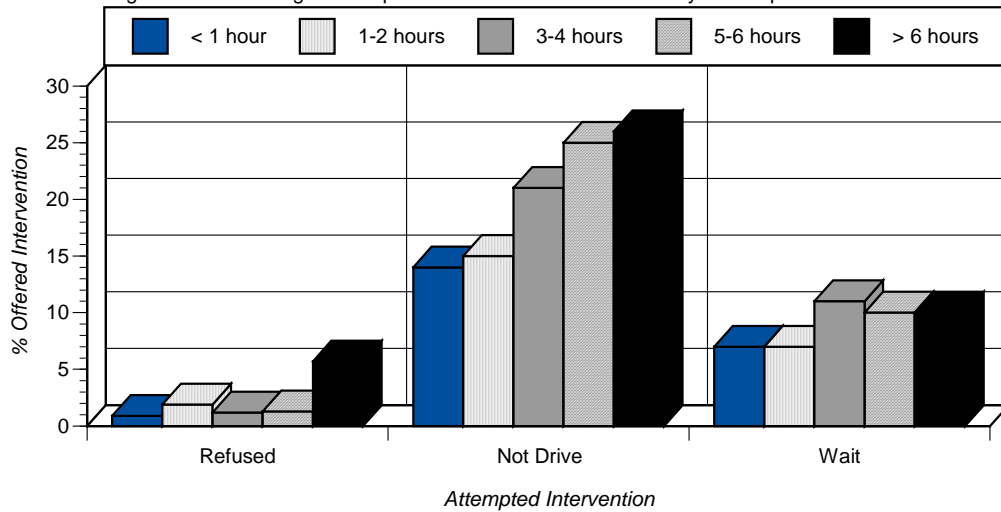


Figure 59. Perceived Impairment Based on Time Spent at Place of Last Drink

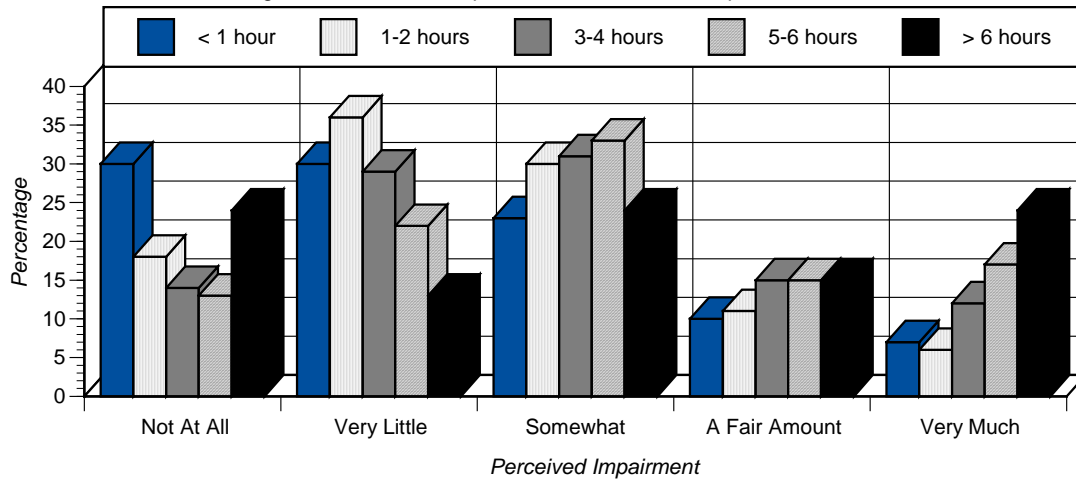
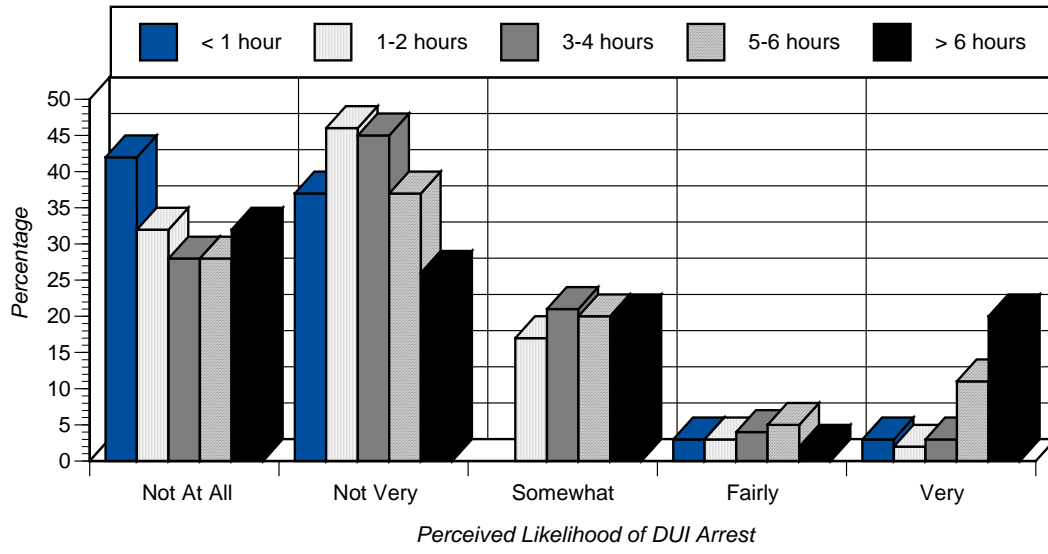


Figure 60. Perceived Likelihood of DUI Arrest Based on Time Spent at Place of Last Drink



## Implications for Prevention

The findings presented in this report tell a story about alcohol-impaired driving in Orange County. In its present form, the story uses statistical profiles to describe *who* is being arrested for DUI, *where* DUI offenders had been drinking and were arrested, and *what* circumstances of drinking preceded their arrest. While such a data-based assessment of the problem is the first step in prevention planning, the ultimate challenge of planning lies in selecting intervention strategies that will counter the various factors that contribute to the problem. Meeting this challenge often requires going beyond the abstract statistical data of a problem assessment to look at *how* the problem develops in real life, how the various identified risk factors interact as a complex system of life events. To this end, the study's key findings have been re-framed below in a narrative format to tell the story of how a single hypothetical incident of alcohol-impaired driving might occur.

It's 5:30 pm on a Friday and Dewey, age 35, decides to have a few drinks after work. He drives to one of Orange County's beach communities where there's always a lot of action because of the concentration of bars in an area known as "party central." Once there, Dewey chooses a bar that has a "happy hour" with drink specials where he knows he will get more bang for his drinking dollar. Inside, Dewey is greeted by a few of the regulars and also meets several new people who, like Dewey, are just out to have a good time. The evening passes quickly and when Dewey notices the time, it's after 9 o'clock. At this point Dewey has already had 6-7 generous happy-hour drinks (he's not sure how many), but nothing to eat except a few chips and nuts, so he figures it's about time to leave. His friends, however, urge him to stay a little longer, so, after having "just one more for the road," Dewey finally leaves the bar around 10 pm.

Walking to his car, Dewey gives only passing thought to whether he should be driving. After going through his mental sobriety checklist—he doesn't think he's been slurring his words, his vision seems clear, and he can still walk okay—he decides that he's perfectly capable of driving home. Besides, Dewey reasons, he has driven many times when he was in a lot worse shape than tonight, so he feels confident that the chances he will be stopped for driving under the influence are "not very likely." Then, just as he is getting into his car, Dewey thinks, "Wait a minute—I don't even know anyone who's gotten a DUI, so why should I worry!" And, with this final bit of self-reassurance, Dewey gives a little chuckle and drives away.

Some thirty minutes later, it turns out that Dewey does know someone who's been arrested for DUI after all.

So what does Dewey's story tell us? First, it tells us that incidents of alcohol-impaired driving develop incrementally over time, beginning with an individual's decision to drink alcohol, progressing through that person's encounter with various risk factors that can influence drinking behavior, and culminating in the decision to drive after drinking. Second, the story illustrates how the co-occurrence of multiple risk factors within a particular drinking environment serves to heighten the overall risk for alcohol-impaired driving. And, finally, the story also carries the

implication that, had at least some of these risk factors been eliminated from Dewey's path, his drinking might have taken a different course and, quite possibly, led to a different outcome.

The following discussion will address four such areas of implication that represent strategic points of intervention for reducing the risk of alcohol-impaired driving.

### **Alcohol Availability**

Public health-oriented alcohol prevention efforts focus on health and safety risks arising from the interactions among individuals, the agent alcohol, and the broad spectrum of environmental factors that influence alcohol use. Within this framework, one of the more significant risk variables in the community alcohol-problem equation is the environmental factor of alcohol availability. Although beverage alcohol is a legal substance that is widely available to all persons of legal drinking age, California law also stipulates "that the public welfare and morals require that there be a limitation on the number of premises licensed for the sale of alcoholic beverages." (California Alcoholic Beverage Control Act, Section 23815) Indeed, there is a considerable body of research to support such limitations, as numerous studies have shown that conditions of *excessive alcohol availability* are consistently associated with higher levels of alcohol-related community problems, including disorderly conduct, public drunkenness, vandalism, assaultive violence, homicides, drunk driving, and alcohol-related motor vehicle crashes. (Cook, P. J., & Moore, M. J., 1993; Gruenewald, P. J., et al., 1993; Freisthler, B., et al., 2003; Scribner, R., et al., 1994)

Put simply, excessive availability = excessive consumption = excessive problems.

***Alcohol outlet availability:*** It is no surprise that Dewey would gravitate to a community with a high population-based density of alcohol outlets and then choose to do his drinking in a geographic area that boasts a high concentration of drinking establishments. Retail alcohol outlets are a major source of revenue for California communities, a circumstance which often paves the way for cities approving new alcohol licenses without due consideration of the number and/or concentration of existing alcohol outlets. Moreover, the owners of retail alcohol establishments are very enterprising and resourceful in promoting their businesses. A favored business strategy of commercial developers and alcohol retailers involves the creation of "entertainment zones" with several licensed establishments that are designed to attract large numbers of the drinking public, many of whom come with the intention of engaging in high-risk drinking. Indeed, such areas might well be characterized as *alcohol outlet malls*, after other types of retail stores that are strategically clustered in a common area to promote high levels of foot-traffic. But while customers making purchases from multiple clothing stores do not present a community problem, drinkers who purchase alcohol from several different alcohol outlets in succession can, and often do create problems.

Prevention Strategies—Municipalities already have ample authority to manage local alcohol availability and a variety of regulatory tools at their disposal that can be used to place limits on a community's high-risk alcohol environments. These tools of local government include zoning laws and land-use ordinances for retail alcohol outlets (conditional use permits), negotiated agreements with specific alcohol outlet operators, regulation of the sale and use of alcohol in public places, and, in recent years, social host ordinances. Effectively using such tools to control alcohol availability and reduce community problems can be challenging, because their application is embedded in the local political process where public health and safety considerations are often seen as incompatible with the interests of commercial alcohol

enterprises and community economic development plans. Accordingly, community efforts to meet these challenges must be grounded in solid data, strategically planned, and systematically implemented and sustained. ADEPT, through its Alcohol/drug Sensitive Information Planning System (ASIPS) project, is working collaboratively with several communities to identify high-risk alcohol use environments and develop intervention strategies that address the linkage between alcohol-related problems and environmental risk factors such as excessive alcohol availability.

***Alcohol service availability:*** Another dimension of alcohol availability that contributes even more directly to the overall risk of alcohol-impaired driving is defined by the policies and practices that govern alcohol service within the particular setting where people gather to drink. Dewey's story illustrates some of the policies and service practices that commonly create conditions of excessive availability/consumption in commercial alcohol settings: alcohol promotions (happy hour drink specials) that encourage over-consumption, failure of alcohol servers to monitor the duration of drinking and amount consumed as indicators of intoxication, lack of food service to slow the rate of alcohol absorption, and serving Dewey "one more for the road," as opposed to offering him alternative means of transportation. Of course, similar conditions of excessive alcohol service availability are also found in many social drinking environments such as parties held in private residences and community events held in public places that provide alcohol service.

Prevention Strategies—Responsible beverage service (RBS) programs are a prevention strategy that has been shown to reduce the incidence of alcohol-impaired driving, as well as other alcohol-related problems, by eliminating risk factors in the immediate drinking environment. The strategic objective of RBS programs is to implement accepted standards of practice for responsible alcoholic beverage service in all venues, public and private, and to assist retail alcohol outlets in adopting business policies designed to maintain these standards over time. The major challenge of this prevention strategy lies in gaining widespread acceptance of voluntary RBS training among alcohol licensees. Despite the promotion of RBS standards by state alcohol licensing authorities and national associations within the alcoholic beverage industry, alcohol retailers are generally reluctant to commit the staff time required to complete an RBS program. In recent years there has been a growing movement to incorporate a requirement for RBS training in local land-use ordinances (14 CA cities), while a few states have gone even further by including mandatory RBS training as a provision of alcohol licensure.

A valuable resource for developing an RBS program is *Responsible Beverage Service: An Implementation Handbook for Communities* by James F. Mosher, distributed by The Marin Institute for the Prevention of Alcohol and Other Drug Problems.

### **Risk Perception**

An individual's perception of risk is a critical determinant of risk-taking behavior, serving either to deter or enable the contemplated risky action. Two types of risk perception are involved in weighing the decision whether to drive after drinking: 1) the perceived risk that drinking has impaired one's ability to drive safely, and 2) the perceived risk of being detected and arrested by police. While individuals' perceptions are influenced by many factors, primarily personal experience, research has shown that emphasizing these risks can serve to deter a portion of the general driving public from driving after drinking and thus reduce the staggering overall toll of alcohol-impaired crashes.



***Perceived Risk of Impairment:*** Over the past 30 years, Mothers Against Drunk Driving (MADD) has achieved great success in raising public awareness of the tragic consequences of alcohol-related traffic crashes. An unfortunate by-product of this success, however, is that the problem has come to be branded in the public mind as a *drunk* driving problem, rather than an *impaired* driving problem. The difference between these terms is not just a matter of semantics, but one that has significant implications for prevention.

The phrase "drunk driving," although common in everyday language, is specifically not used as a legal term in DUI penal codes. Rather, the phrase "impaired driving" or, in California, "driving under the influence" is used because these terms more accurately convey the realities of the drinking and driving problem. When an individual consumes alcohol, even at low levels, his/her ability to drive can be measurably impaired even though visible signs of intoxication may not be evident. A well-controlled study conducted by the National Highway Traffic Safety Administration demonstrated that major driving-related skills (judging distance and speed, steering, visual tracking, concentration, braking, and staying in driving lanes) were impaired by blood alcohol concentrations (BACs) as low as 0.02% for a broadly representative sample of the driving population. The results of this study also revealed great consistency in the relationship between the degree of impairment and BAC levels, with subjects showing significant and increasing alcohol-related impairment throughout the range of 0.02% - 0.10% BAC. (Moskowitz, et al., 2000) These findings, which are well-established in the research literature, are the basis for the Federal Aviation Administration's regulation that prohibits airline pilots from consuming any alcohol for a period of 24 hours before a scheduled flight.

Unfortunately, most drinking drivers are like Dewey and tend to gauge their post-drinking condition in reference to symptoms of severe intoxication—slurred speech, blurred vision, and loss of balance—with little knowledge or consideration of the actual criteria that are applied as measures of an *impaired ability to drive safely*. When police conduct a DUI field assessment, they look for indications of inability to concentrate, poor psychomotor coordination, reduced visual acuity and peripheral vision because drivers who exhibit such conditions pose a serious threat to the safety of everyone on the road, including the impaired driver. By contrast, those who frequently drink and drive are likely to consider any drinking-driving experience that does not involve crashing their vehicle as a safe-driving episode. Perhaps one way to dramatically illustrate the skill impairment that accompanies even low BAC levels would be to ask those who drink and drive if they would feel safe getting on a plane whose pilot has a BAC of "only .05."

The conventional alcohol impairment or BAC chart, such as the insert we receive with DMV renewals, represents one approach to providing an objective self-assessment of alcohol-impairment risk, although a recent study suggests that such charts may be seriously flawed. Researchers from the Public Health Institute's Alcohol Research Group in Oakland, CA visited 80 randomly-selected bars and restaurants in Northern California and found that glasses of wine and spirits are often 50 percent larger than the "standard" size used in guidelines. Analysis of 480 drinks found that wine, beer and mixed drinks were often 50 percent larger than a "standard" drink. The average glasses of wine and mixed drinks were 42 percent to 43 percent larger, and the average draft beer was 22 percent larger, while glasses of wine typically packed more alcohol per volume—14 percent instead of 12 percent—than those used to define a standard drink. (Public Health Institute news release) Thus, a drinker who uses BAC guidelines based on

traditional definitions of a standard drink may result in a significant *underestimation* of one's actual alcohol intake and risk of impairment. These findings also may lend some credence to the frequently-offered excuse, "But officer, I only had a couple of drinks!"

Prevention Strategies—One implication of the above discussion is that prevention efforts should focus more on changing drivers' perceptions of risk *on a very personal level*, as opposed to impersonal warnings about the abstract consequences of drinking and driving. In strategic terms, this would involve a comprehensive and systematic initiative to educate the driving population on how to apply relevant and valid criteria in assessing their risk of alcohol-related impairment before driving after drinking—and then challenging them frequently and personally to do so.

Young people in particular, who are both inexperienced drinkers and inexperienced drivers, should be thoroughly educated on alcohol's capacity to impair critical driving skills and receive specific instruction on the provisions of the "zero tolerance" law. An ideal venue for implementing such an initiative would be the school-based driver education courses and private driver training programs, with the strategic goal of making alcohol-impairment education a state-mandated component of driver-training curricula.

***Perceived risk of arrest:*** DUI enforcement activities, such as sobriety checkpoints, can serve as both specific and general deterrents to driving under the influence of alcohol. For example, individuals who are arrested for DUI in these operations are specifically deterred from further episodes of alcohol-impaired driving, at least for a while. But this has only minimal impact on the problem of impaired driving, because police are able to detect only a small fraction of all impaired driving episodes. This was illustrated in a 2002 survey of Orange County adults that reported an estimated 6.8 million annual episodes of driving after drinking countywide, while DUI arrests by all police jurisdictions for that year totaled 12,203, a ratio of one arrest for every 557 incidents of drinking and driving. With the odds so heavily against being detected, it is understandable that individuals who, like Dewey, have repeatedly driven after drinking without being stopped by police would develop a sense of DUI invulnerability.

The primary purpose of sobriety checkpoints, however, is to serve as a general deterrent to impaired driving, i.e. increasing public awareness in order to *deter potential offenders*, rather than to arrest actual offenders. This general or public deterrence effect is a function of both the intensity of DUI enforcement activities *and* the level of public awareness generated about these activities. An extensive review of research on the effectiveness of sobriety checkpoints conducted by the Centers for Disease Control and Prevention concluded that when checkpoint operations are *well-publicized and are conducted frequently*, they can be an effective general deterrent to impaired driving, as measured by a reduction in alcohol-related crashes, injuries, and fatalities.

Prevention Strategies—The key to this general deterrent effect is a high level of public communications about DUI enforcement activities, which may include public presentations, publicity through the local media, and targeted public information/awareness campaigns. For example, one well-controlled study in Maryland demonstrated that a vigorous campaign to publicize sobriety checkpoints could produce a significant change in public perceptions about the probability of arrest. (Williams & Lund, 1984) Given the importance of widespread publicity for DUI enforcement efforts, this represents a prime opportunity for AOD prevention providers to utilize their skills in media advocacy and public awareness campaigns in working with local

police departments to develop an effective communication strategy for publicizing their DUI enforcement activities.

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# APPENDIX

*Cities of Last Drink and Cities of DUI Arrest  
Ranked From Most to Least Commonly-Reported (Weighted, Adjusted for Population)*

<b>Cities of Last Drink</b>	<b>Rate Per 10,000 Adults</b>	<b>Cities of DUI Arrest<sup>‡</sup></b>	<b>Rate Per 10,000 Adults</b>
Laguna Beach	56.87	Laguna Beach	76.09
Newport Beach	29.60	Costa Mesa	21.07
Costa Mesa	17.45	Brea	19.45
Huntington Beach	13.65	Newport Beach	19.37
Los Alamitos	13.33	La Palma*	16.76
Brea	12.63	Huntington Beach	15.19
Orange	12.12	Orange	12.92
Fullerton	11.44	Seal Beach	12.24
Dana Point	10.61	Los Alamitos	11.66
La Habra	9.55	Garden Grove	11.51
Garden Grove	8.89	Cypress	11.46
Placentia	8.54	Placentia	11.13
Irvine	8.24	Buena Park	10.12
Lake Forest	8.07	La Habra	9.71
Cypress	7.78	Fountain Valley	9.59
Tustin	7.76	Fullerton	9.36
Buena Park	7.52	Irvine	9.35
San Clemente	7.50	Dana Point	8.98
Anaheim	7.30	Yorba Linda	8.69
San Juan Capistrano	6.65	Lake Forest	8.32
Villa Park* ***	6.42	San Clemente	6.73
Laguna Hills	6.32	Stanton	6.44
La Palma*	6.21	Westminster	6.39
Yorba Linda	5.94	Santa Ana	6.00
Fountain Valley	5.75	Mission Viejo	5.91
Santa Ana	5.72	Anaheim	5.79
Mission Viejo	5.70	Tustin	5.79
Westminster	5.53	San Juan Capistrano	5.27
Seal Beach	5.13	Villa Park* ***	4.82
Rancho Santa Margarita	5.08	Laguna Hills	4.21
Aliso Viejo	4.89	Rancho Santa Margarita	3.86
Stanton	4.38	Aliso Viejo	2.89
Laguna Niguel***	1.66	Laguna Niguel***	2.42
Laguna Woods*	1.09	Laguna Woods*	1.09

<sup>‡</sup> *Source:* CA DMV, 2005 Annual Report of the CA DUI Management Information System. Compiled by Bob Marlow, Mothers Against Drunk Driving (MADD)

\*Estimates unreliable due to low numbers; \*\*\*unweighted data

“na” indicates that data were not available