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**National Highway  
Traffic Safety  
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# **Innovative Alcohol Countermeasure Evaluation Support Evaluation of Two Court Systems Based on a Comparison of DUI and Public Intoxication (PI) Arrests**

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TECHNICAL SUMMARY

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**Objective**

The objective of this project was to determine if there were differences in the number of driving under the influence of alcohol (DUI) and public intoxication (PI) arrests filed in two states with different court systems for processing DUI cases.

**Background**

The perception of the risk of arrest and conviction for DUI is one of the major deterrents to drinking and driving. If that risk is downgraded for any reason, then the deterrent becomes less effective. The identification and correction of any disincentive to filing DUI charges enhances the deterrent and must, in itself, be considered a countermeasure.

It has been hypothesized that jurisdictions that process DUI cases through a county court system rather than a municipal court system are actually discouraging DUI arrest. This disincentive may exist because county courts do not return a large enough portion of the fine revenues for DUI convictions to the municipality whose police agency made the arrest. Under such a court system, police officers might be more disposed to file PI charges rather than DUI charges because they take less time and therefore cost less. In addition, PI cases would be tried in municipal courts and the fine revenues would be returned to the city coffers.

In some jurisdictions, however, DUI cases are filed in municipal courts. This process allows the revenues generated from DUI fines to be used to defray the cost of the arrest. In such jurisdictions there would be no financial disincentive to filing a DUI charge as a result of a lack of fine revenue to support the municipal police department for DUI arrests. It might be expected then, that under the municipal court system, the incidence of PI cases tried would be proportionately less than in areas where DUI cases are tried in the county court.

(Continue on additional pages)

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IN THIS PUBLICATION ARE THOSE OF THE AUTHORS AND NOT NECESSARILY THOSE OF THE NATIONAL HIGHWAY  
TRAFFIC SAFETY ADMINISTRATION.

### Summary of Work Accomplished

This problem identification effort involved comparing the numbers of DUI and PI cases tried in selected jurisdictions in Texas, which has a county court system, with those from selected jurisdictions in Arkansas, which has a municipal court system. In addition, selected characteristics of each type of court were analyzed to ensure that the systems were comparable. These characteristics included, legal processes for making DUI arrests, demographic characteristics (age, gender, and race) for the DUI and PI arrest data, and the productivity and efficiency of the two court systems.

The DUI and PI arrest data for the selected cities for 1985, 1986, and 1987 are presented in Figure 1. The analyses

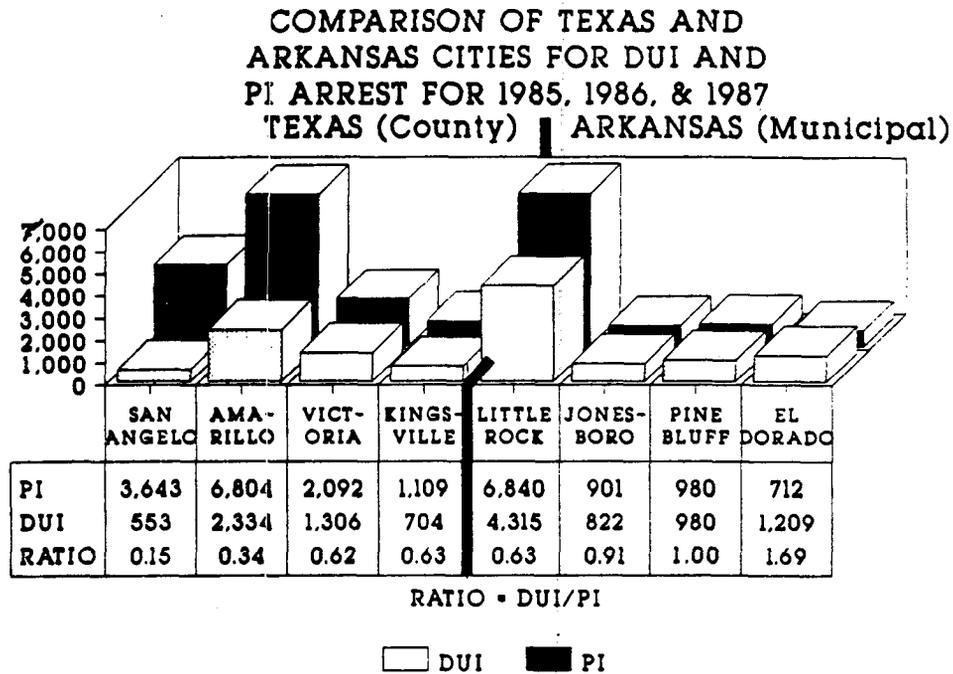


Figure 1

performed demonstrate that there were significant differences between the different types of arrests and the two court systems. In Arkansas there is a 46% greater chance of being arrested for a DUI as opposed to a PI than in Texas.

### Conclusions and Recommendations

The results of the analyses indicate that there is considerable difference in the ratios of DUI to PI arrests in

Texas and Arkansas. This difference could not be accounted for by the characteristics of the individuals arrested, the respective levels of intoxication, or the functioning efficiencies of the two court systems. One possible explanation was that the distribution of the fine revenues from DUI convictions was deterring DUI arrests. In Texas, the majority of the DUI fines collected stay in the county government system, even though the expense of the arrest might be incurred by a municipal law enforcement agency. In Arkansas, DUI cases are tried in municipal courts. Fine revenues are usually placed in a general fund and are used to support the city government, including the enforcement agency likely to be responsible for the majority of DUI arrests. It is possible that in Texas, PI charges are being filed instead of DUI charges. This would permit the case to be tried in a municipal court, thereby allowing the fine revenues to be returned to city coffers.

However, the information analyzed does not confirm that PI arrests are made in lieu of DUI arrests. The opportunity to make the same proportion of DUI arrests in each community may not exist because of the age distribution of the population or because of economic factors. There are other factors which could potentially reduce the number of DUI arrests made in a given community. For example, the difficulty in adjudicating a DUI case could dispose an officer to file a PI charge instead. A shortage of enforcement officers could reduce the DUI effort. This could also occur when a community is experiencing an increase in other types of crimes. A community's social and political climate would also have an influence on the policies that indirectly determine the number of DUI arrests that could be made by individual enforcement agencies.

It is recommended that policy making and supervisory personnel concerned with the enforcement strategies for their community's DUI program review arrest statistics for DUI and PI. If PI arrests exceed the number of DUI arrests, further inquiries would need to be made to ascertain the reasons for such an occurrence. Factors that might discourage filing DUI charges include: the time required to process a DUI arrest, the priority that law enforcement places on the DUI offense, the attitude of the court system toward DUI prosecution, community sentiment toward DUI, as well as the distribution of fine revenues. If, indeed, disincentives to filing DUI cases can be identified, remedial action can be taken.

It is also recommended that BAC measures be obtained and reported for PI as well as DUI arrests and that the statutes governing PI and DUI be reviewed to determine if there is a need for clarity or distinction between the two offenses to make them specific and exclusive.

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**INNOVATIVE ALCOHOL COUNTERMEASURE EVALUATION SUPPORT**

Evaluation of Two Court Systems Based on a  
Comparison of DUI and Public Intoxication  
(PI) Arrests

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## 1.0 INTRODUCTION

Driving under the influence of alcohol (DUI) continues to be one of our nations's most serious safety and public health problems. In the 1980's it became apparent that nearly every documented successful DUI reduction program in the world involved a "legal deterrence" approach characterized by a highly visible enforcement effort. These programs involve the perception of a higher risk of arrest, incarceration, fine, and license restriction. However, it has been estimated that, at best, the chance of being arrested for DUI is one in two-hundred (Jones and Joscelyn, 1978). These odds can be further decreased if police officers are reluctant to file DUI cases. This reluctance can be created and fostered in communities where the disincentives for filing such cases outweigh the advantages and rewards.

There are several factors that may discourage DUI arrests. They include:

- o The time required to make the DUI arrest. This process can take as long as three hours from initial detection, through disposition of suspect's vehicle, testing for intoxication, videotaping, to completion of the arrest report.

- o The possibility that the case will be unfavorably handled in the court system. This includes the possibility that the case will be dismissed, tried and lost, or reduced to a lesser offense through plea bargaining.

- o The cost to the law enforcement agency of processing a DUI case. In some states, DUI cases are adjudicated in a court system, such as county court, that is not part of the same budgeting entity as the law enforcement agency which is part of a municipal government. In such arrangements, it is likely that fines, fees, etc. are collected and retained by county government while cities incur the costs of enforcement.

These disincentives may produce an environment that encourages municipal law enforcement officers to file cases for public intoxication (PI) or other alcohol related charges rather than DUI. This, in turn, can lead to a reduced ability to identify those individuals that are repeat offenders.

This study was concerned with the possibility that the jurisdictions that process DUI cases through a county court system, because of the method of distribution of fine revenues, may be discouraging DUI arrests. In Texas, where such a county court system is in place, there has been some

indication that this hypothesized disincentive is at work. Although there has been no formal research accomplished to determine if, indeed, DUI arrests are being discouraged, there has been some anecdotal evidence to support this supposition. This evidence has manifest itself in the form of a reduction in the number of cities willing to participate in DUI Selective Traffic Enforcement Projects (STEPS) which are sponsored by the Safety and Traffic Operations Section (D18STO) of the State Department of Highways and Public Transportation (SDHPT) using 402 funds. According to SDHPT officials, the same cities that decline to take part in DUI STEPs are often eager to participate in other STEPSS that involve infractions that are tried in municipal courts.

In some jurisdictions (e.g., Arkansas) however, DUI cases are filed in municipal courts. This process allows the revenues generated from DUI fines to be used to defray the cost of the arrest. In such jurisdictions there would be no disincentive to filing a DUI charge because of a lack of fine revenue to support the municipal police department for DUI arrest.

In order to determine if a disincentive for filing DUI cases exists because of the allocation of fine revenue, a comparison was made between the operations of the two types of court systems where DUI cases can be filed. The incidence of DUI and PI arrests in Texas where the DUI cases are adjudicated in a county court system were compared with those occurring in Arkansas, where the DUI cases are adjudicated in a municipal court system.

### Objective

The objective of this project was to determine if there were differences in the number of DUI and PI arrests filed in two states with different court systems for processing DUI cases.

## 2.0 APPROACH

This problem identification effort involved comparing the numbers of DUI and PI cases tried in selected jurisdictions in Texas, which has a county court system, with those from selected jurisdictions in Arkansas, which has a municipal court system. In addition, selected characteristics of each type of court were analyzed to ensure that the systems were comparable. These characteristics included, legal processes for making DUI arrests, demographic characteristics (age, gender, and race) for the DUI and PI arrest data, and the productivity and efficiency of the two court systems.

### Selection of Cities

The selection of cities in each state was made with the assistance of representatives from the Texas State Department of Highways and Public Transportation (SDHPT) and the Arkansas Transportation Safety Agency. The cities selected had not participated in DUI Selective Traffic Enforcement Programs (STEP) nor initiated a comprehensive DUI program in the two years immediately preceding the study period. There were four cities selected in each state. The sizes of the cities selected were constrained by the limited population of the cities in Arkansas. The eight cities selected, with their 1980 populations, are presented in table 2.1.

### Comparison of the DUI and PI Laws

In both Texas and Arkansas, PI is a "Class C" misdemeanor. The penalty for such an offense is a fine. PI is defined in Texas and Arkansas as "a person who appears in a public place under the influence of alcohol or other substance to a degree that they may endanger himself or others." Arkansas law further adds, "or that he unreasonably annoys persons in his vicinity." In the same article of law Arkansas defines a "Class C" misdemeanor of drinking in a public place under the heading of Public Intoxication.

DUI is a "Class B" misdemeanor in both states. The penalties for DUI are a fine, possible confinement, and possible driver license suspension. It is unlawful in both

TABLE 2.1

CITIES SELECTED FOR DUI AND PI ARRESTS DATA

<u>CITY</u>	<u>POPULATION</u>
Arkansas	
El Dorado	25,270
Jonesboro	31,350
Little Rock	158,461
Pine Bluff	56,636
Texas	
Amarillo	149,230
Kingsville	28,808
San Angelo	73,240
Victoria	50,695

Source: Bureau of Census, (1983).

states for a person to operate a motor vehicle with a blood alcohol content (BAC) of 0.10% or greater which is determined by a chemical test. Both states have an implied consent law. Texas law is more restrictive requiring that the chemical test be applied only to a person who operates a motor vehicle on a public highway or beach. Persons in Texas may be arrested for DUI in other public places but there is no requirement to submit to a chemical test. In such cases, the county attorney must be able to prove that the accused did not have the normal use of their mental or physical facilities. However, the majority of DUI arrests in Texas occur on public highways, consequently evidence from chemical tests is generally available.

**Data Collection**

The primary source for the data for this analysis was the Uniform Crime Report (Federal Bureau of Investigation, 1984). This report presents data summarized from a uniform reporting system for all states. In Texas, data for this report is compiled by the Texas Department of Public Safety and in Arkansas by the Crime Information Center. DUI and PI arrests are summarized along with other classifications of criminal offenses. The criminal offenses are summarized by race, gender, and age. All four cities in each state were used in those comparisons.

The data on the blood alcohol content (BAC) was obtained from the Texas Department of Public Safety and the Little Rock

and Pine Bluff Police Departments. BAC information for PI arrests was not available in Texas.

The information on court convictions and dismissals was obtained from The Texas Judicial Council Office of Court Administration annual reports for 1985, 1986, and 1987. Similar types of information were obtained from the Arkansas Judiciary Department.

### Design

A modified static-group comparison design as defined by Campbell and Stanley (1963) was used for this problem identification study. It was selected as a pre-experimental design to investigate the relationship between the number of DUI and PI arrests from historical data. A modified static-group design was selected because the nature of the study prohibited the experimental assignment of subjects to court systems. Although the design is appropriate for investigating relationships between variables, it does not reveal the causal connections underlying these observed relationships. The comparison period for this study was 1985, 1986, and 1987.

The type of court system (county or municipal) used to adjudicate DUI offenses was treated as the independent variable. This variable could not be directly manipulated; consequently, a sample of cities which operated within one type of system was matched with a sample that operated the other system. The basis for match was population size.

The incidence of DUI and PI issuance for both groups of cities for the comparison period was treated as the dependent variable. Other aspects of this data were examined to assess the comparability of the two groups of cities. These included legal processes for making DUI arrests, age, gender, and ethnicity. BAC records for DUI arrests were also compared.

In conjunction with this static-group comparison, an assessment of the operational productivity and efficiency of the two court systems was conducted. This part of the study compared the court systems on the basis of DUI conviction and dismissal rates. A productivity index was calculated to determine if the number of cases processed annually by the court system was greater than the number of cases added to its docket each year. An efficiency index was calculated to determine the effectiveness of the court system. These ratios were calculated to confirm the subjective evaluation by state officials from both states concerning the responsiveness of the courts systems for cities selected for this study. Additionally, these comparisons were made to insure the two court adjudicating processes were similar and in themselves were not a disincentive which could account for the

differences in the number of arrests for DUI and PI.

#### **Statistical Tests**

The statistical tests used to assess differences between the two types of court systems were the Likelihood Ratio Chi-Square,  $G^2$  and the Odds Ratio (Freeman, 1987). A Chi-Square test was used to measure distribution difference in DUI and PI arrests per city for the racial and ethnic data. The probability level of 5% was used to determine statistical significance.

### 3.0 RESULTS

This problem identification effort involved an attempt to determine if jurisdictions that process DUI cases through a county court system rather than a municipal court system are actually discouraging DUI arrests. The results of this assessment are presented in two sections. The first section presents a comparison of arrest data. The second section documents the similarities of the two court systems. This documentation includes a summary of the demographic data from the Uniform Crime Report, blood alcohol content (BAC) comparisons, and a summary of court activity in the two systems.

#### Comparison of Arrest Data

##### Statewide

DUI and PI arrest data from the Uniform Crime Report for Arkansas and Texas for 1985, 1986, and 1987 are displayed in Figure 3.1. Using this data, a ratio of DUI to PI arrests was constructed. In Texas (county system) the ratio is .60 and

#### DUI AND PI ARRESTS FOR ARKANSAS AND TEXAS IN 1985, 1986, AND 1987

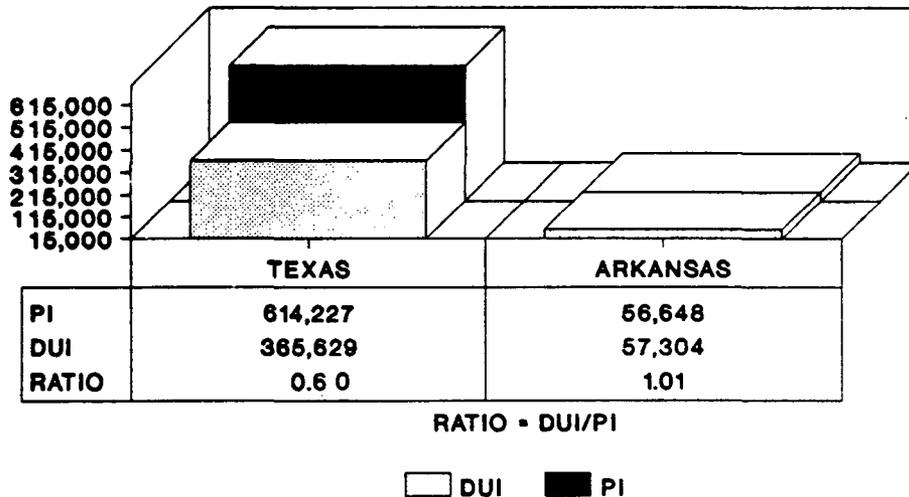


Figure 3.1

in Arkansas (municipal system) same ratio is 1.01. These ratios were found to be significantly different using the Odds Ratio Normal z-test. The details for this analysis appear in Appendix A.

The results of the analysis indicate that from a state-wide perspective, there is a 59% greater chance of being arrested for DUI as opposed to PI in Arkansas than in Texas. However, this data includes cities operating DUI selective traffic enforcement programs (STEPS) and cities which have comprehensive DUI programs. The cities selected for evaluation had not participated in countermeasures programs during the study period. DUI arrests are effected by STEP during the effective period of the program contract but not in subsequent years. This reduced the possible confounding influence of such programs on arrest activity.

**Sample Cities Combined**

The DUI and PI arrest data for the selected cities for 1985, 1986, and 1987 is presented in Figure 3.2. As can be seen, the ratio of DUI to PI was 0.36 for the Texas cities and 0.78 for the cities in Arkansas.

**DUI AND PI ARRESTS FOR SELECTED CITIES IN ARKANSAS AND TEXAS IN 1985, 1986, AND 1987**

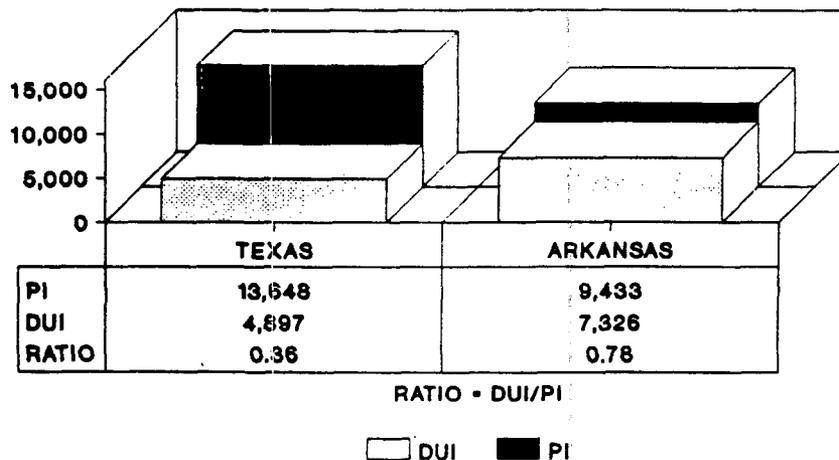


Figure 3.2

Likelihood G<sup>2</sup>s were calculated using arrest data combined across the sample cities in each state. These

statistics were used to test for differences between the states, between the types of offenses, and the interaction of the state and the offenses. The results are presented in Table 3.1.

TABLE 3.1

MAXIMUM LIKELIHOOD ANALYSIS OF VARIANCE TABLE  
FOR OFFENSES AND STATES

Factor	G <sup>2</sup>	DF	Chi Square (p < 0.05)
Offense (A)	3394.2	1	3.8414
State (B)	90.4	1	3.8414
A (x) B	1169.6	1	3.8414

The analyses demonstrate that there were significant differences between the total number of DUI and PI arrests for the study. The state variable, which represents the two different court systems factor, was also statistically significant. This means that there was a difference in the total number of arrests for DUI and PI in each state.

Furthermore, the state by offense interaction was also statistically significant. In Arkansas the ratio of DUI to PI is larger than it is in Texas. In Arkansas there is a 46% greater chance of being arrested for DUI as opposed to PI than in Texas.

The number of DUI and PI arrests for each selected Texas and Arkansas city are presented in Figure 3.3 and 3.4. An additional analysis of this data is presented in Appendix A. The results of this analysis demonstrate where the possible differences exist. Those differences may have caused the Likelihood G<sup>2</sup> to be statistically significant.

Comparisons of the Operation of the Court Systems

Racial and Ethnic Distributions of the DUI and PI Arrest Data

The Uniform Crime Report summarized the DUI and PI

### DUI AND PI ARRESTS FOR SELECTED TEXAS CITIES IN 85, 86, & 87

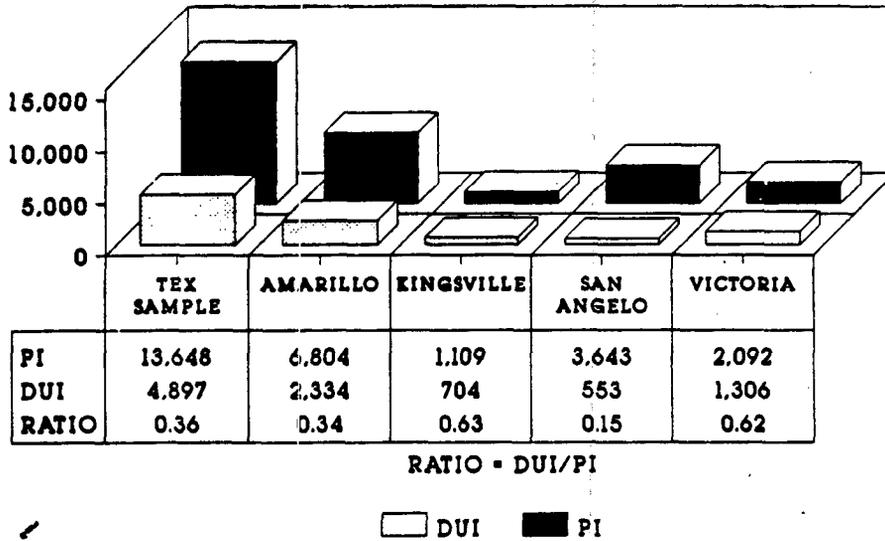


Figure 3.3

### DUI AND PI ARRESTS FOR SELECTED ARKANSAS CITIES IN 85, 86, & 87

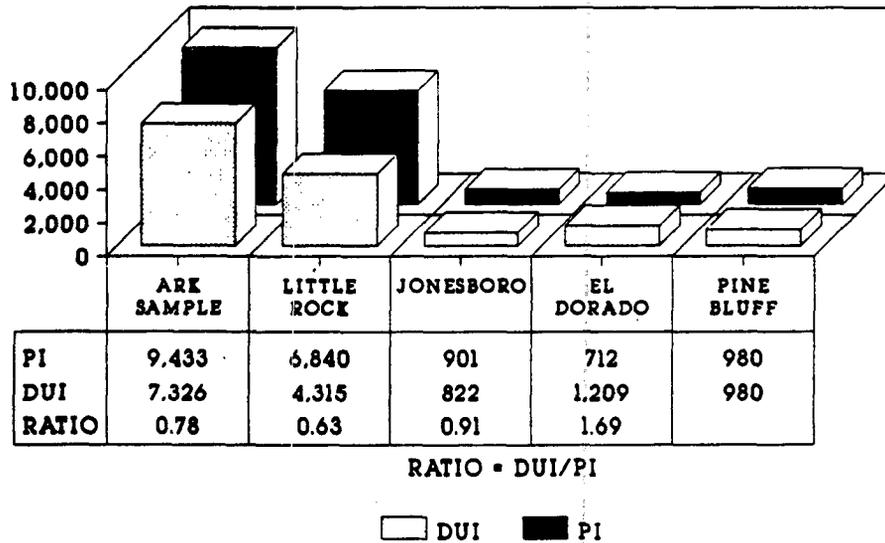


Figure 3.4

criminal offenses in demographic categories for both States.: The DUI and PI arrest data for Texas was summarized by racial and ethnic breakdowns. The Arkansas data was summarized only by racial category. A Chi-Square was computed for the racial/ethnic distribution of DUI and PI arrests for each state as appropriate. The observed values were the number of arrests for each offense by the racial/ethnic category. The expected values were computed using the percentage of racial/ethnic categories from the populations of El Dorado, Jonesboro, Little Rock, and Pine Bluff for Arkansas, and Amarillo, Kingsville, San Angelo, and Victoria, for Texas.

The racial categories for the arrest data for Arkansas were white, black and other. For this comparison the "other" classification was excluded because the census report did not provide a percentage figure for this category. The Chi-Square for the DUI arrests by the racial categories of white and black in Arkansas was 1.0 which was not statistically significant. The Chi-Square for the PI arrests data was 830.5 and was statistically significant. Blacks were significantly over-represented in the PI arrests data and whites were significantly under-represented. A summary of the racial breakdown of the DUI and PI arrest data for Arkansas is presented in figures 3.5 and 3.6

The Texas arrest data was categorized by the same racial division as in Arkansas. The Chi-Square for the DUI arrests by racial categories of white and black in Texas was 3.9 with one degree of freedom and was statistically significant. However, the individual component Chi-Squares were not statistically significant. The Chi-Square for the PI arrests data was 31.5 and was statistically significant. Blacks were significantly over-represented in the PI arrests data and whites were significantly under-represented. A summary of the racial breakdown of the DUI and PI arrest data for Texas is presented in figures 3.7 and 3.8.

Additionally, the Texas arrest data was sub-divided for the hispanic portion of the population. A summary of this data is provided in appendix D. An analysis of this data reveals that whites are significantly under represented while Hispanics are significantly over represented in both DUI and PI arrests.

However, the racial distributions of the arrests patterns are similar for the two states demonstrating that in this comparison the two criminal justice systems operate in a similar manner.

#### Gender and Age Breakdown of the Arrest Data

The DUI and PI arrest data are summarized by age and gender in Table 3.2. The percentage of males was

**RACIAL BREAKDOWN OF DUI ARRESTS FOR ARKANSAS**

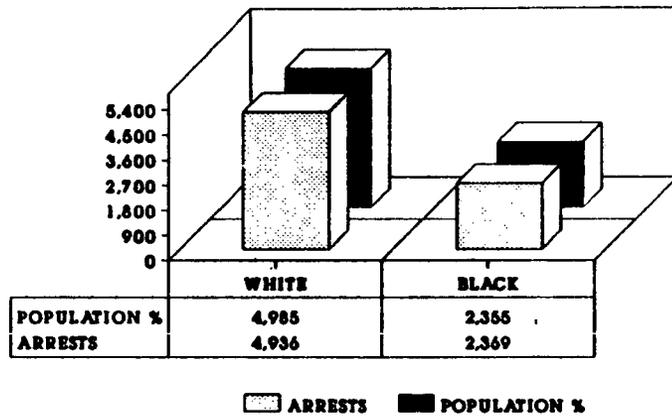


Figure 3.5

**RACIAL BREAKDOWN OF PI ARRESTS FOR ARKANSAS**

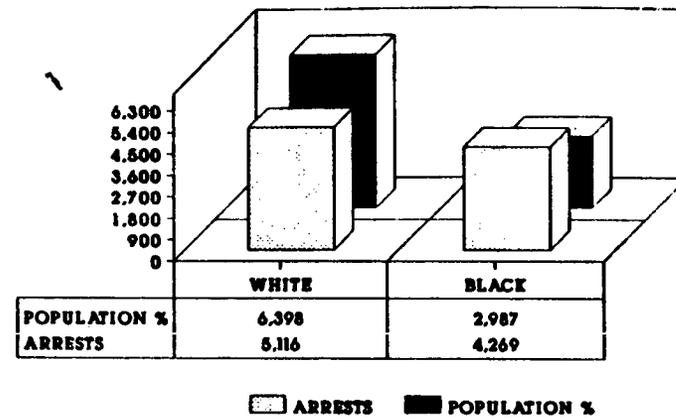


Figure 3.6

**RACIAL BREAKDOWN OF DUI ARRESTS FOR TEXAS**

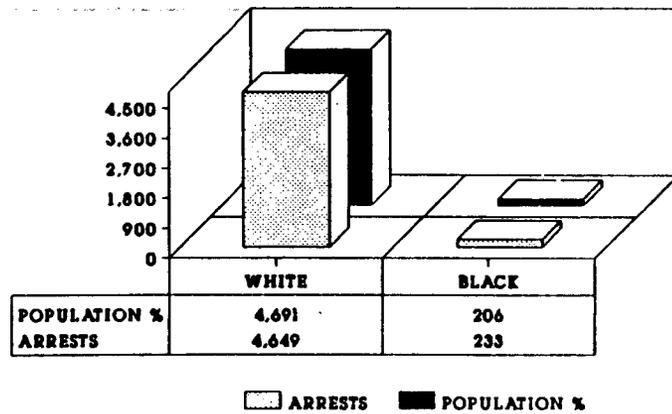


Figure 3.7

**RACIAL BREAKDOWN OF PI ARRESTS FOR TEXAS**

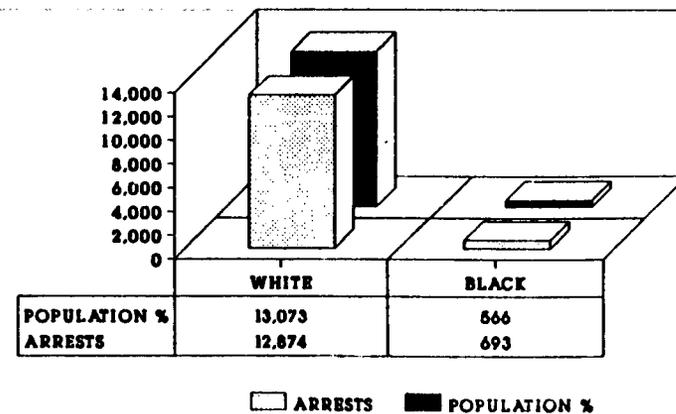


Figure 3.8

proportionally higher than females for both types of arrests. In Texas and Arkansas 88% of males were arrested for DUI and 91% for PI demonstrating that the two criminal justice systems operate in a similar manner on this comparison as well.

TABLE 3.2

DUI and PI ARREST DATA FOR ARKANSAS AND TEXAS  
CATEGORIZED BY GENDER

	TEXAS		ARKANSAS	
	DUI	PI	DUI	PI
MALE	4,286 (88%)	12,348 (91%)	6,433 (88%)	8,625 (91%)
FEMALE	511 (12%)	1,300 (9%)	893 (12%)	808 (9%)
TOTAL	4,897 (100%)	13,648 (100%)	7,326 (100%)	9,433 (100%)

The DUI and PI arrest data are summarized by age in Tables 3.3. In Arkansas the largest percentage of arrests for adult defendants occurred in the 25-29 age category for both DUI and PI, with 23% for DUI and 18% for PI. In Texas the largest percentage of the arrests for adult defendants occurs in the 25-29 age category for both DUI and PI, with 21 % for DUI and 19% for PI. As can be seen, the two criminal justice systems operate in a similar manner in this comparison component, also. For a breakdown of this data by cities within each state see Appendix B.

Sample BAC Data

The blood alcohol concentration (BAC) data for each state was collected from different sources in different formats. In Texas the cities do not maintain a history of their breath tests. Some data are collected each month and sent to Texas Department of Public Safety which maintains and certifies a large number of breath testing machines. However, not all cities report since breath test machines are also maintained by individual counties. Amarillo and Victoria did report their breath test results to the Texas Department of Public Safety for 1985, 1986, and 1987. Table 3.4 summarizes the data for these two cities for 1985, 1986, and 1987.

TABLE 3.3

AGE DISTRIBUTION OF DRIVING UNDER THE INFLUENCE AND PUBLIC  
INTOXICATION ARRESTS IN ARKANSAS AND TEXAS

		AGE															
		18	19	20	21	22	23	24	25- 29	30- 34	35- 39	40- 44	45- 49	50- 54	55- 59	60- 64	65+
<b>ARKANSAS</b>		-----															
14	DUI	133	180	170	286	316	354	404	1706	1251	929	595	346	258	177	114	107
	% of TOTAL	2	2	2	4	4	5	6	23	17	13	8	5	4	2	2	2
		-----															
	PI	131	147	168	241	248	310	314	1698	1443	1410	976	740	619	498	270	220
	% of TOTAL	1	2	2	3	3	3	3	18	15	15	10	8	7	5	3	2
		-----															
<b>TEXAS</b>		-----															
	DUI	119	178	189	201	204	257	222	1049	825	530	393	265	164	127	89	85
	% of TOTAL	2	4	4	4	4	5	5	21	17	11	8	5	3	3	2	2
		-----															
	PI	325	437	492	542	593	582	651	2584	2113	1512	1175	848	748	505	315	226
	% of TOTAL	2	3	4	4	4	4	5	19	15	11	9	6	5	4	2	2
		-----															

The BAC data for the two cities in Arkansas were collected from breath logs which are maintained by the Little Rock and Pine Bluff Police Departments. The logs

TABLE 3.4

BLOOD ALCOHOL CONCENTRATION TESTS FOR DUI  
ARRESTS IN AMARILLO AND VICTORIA

BAC LEVELS	AMARILLO	VICTORIA
< 0.10	17 ( 2.1%)	1 ( 0.1%)
0.10-0.14	189 ( 22.8%)	180 ( 20.3%)
0.15-0.24	568 ( 68.6%)	597 ( 67.2%)
OVER 0.24	<u>54 ( 6.5%)</u>	<u>110 ( 12.4%)</u>
TOTAL	828 (100.0%) =====	888 (100.0%) =====

were examined to determine the total number of breath tests given in a year. Then a random sample of 75 was taken for each year for analysis purposes. This information is summarized in Table 3.5.

TABLE 3.5

BLOOD ALCOHOL CONCENTRATION TESTS FOR DUI  
ARRESTS IN LITTLE ROCK AND PINE BLUFF

BAC LEVELS	LITTLE ROCK	PINE BLUFF
< 0.10	32 ( 11.3%)	5 ( 2.1%)
0.10-0.14	83 ( 29.4%)	74 ( 30.8%)
0.15-0.24	151 ( 53.6%)	137 ( 57.1%)
OVER 0.24	<u>16 ( 5.7%)</u>	<u>24 ( 10.0%)</u>
TOTAL	282 (100%) =====	240 (100%) =====

In both Texas and Arkansas, the largest percentage of

arrests for DUI occurred at the 0.15 - 0.24 level. The next category was the 0.10 - 0.14 level. The two criminal justice systems operate in a similar manner in this comparison component.

Besides the BAC information for DUI, PI breath tests were taken at the discretion of the arresting patrol person in Arkansas. The BAC data for PI arrests has a similar distribution to the DUI arrest data. A summary is provided in Appendix C.

### Court Operational Comparisons

Court reported data was obtained from The Texas Judicial Council Office of Court Administration Annual Report for 1985, 1986 and 1987. These data are reported by fiscal year from September 1 to August 31. Similar court data was obtained from the Arkansas Judiciary. This data is reported on a calendar year basis.

The comparison made is limited to two cities in Arkansas because of incomplete data being filed by the individual municipal courts. There is no requirement for city clerks to forward the appropriate data to the Judiciary for tabulation. Data from Little Rock and Pine Bluff Municipal Courts were compared to Potter and Victoria County Courts.

Indices were calculated to determine the effectiveness of the two court systems: the productivity and the efficiency index. This was done to objectively confirm the subjective criteria used in selecting the study cities, and to insure the court adjudicating processes were similar and in themselves were not a disincentive which could account for the differences in the number of arrests for DUI and PI. A productivity index was used to determine if the court system is falling behind in the management of its court docket. When there are more cases being introduced into the system than the system is adjudicating, there is an administrative problem with the court system. The numerator of the index is the total number of cases processed through the court (conviction and dismissals). The denominator is the total number of cases processed through the court in addition to those carried over to the preceding year.

The efficiency index for each court system was useful in determining the impact of dismissals on the court's productivity. The numerator of this index was the number of convictions, and the denominator was the number of convictions in addition to the number of cases pending at the end of the year.

Using these two indices, tables were constructed for

two municipal courts in Arkansas and two county courts in Texas. This data is presented in Tables 3.6 and 3.7. The data reveal that the productivity index for the two municipal court was .73 and for the two county courts was .75. The efficiency index was .64 for the municipal system and .65 for the county system. This means that there were slightly more cases dismissed from the county court system than the municipal court system. There were 9 % of the total cases on the docket dismissed from the municipal court system and 10% dismissed from the county court system.

The major difference between the court systems in Texas and in Arkansas is the total number of cases on the court docket obtained from the sample cities in both states. The municipal court system in Arkansas has 3 times as many cases on its docket as does the county court system in Texas. A county court judge in Texas has a 30% greater chance of handling a DUI case that does a municipal court judge in Arkansas.

TABLE 3.6

## COURT DATA FOR TWO MUNICIPAL COURTS IN ARKASNSAS

City	Year	Filings	Convictions	Dismissals	Total Cases	Product Index	Efficiency Index	Index of DUI Cases To Total Cases
Pine Bluff	1985	677	564	41	17,527	.89	.83	.04
Pine Bluff	1986	632	565	31	16,976	.94	.89	.04
Pine Bluff	1987	<u>523</u>	<u>261</u>	<u>26</u>	<u>19,426</u>	<u>.55</u>	<u>.49</u>	<u>.03</u>
18 Total		1,832	1,390	98	53,929	.81	.76	.03
Little Rock	1985	1,344	499	151	20,034	.48	.37	.07
Little Rock	1986	1,430	968	272	16,919	.86	.67	.08
Little Rock	1987	1,467	1,022	49	20,311	.73	.70	.07
Total		4,241	2,489	472	57,264	.70	.59	.07
Total Both Cities		6,073	3,879	570	111,193	.73	.64	.05

TABLE 3.7  
COURT DATA FOR TWO COUNTY COURTS IN TEXAS

County	Year	Filings	Convictions	Dismissals	Cases	Product Index	Efficiency Index	Index of DUI Cases To Total Cases
Victoria	1985	859	741	42	5,097	.86	.81	.17
Victoria	1986	1,186	935	50	5,895	.79	.75	.20
Victoria	1987	<u>1,235</u>	<u>933</u>	<u>65</u>	<u>5,874</u>	<u>.79</u>	<u>.78</u>	<u>.19</u>
61 Total		3,280	2,609	157	16,866	.80	.74	.19
Potter	1985	1,162	842	227	6,650	.72	.53	.17
Potter	1986	1,088	772	135	6,559	.71	.58	.16
Potter	1987	<u>869</u>	<u>554</u>	<u>81</u>	<u>6792</u>	<u>.64</u>	<u>.54</u>	<u>.13</u>
Total		3,119	2,168	443	20,001	.69	.55	.15
-----								
Total Both Counties		6,399	4,177	600	36,887	.75	.65	.17
=====								

#### 4.0 CONCLUSIONS AND RECOMMENDATIONS

The results of the analysis indicate that there is considerable difference in the ratios of DUI to PI arrests in Texas and Arkansas. In Arkansas, which has a municipal court system, the ratio was 0.78. In Texas, which has a county court system, the ratio was 0.36. This difference could not be accounted for by the characteristics of the individuals arrested, the respective levels of intoxication, or the functioning efficiencies of the two court systems. One possible explanation was that the distribution of the fine revenues from DUI convictions was deterring DUI arrests in one jurisdiction. In Texas, the majority of the fines collected stay in the county government system, even though the expense of the arrest might be incurred by a municipal law enforcement agency. In Arkansas, DUI cases are tried in municipal courts. Fine revenues are usually placed in a general fund and are used to support the city government, including the enforcement agency likely to be responsible for the majority of arrests. It is possible that in Texas, PI charges are being filed instead of DUI charges. This would permit the case to be tried in a municipal court, thereby allowing the fine revenues to be returned to city coffers.

However, the data analyzed in this study do not confirm that PI arrests are made in lieu of DUI arrests. First, the opportunity to make the same proportion of DUI arrests in each community may not exist. For example, a community with a large university would likely have greater prospects for DUI arrests than would a retirement community. Second, a shortage of enforcement officers could also reduce the DUI effort, especially when that same community is experiencing an increase in other crimes. Moreover, a community's social and political climate could have an influence on the policies that indirectly determine the number of DUI arrests that could be made by individual enforcement agencies. City size also appears to influence the number of arrests that are made in each category. Namely, as the population increases, the ratio of DUI to PI decreases.

It is recommended that policy making and supervisory personnel concerned with the enforcement strategies for their community's DUI program review arrest statistics for DUI and PI. This can be accomplished by obtaining the Uniform Crime Report from the appropriate State agency and assembling the data. Once the data have been summarized, using the format in this report as an example, each governing agency could determine if PI arrests exceed the number of DUI arrests. If so, further inquiries would need to be made to ascertain the reasons for such an occurrence. Factors that might discourage filing DUI charges include: the time required to process a DUI

arrest, the priority that law enforcement places on the DUI offense, the attitude of the court system toward DUI prosecution, community sentiment toward DUI, as well as the distribution of fine revenues. If, indeed, disincentives to filing DUI cases can be identified, remedial action can be taken.

It is also recommended that BAC measures be obtained and reported for PI as well DUI arrests and that the statutes governing PI and DUI be reviewed to determine if there is a need for clarity or distinction between the two offenses to make them specific and exclusive.

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**APPENDIX A**

**ADDITIONAL COMPARISONS OF ARREST DATA FROM  
THE UNIFORM CRIME REPORT**

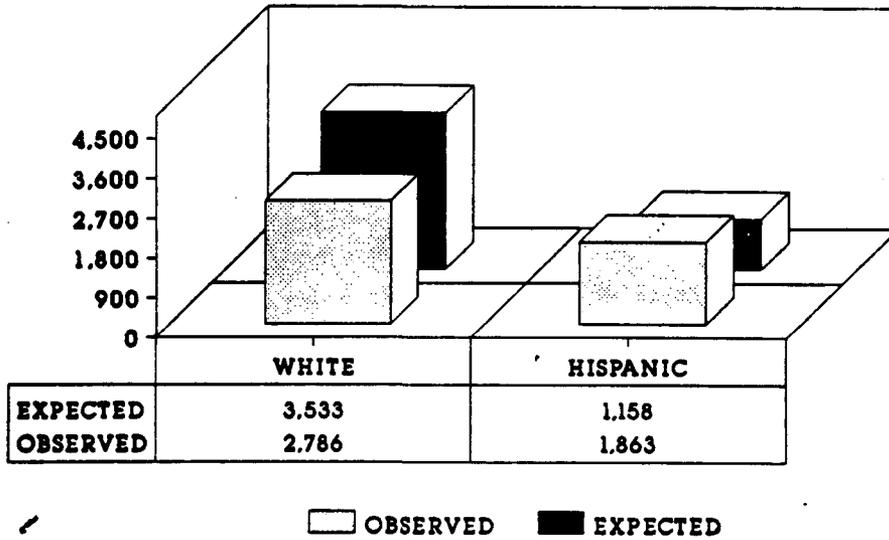
### Calculations of Odds Ratio

DUI and PI arrest data from the Uniform Crime Report for Arkansas and Texas for 1985, 1986, and 1987 are displayed in Figure 3.2. Using this data a ratio of DUI to PI arrests was constructed. In Texas the ratio is .60 and in Arkansas the same ratio is 1.01. These ratios were used to calculate an Odds Ratio (OR) which equals 0.59. The a normal z-test was used to test the significance of the OR. This was accomplished by dividing the OR by the square root of the sum of the reciprocals of total number of DUI and PI arrests for Texas and Arkansas.

### Ethnic Distribution of DUI and PI Arrest Data For Texas

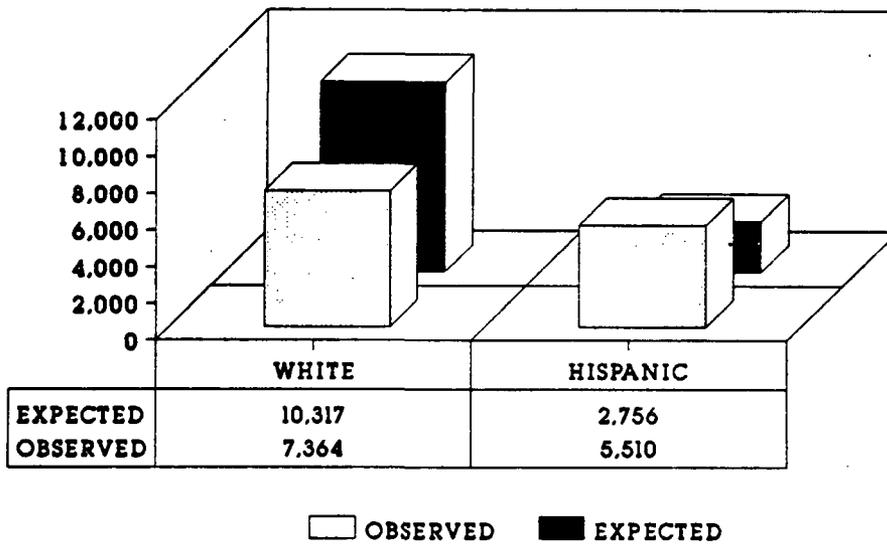
The Texas arrest data from the Uniform Crime Report was sub-divided for the hispanic portion of the population. For these comparisons the other classification were excluded from the analysis because the census report did not provide a percentage figure for the this category. A Chi-Square was computed for the ethnic distribution of DUI and PI arrests for Texas. The observed values were the number of arrests for each offense by ethnic category. The expected values were computed using the percentage of ethnic categories from the populations of Amarillo, Kingsville, San Angelo, and Victoria Texas. The Chi-Square for the DUI arrests in Texas was 390.7 which was statistically significant. The hispanic population was significantly over represented in DUI arrests and the white population was significantly under represented. The Chi-Square for the PI arrests in Texas was 3625.7 which was statistically significant. The hispanic population was significantly over represented and the white population was significantly under represented.

### ETHNIC BREAKDOWN OF DUI ARRESTS FOR TEXAS



**Figure A1**

### ETHNIC BREAKDOWN OF PI ARRESTS FOR TEXAS



**Figure A2**

**APPENDIX B**

**AGE DISTRIBUTIONS OF PUBLIC INTOXICATION AND DRIVING  
UNDER THE INFLUENCE ARRESTS FOR SELECTED  
CITIES IN ARKANSAS AND TEXAS**

TABLE B1

AGE DISTRIBUTION OF DRIVING UNDER THE INFLUENCE  
ARRESTS IN ARKANSAS

CITY	AGE															
	18	19	20	21	22	23	24	25- 29	30- 34	35- 39	40- 44	45- 49	50- 54	55- 59	60- 64	65+
El Dorado	23	39	29	58	41	57	45	280	214	157	94	55	50	26	19	22
Jonesboro	8	16	18	27	37	48	53	168	156	113	77	46	36	16	3	0
Pine Bluff	21	17	23	30	38	39	39	191	143	131	89	59	56	41	29	34
Little Rock	81	108	100	171	200	210	267	1067	738	528	355	186	116	94	63	51
TOTAL	133	180	170	286	316	354	404	1706	1251	929	595	346	258	177	114	107
Percentage of TOTAL	2	2	2	4	4	5	6	23	17	13	8	5	4	2	2	12

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TABLE B2

AGE DISTRIBUTION OF PUBLIC INTOXICATION ARREST  
IN ARKANSAS

	AGE															
	18	19	20	21	22	23	24	25- 29	30- 34	35- 39	40- 44	45- 49	50- 54	55- 59	60- 64	65+
<u>CITY</u>	-----															
El Dorado	8	13	15	25	20	24	24	160	89	124	77	42	37	34	13	7
Jonesboro	14	21	20	31	52	46	50	178	152	115	92	61	43	22	3	1
Pine Bluff	22	21	25	36	35	27	35	171	131	148	88	66	77	40	38	20
Little Rock	87	92	108	149	141	213	205	1189	1071	1023	719	571	462	402	216	192
TOTAL	131	147	168	241	248	310	314	1698	1443	1410	976	740	619	498	270	220
Percentage of TOTAL	1	2	2	3	3	3	3	18	15	15	10	8	7	5	3	2

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TABLE B3

AGE DISTRIBUTION OF DRIVING UNDER THE INFLUENCE  
ARRESTS IN TEXAS

	AGE															
	18	19	20	21	22	23	24	25- 29	30- 34	35- 39	40- 44	45- 49	50- 54	55- 59	60- 64	65+
<u>CITY</u>	-----															
Amarillo	45	73	66	82	96	111	94	517	393	285	190	143	81	67	48	43
Kingsville	22	40	30	31	38	53	41	129	114	45	61	40	20	19	9	12
San Angelo	16	29	26	25	22	32	29	113	86	63	48	26	13	10	5	10
Victoria	36	36	67	63	48	61	58	290	232	137	94	56	50	31	27	20
TOTAL	119	178	189	201	204	257	222	1049	825	530	393	265	164	127	89	85
Percentage of TOTAL	2	4	4	4	4	5	5	21	17	11	8	5	3	3	2	2

**TABLE B4**  
**AGE DISTRIBUTION OF PUBLIC INTOXICATION ARREST**  
**IN TEXAS**

	AGE															
	18	19	20	21	22	23	24	25- 29	30- 34	35- 39	40- 44	45- 49	50- 54	55- 59	60- 64	65+
<u>CITY</u>	-----															
Amarillo	125	184	226	247	328	240	288	1279	1011	723	643	484	499	320	167	130
Kingsville	25	39	43	67	61	77	65	228	173	108	68	53	55	20	18	9
San Angelo	93	127	138	143	192	165	167	632	561	455	323	222	149	130	71	75
Victoria	82	87	85	85	102	100	131	445	368	226	141	89	45	35	59	12
TOTAL	325	437	492	542	593	582	651	2584	2113	1512	1175	848	748	505	315	226
Percentage of TOTAL	2	3	4	4	4	4	5	19	15	11	9	6	5	4	2	2

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**APPENDIX C**

**BAC DATA FOR PUBLIC INTOXICATION ARRESTS IN ARKANSAS**

### BAC Results for PI in Arkansas

Besides the BAC information for DUI, public intoxication (PI) breath test were taken at the discretion of the arresting patrol person in Arkansas. Because of the limited number of data points, all PI arrests data for 1986 and 1987 are presented for Pine Bluff and 1985, 1986, and 1987 data for Little Rock in Table C1.

TABLE C1

#### BLOOD ALCOHOL CONCENTRATION TESTS FOR PI ARRESTS IN LITTLE ROCK AND PINE BLUFF

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BAC LEVELS	LITTLE ROCK	PINE BLUFF
< 0.10	19 ( 10.7%)	13 ( 10.4%)
0.10-0.14	39 ( 21.9%)	24 ( 19.2%)
0.15-0.24	66 ( 37.1%)	70 ( 56.0%)
OVER 0.24	<u>54 ( 30.3%)</u>	<u>18 ( 14.4%)</u>
TOTAL	178 (100.0%) =====	125 (100.0%) =====

---