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Traffic Stop Practices of the Iowa City Police Department: January 1 – December 31, 2002

Elizabeth L. Grossi

Gennaro F. Vito

Angela D. Crews

Marshall University, crewsa@marshall.edu

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Traffic Stop Practices of the Iowa City Police Department:
January 1 – December 31, 2002*

Submitted to
Chief R.J. Winkelhake

Research Team
Elizabeth L. Grossi, Ph.D.
Gennaro F. Vito, Ph.D.
Angela D. West, Ph.D.

University of Louisville
Department of Justice Administration
Brigman Hall, 2nd Floor
Louisville, KY 40292
(502) 852-6567

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Executive Summary

This report summarizes the findings of a study conducted using data collected by the Iowa City Police Department between January 1 and December 31, 2002. These data resulted from 13,459 interactions between law enforcement officers and citizens during traffic-related contacts.

Information was collected about the driver, the officer, and the stop event. Driver demographics included race, sex, age, residency, and vehicle registration. The only information collected about the officer was officer badge number. Finally, data collected about the stop event include the date, time of day, reason for stop, search, property seized, force, and outcome of the stop.

Data analysis was conducted with the aid of SPSS-11.0 (Statistical Package for the Social Sciences). Analyses were conducted on two levels. First, descriptive analysis, using percentages, summarized stop patterns, stop characteristics, and driver demographics. Second, a program called “chi-square automatic interaction detector” or CHAID was used to evaluate the variables in terms of their relationships with one another (multivariate analysis).

The greatest percentage of stops was made in the month of March (10.1%), with the fewest in June and December (6.9%). Interestingly, nearly 32% of stops occurred between midnight and 3am, with the third shift (11pm-7am) responsible for the greatest percentage (44.2%).

Stopped drivers were mostly White (84%), male (63%), young (median age of 23), Iowa City residents (62%), with Iowa vehicle registrations (88%). Drivers were mainly stopped for moving violations (70%), were not searched (96%), and were released with a warning (58%).

Descriptive statistics are included for a general view of the stop event and characteristics. Multivariate CHAID analyses were conducted to make inferences about the relationships among variables. CHAID segments the sample of traffic stops and reveals the interrelationship between the potential predictors and the events involved in the stop. The CHAID procedure generates a “decision tree” that identifies significant predictors of each decision in question. In effect, the procedure “cross-references” each event with each potential predictor.

Results from CHAID analyses resulted in four events (moving violation, equipment/registration violation, being warned, being arrested) with significant predictors. All four events were significantly related to the age of the driver, although different age groupings surfaced in different stop events. In addition, the sex of the driver (being male) appeared as a second order predictor in being arrested. Race of the driver never appeared as a predictor of any event.

These data provide no empirical evidence that the ICPD is systematically engaging in discriminatory stop practices. Stops conducted by the Iowa City Police Department, as a whole, during the study period, do not involve the race of the driver as a significant factor related to events and outcomes. This does not mean, however, that no individual citizen ever experienced discrimination. It is always possible that individual officers may engage in racially biased practices, both in determining which drivers they will or will not stop and in determining what steps to take after the initial contact. To detect discriminatory practices at this level, however, requires constant vigilance by the community, by all the officers within the department, and by the departmental administration. Statistical analysis, while valuable, cannot substitute for community involvement and effective management.

The full report notes some minor inconsistencies with the data, provides a discussion of the “baseline dilemma,” makes recommendations for the continued collection of data for future trend analysis, and suggests modifications of the data collection instrument to include more variables and to clarify some possible areas of confusion for officers who are collecting the data.

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Introduction

Accusations of discriminatory traffic stop practices (“racial profiling”) have emerged as a critical issue facing law enforcement. According to a 1999 Gallup poll and research conducted by the American Institute of Public Opinion (2000), many believe that racial profiling is widespread and disapprove of the practice of stopping motorists simply because the driver fits a particular profile (Newport, 1999). In response to this growing concern regarding traffic stops and a more general distrust of law enforcement personnel, many police departments across the U.S. have begun to more closely examine their traffic stop policies and procedures. Further, some police departments have collected traffic stop data.

The collection of traffic stop data initially may appear to be a rather straightforward process. In reality, however, the collection and analysis of traffic stop data is far from simplistic. A number of concerns must be addressed by any agency contemplating such an endeavor. These concerns range from defining the issues, developing data collection instruments and procedures, training personnel to collect data, and determining the most appropriate means to analyze the data.

Defining Racial Profiling

The precise definition of racial profiling is a matter of debate. While no universal definition exists, racial profiling is generally regarded as any act by law enforcement, whether it involves motorists or pedestrians, based solely on the race of the alleged violator (Ramirez, McDevitt & Farrell, 2000). In expanding on this broad definition, the U.S. Department of Justice considers racial profiling to be “any police action that relies upon the race, ethnicity or national origin of an individual rather than behavior of that individual that leads the police to a particular individual who has been engaged in or having been engaged in criminal activity” (Ramirez,

McDevitt & Farrell, 2000). Accordingly, police may use race and ethnicity to determine if an individual matches a suspect description but police may not use stereotypes when deciding who to stop, to search, or make subject to other stop – related actions.

Further, as Withrow (2002) notes, profiling by police can be further defined based on specific factors used in profiling. MacDonald (2000) suggests that profiling can be considered *hard* or *soft*. *Hard profiling* occurs when race is the one and only factor used in police decisions to stop a particular motorist. *Soft profiling* occurs when race is one of several factors the police use in determining whom they stop.

For this report, the Iowa City Police Department defines racial profiling as “the detention, interdiction, exercise of discretion or use of authority against any person on the basis of their racial or ethnic status or characteristics” (Racial Profiling, General Order 01-01). A copy of this policy is contained in Appendix A.

Collecting Data

Thirty-nine states have passed legislation regarding the collection of race and ethnicity data on motorists. Affected agencies collect a variety of data elements in their attempts to determine whether officers are engaged in discriminatory stop practices. Some collect a minimal amount of data such as the race, age, and sex of the driver, along with the reason for the stop and the stop outcome. Other agencies collect data pertaining the passengers of the vehicle, key events that may occur during the traffic stop and police officer demographics (West, 2003: 71).

Ideally, officers should collect data anytime they conduct a stop. Data should be collected on stops that result in citations or warning tickets being issued. It is recommended that all stops be documented or the police agency will fail to capture entire scope of the alleged problem (Ramirez et al., 2000).

Police agencies use a variety of systems to capture the data that is collected by officers. Some agencies use laptop computers with touch screens, some use a dispatch system in which the dispatcher enters codes provided by the officer, and the most common is a card or form in which the officer notates requested data by checking blocks on a standard form. Departments should have systems in place to ensure that the officers are completing the stop data forms and that they are completing the forms correctly. Crosschecks between information should be done to ensure the integrity of the system. Ramirez et al. (2000) recommends that the agency conduct a customer service survey to capture information from people previously stopped by the agency with the documentation captured by the officer to see if it is in fact accurate. By requiring data on all stops, the law enforcement agency will obtain the picture of all stops and searches made. Agencies can use this data to ensure the individuals do not base their enforcement on racial prejudices. (Carrick, 2000)

Methodological Issues in Racial Profiling Research

Many departments have, independently or in collaboration with others, undertaken the task of analyzing traffic stop data. These agencies vary in terms of their structure and function, as well as in the type of data they collect. In addition, some data collection efforts involve sophisticated data analyses where others simply compare basic percentages. These differences, on the surface, are not all that dramatic. When making conclusions about the practices of a department, however, these methodological considerations take on more importance. In fact, methodological considerations are considered paramount by prevailing judicial opinions (see following discussion on legal issues). It should be noted; however, just as there are no widely accepted standards for defining racial profiling, the methods of collecting and analyzing traffic stop data are not universal.

Police departments across the country collect a variety of data elements in their analysis of racial profiling. Some agencies collect a minimal amount of data such as the race, age, and gender of the driver, along with the reason for, and outcome of the traffic stop. Other agencies collect data pertaining to all passengers of the vehicle, key events that may occur during a traffic stop (e.g. warrant check, search), and police officer demographics. There appears to be no consensus regarding the most appropriate data collection elements across departments. The National Institute of Justice (NIJ), however, recommends certain data be collected on a “routine” basis (Ramirez, McDevitt & Farrell, 2000). These data elements include: date, time, and location of stop, license number and description of vehicle, length of stop, and name and identification number of the officer initiating the stop. The NIJ also recommends that certain “study specific” variables be considered. These include the race, date of birth and sex of the driver, the reason for stop, the outcome of the stop, and whether or not a search was conducted.

At this point in time, a number of studies of racial profiling by police have been conducted. Most of the studies are based upon data that the police were legally required to collect on traffic stops of citizens. These data should reflect the activities of police officers and indicate whether they were stopping people on the basis of race. However, methodological problems commonly plague these analyses, restraining their ability to address this issue. The most widespread methodological question is the “base rate” problem (the expected rate of stops of black drivers, assuming no racial prejudice by police officers whatsoever).

In order to address this problem, it is necessary to determine how often officers stop, question, warn, search, cite, and arrest nonwhite suspects and then create ratios, or comparisons, to some other population. There are two different types of comparative benchmarks, those that are external to the data and those generated from within (Ramirez et al., 2000). External

benchmarks involve developing percentages of people that drive on a certain road and are at risk of being stopped. It can be used to determine the racial percentages of those that drive on a particular roadway. Residential benchmarks can be used if using the most current information and the analyst factors out those that are not licensed drivers in the analysis.

Prior studies have featured comparisons between stopped drivers and the racial distribution of:

1. The area as defined by census tract data
2. Persons of driving age in the area
3. Licensed drivers in the area
4. Drivers driving on the roadways, as determined by stationary observation
5. Speeders driving on the roadways, as determined either by stationary or rolling surveys
6. Drivers involved in accidents (West, 2003: 66)

The most appropriate population of comparison for stopped drivers is not who is driving, but who is driving in such a way that would make them eligible to be stopped by the police (West, 2003: 68).

West also states that the population of drivers can be divided into two mutually exclusive categories:

1. “Abiders”: drivers generally not eligible to be stopped because they are not doing anything illegal or anything that would otherwise bring them to the attention of law enforcement. The police should not stop them.
2. “Violators”: drivers eligible to be stopped because they are doing something that brings them to the attention of law enforcement. The police should stop them (West, 2003: 69).

Discrimination possibly occurs when either the “Abiders” are stopped or the “Violators” are not. Race enters the question as another possible explanation within this typology.

The problem lies in determining the racial distribution of abiders and violators who were not stopped. Currently, there is no measure of the racial distribution of who is not stopped by the police (West, 2003: 71).

It is this comparison that is problematic for researchers (Engel, Calnon, & Bernard, 2002: 256). The comparisons that are made are often invalid, using census or drivers license data to estimate the percentage of drivers on the road. However, it is not very useful when measuring racial demographics of motorists who reside outside of the jurisdiction (Ramirez et al., 2000). For example, our previous analyses have indicated that a great percentage of drivers (30 to 40%) stopped by the police are not residents of either the city or even state under consideration (Grossi, et al., 2002a & b).

A review of thirteen studies of racial profiling is critical of how researchers attempted to deal with the benchmarking problem.¹ They each proposed different benchmarks. Half of these studies concluded that stops by the police were racially motivated. However, “since there is no agreement about what constitutes a reliable and valid base rate, all these conclusions are premature” (Engel, Calnon, & Bernard, 2002: 250).

A second problem is the reliance upon the police to generate traffic stop data. For example, the police are fully aware of the purpose behind this information gathering and that “some police have already been detected falsifying traffic stop information” (Lundman and Kaufman, 2002: 199). In addition, police reported data fail to “capture citizen perceptions of the propriety of police actions” (Lundman and Kaufman, 2002: 214). The police have been “saddled

¹ Of these 13 studies: 7 were initiated voluntarily and 6 were mandated – 4 by the courts and 2 by recent legislative data.

with a monolithic data-collection approach that may create more problems than it resolves”

(Buerger & Farrell, 2002: 274). These problems include:

1. Racial bias is typically determined individually, on a case-by-case basis. Police stop data are collected for the entire department on an aggregate level. Exactly why a single vehicle was stopped is a question that aggregate data cannot answer (Buerger, 2002: 384).
2. This “data collection has the potential to provide information about general patterns of disparity around which interested groups may begin a rational discussion about police operations. However, data collection itself may not be sufficient to change individual or group perceptions“ (Farrell, McDevitt, & Buerger, 2002: 360).
3. Data collection by the police “assumes that officers who do deliberately target by race will be less inclined to do so if they know that their work will be formally reviewed (and alternatively, that those who fail to bring their work habits into compliance with the law will be identified and dealt with appropriately)” (Buerger, 2002: 382).
4. Racial profiling laws generally impose a “simplistic data-collection template over the multifaceted and nuanced activities of policing and place the state at a disadvantage for explaining any patterns of disparity that might emerge” (Buerger, 2002: 382).
5. These data are generated as a result of police activity. What is necessary is a measure of what actually is happening on the roadways (violations and who is on the road) whether the police know about it or not.

Specifically, Buerger (2002: 384-385) addresses how data collection by the police presents supervisory problems for a department.

To many police officers, the racial profiling laws represent, at best, Monday-morning quarterbacking by persons ignorant of the realities of policing. At worst, they are shackles, cynically manipulated by antipolice forces to eviscerate effective enforcement and advance criminal enterprises. Into that cauldron of seething resentment steps the line supervisor, who has the responsibility of ensuring that the law and agency policies are followed in letter and spirit, not only for the protection of the agency but for the protection of officers.

The police are thus charged with a data collection effort that is designed to monitor their behavior. These data are not collected for any other purpose. Traffic stop information collected by the police is self-report data and it has all of the validity problems that plague these types of studies. Here, lying is the basic issue. Officers may intentionally misclassify the perceived race

of the driver of a vehicle when filling out official reports to avoid being labeled a racist. There is no way to verify whether or not the officers are telling the truth (see Vito, Latessa, and Wilson, 1988: 83).

Even if these issues are resolved, another conundrum remains: How to reconstruct the discretionary decisions of police officers after a stop is made. An observation study conducted by Bayley (1986) determined that there were over 7000 possible combinations of decisions that police officers could make in the course of a traffic stop. Table 1 summarizes Bayley’s findings.

Table 1: Possible Officer Actions at a Traffic Stop

Initial Actions of Police Officers at Traffic Stops	Use (%)
1. Asked driver for documents	88.4
2. Explained reason for stop	28.0
3. Asked driver if he knew reason for stop.	25.6
4. Had driver leave the vehicle	20.1
5. Allowed driver to leave vehicle	16.5
6. Asked passengers for documents	15.9
7. Allowed or ordered passengers out of vehicle	9.2
8. Ordered driver and/or passengers to remain in vehicle	4.2
Processing Actions of Police Officers at Traffic Stops	Use (%)
1. Checked whether vehicle and driver were wanted	59.1
2. Discussed nature of traffic violation	27.4
3. Searched vehicle from outside or inside	25.0
4. Gave roadside sobriety test	12.8
5. Body-searched driver or passenger	7.3
6. Questioned drivers and/or passengers	3.7
Exit Actions of Police Officers at Traffic Stops	Use (%)
1. Issued traffic citation	43.3
2. Gave admonishment or warning only	20.7
3. Arrested driver (DUI or other offense)	15.8
4. Released without admonishment or warning	13.8
5. Issued citation and gave warning	12.8
6. Completed “contact” card (recorded information about driver)	9.8
7. Transported or arranged transportation for driver	2.4
8. Impounded vehicle	1.8
9. Insisted driver proceed on foot	1.8
10. Arrested passenger	1.8

It must be remembered that these data collection efforts were either established by formal legislation or administrative fiat. In most cases, the police had no choice but to devise a method to collect traffic stop data. Research methodology and efforts to conduct analysis did not guide this process. Lundman and Kaufman (2003: 214) that the data collection efforts of the police during traffic stops be expanded:

Scholars should continue to collect police-reported data on traffic stops and to collect and examine citizen reports of traffic stops. But they also must expand the training of observers of police to include coding not just traffic stops and the actions and demeanor of police and drivers during stops, but also the race and ethnicity of traffic law violators observed by police but left alone.

In any event, the attempt to conduct methodologically sound traffic stop studies would probably be too costly in terms of time, effort, and finances. Recall that many of the early studies of police arrest practices (see Reiss, 1968) were conducted in the late 1960's or early 1970's when \$100,000 of research funds were a considerable sum. It would be comparable to \$500,000 or more in 2003 dollars.

These methodological issues cloud the research findings contained in this report. The analysis is based upon self-report data collected by police officers themselves. There was no other form of verification of the data in terms of its accuracy, validity, or reliability. All conclusions contained in this report must be viewed with these limitations in mind. Considering these problems, West (2003: 75) concluded: "Whether the race of the driver is or is not used in the *initial decision* to stop any particular motorist is, and always will remain, unknown."

Legal Issues Relating to Bias/Racial Profiling Data Collection and Analysis

The findings and conclusions of any study involving bias/racial profiling are often used, or interpreted, in a number of ways, for a variety of purposes, by many factions. These studies often raise issues related to the management and administration of the agency, issues relating to

the recruiting, training and attitude of the officers, and issues related to the community, just to name a few. This section focuses strictly on the legal issues involved with this, or any, study of bias/racial profiling.

Civil Liability

Without a doubt, the central legal issue relating to any study of bias/racial profiling by a law enforcement agency is the degree to which the agency, or the individual officers employed by the agency, may be subject to civil liability for their actions. While the terms “bias profiling” and “racial profiling” are of relatively recent origin, and neither are legal terms, the practice of bias/racial profiling, if substantiated, allows victims to pursue civil claims against an offending agency, or officer, under a variety of legal theories. Although each legal theory has its own strengths and weaknesses, for a number of reasons, the theory employed by most plaintiffs, and the one that is arguably the most difficult for plaintiffs to obtain evidence and prove, is that of a Constitutional violation of the 14th Amendment’s Equal Protection Clause. Generally speaking, the standard required for a plaintiff to win in an Equal Protection claim is that the plaintiff must prove that other similarly situated individuals, of a different race, were treated differently. Likewise, proving, or disproving, disparity of treatment based on race should also be the focus of any study of bias/racial profiling. Thus, the key importance of any study on bias/racial profiling, from a legal perspective, is that the study’s findings and conclusions can become the evidentiary basis for supporting, or defending, such claims. In short, the data, and more importantly the findings and conclusions of the evaluators, of bias/racial profiling studies serve as the statistical evidence used by plaintiffs or defendants to support or defend the legal claims.

Several courts have addressed the issue of civil liability under the 14th Amendment based on a claim of bias/racial profiling and the evidentiary requirements needed to support such a

claim. These courts repeatedly emphasize the need for both plaintiffs and defendants to introduce valid and reliable statistical evidence establishing, or disproving, disparate treatment based on race. Evidence taking the form of statistics based on anecdotal sources, or data evaluated using unacceptable methodology, are universally rejected by the courts.

In *Chavez v. Illinois State Police*, 251 F.3d 612 (7th Cir. 2001), a typical Equal Protection lawsuit, the court went to great lengths to outline the validity and reliability standards required of evidence relating to the collection and/or analysis of data regarding bias/racial profiling. The court noted that statistical evidence may be used to establish that other similarly situated individuals, of a different race, were treated differently; however, to be admissible and of any relevance to the issues before the court, such statistical evidence must be collected and analyzed in a universally scientifically acceptable manner. Further, the court noted that the statistical evidence must be subject to rigorous methodological procedures and evaluated by persons with the academic credentials and practical experience to qualify as experts. The court specifically noted the inherent problems with statistical evidence relating to bias/racial profiling with regard to the following: establishing base lines, determining the quantity and quality of the data being collected, sample groups, and interpretation. Accordingly, if the statistical analysis and findings and conclusions of this, or any, study of bias/racial profiling are to be of any value from a legal perspective, the study should comply with the evidentiary requirements currently being imposed by the courts.

This study seems to satisfy the admissibility requirements for evidence relating to disparate treatment based on race, currently being imposed by courts in bias/racial profiling cases. This study employed sound methodological techniques with regard to the collection and

analysis of data and was performed by individuals with nationally recognized expertise in statistical analysis.

Disclosure of Information/Records

Although generally not rising to the level of concern as civil liability, law enforcement agencies engaged in the collection of information and analysis of data, whether related to bias profiling or some other topic, must be familiar with the applicable statutes and/or ordinances governing the release of public records. Typically referred to as “Open Records Acts”, virtually all jurisdictions have enacted laws requiring certain records in the possession of police agencies to be released to the public. These “Open Records Acts” vary tremendously from jurisdiction to jurisdiction; however, in all jurisdictions, to some degree, the data collected as part of a bias profiling project will be subject to disclosure to the public, and to the media. Ideally, agencies will address this legal issue before initiating any data collection to ensure they know, going into the project, what records, if any, will be subject to disclosure, and under what circumstances.

The fundamental questions to be resolved relating to the release of data and information collected as part of a bias profiling project are:

- 1) Who, exactly, is the custodian of the data and information relating to the project? [This can become very complex in situations where agencies contract all, or part, of the project out to a consultant.]
- 2) What records are, and are not, subject to disclosure?
- 3) Can any of the information collected be “masked” or otherwise shielded from disclosure? Must any information be shielded from disclosure?
- 4) If large data sets are subject to disclosure, what format is required?
- 5) Where disclosure of large, bulky, data sets is required, what costs, if any, may be recovered by the agency?
- 6) Is the analysis/interpretation of the data subject to disclosure also?

- 7) When must data/information be released? [This can pose difficulties in multi-year, on going, projects.]
- 8) How long must the data/information be retained and who had responsibility for archiving the materials?

Conclusion

It is imperative that agencies practice proactive risk management with regard to the collection and analysis of data relating to bias/racial profiling. In addition to serving as the basis for addressing a host of management, administration and personnel issues, bias/racial profiling studies can also serve as useful tools for developing statistical evidence for defending against lawsuits alleging civil rights violations. However, experts in statistical analysis must conduct any study using scientifically acceptable methodology. The statistical analyses involved in this study appear to satisfy the legal requirements currently being imposed by the courts and the findings and recommendations should serve as valid evidence relating to allegations of bias/racial profiling. Finally, a determination should be ascertained as to what degree the information/records will be subject to disclosure under the applicable Open Records laws.

Literature Review

Several studies have attempted to resolve problems related to the measurement and interpretation of police activity during traffic stops. There are two possible other sources of data concerning traffic stops. The first is to survey persons stopped by the police. One nationwide survey² produced the following results:

- Blacks are more likely than whites to see profiling as widespread (81.6 vs. 60.2%).
- Almost all whites (95%) claim never to have been the victims of racial profiling.

²These findings are a summary from a nationwide random-digit-dialing telephone survey of 2006 respondents conducted by the Gallup organization between September 24 and November 16, 1999. The findings are representative of adults living in telephone households in the continental U.S.

- Four in ten blacks report having been the victims of racial profiling.
- Nearly three-quarters (72%) of the young (18-34) black males claim to have been the victims of racial profiling at least once.
- Young black women are 13 times more likely (37.7 vs. 2.9%) to say that they have been stopped because of their race.
- Blacks are three times (39% vs. 12.8%) to have unfavorable opinions of their local police and four times more likely to be critical of their state police (Weizer & Tuch, 2002: 443).
- Middle class blacks appear to be more susceptible to traffic stops than disadvantaged blacks. Their greater mobility increases their chances of encountering the police outside their neighborhoods where they may be deemed 'out of place' by police. Also, African Americans driving expensive cars raise suspicion among the police that the drivers may be involved in the drug business or some other criminal enterprise (Weizer & Tuch, 2002: 451).

These findings parallel those from another nationwide survey. *The 1999 National Survey of Contacts Between the Police and the Public* is the result of a nationally representative sample of persons that was conducted as a part of the annual National Crime Survey by the U.S. Bureau of Justice Statistics.³ A multivariate analysis of this data set reached five conclusions (Lundman & Kaufman, 2002: 215):

1. Citizens report that police nationally make traffic stops more frequently of African-American male drivers.
2. African-American drivers (both men and women) as well as Hispanic male drivers are significantly less likely than white men to report that police had a legitimate reason for making the traffic stop thereby suggesting either police recourse to pretext when stopping drivers of color or varying situational definitions between whites and citizens of color or both.

³To be included in this survey, subjects had to be 16 years of age or older and they first answered a long series of questions about crime victimization and then a much shorter series of questions lasting 5 to 10 minutes about contacts they had with police in the previous 12 months. Of the 80,543 randomly selected subjects, 7034 (8.7% of the total sample) reported at least one traffic stop in which they were the driver. Respondents with at least one traffic stop were then asked additional questions, including their perception of the legitimacy of the stop and their perception of whether police acted properly. When the subjects reported more than one traffic stop, they were asked to provide information on the "most recent occasion, thereby providing data for all 7034 drivers with at least one stop (Lundman & Kaufman, 2002: 199-200)

3. African-American men and Hispanic men are significantly less likely than white men to report that police acted properly during the traffic stop encounter (as are African-American women compared with white women), thus reinforcing the existence of special problems associated with encounters between police and citizens of color.
4. Although the reactions of Hispanics and others vary somewhat by gender, beliefs in the legitimacy and propriety of police actions are framed by a stark polarity between African Americans and whites.
5. There is a pressing need and ample scholarly room for additional research on “driving while black” using triangulated data - police-reported, citizen-reported, and observer-reported data.

Such triangulated (data from several different sources) data could help validate the material gathered on the attributes and demeanor of both the police and the persons they stopped as well as information on the persons that were not stopped by the police (Lundman & Kaufman, 2002: 214). This information could provide a true estimate of the baseline of drivers on the streets at a particular point in time.

The report itself contained figures on police traffic stops that can be considered representative of the nation as a whole in 1999. Here is a summary of some of the findings of the study (Schmidt et al., 2002: 1-2):

- The police stopped 10.3% of all drivers.
- Whites were 76.7% of licensed drivers and 77% of drivers stopped by police. Blacks were 9.8% of licensed drivers, but 11.6% of stopped drivers. Hispanics accounted for 9.9% of licensed drivers and 8.4% of stopped drivers.
- Among drivers age 16-24, blacks (17.1%) did not differ significantly from either whites (20.1%) or Hispanics (15.5%) in the probability of being stopped.
- The average number of stops was greater for young black males (2.7) than young white males (1.7) and marginally greater than for young Hispanic males (1.8).
- Among drivers stopped for speeding, blacks (75.7%) and Hispanics (79.4%) were more likely than whites (66.6%) to be ticketed.

- Police were more likely to conduct a search of the vehicle and/or driver in traffic stops involving black male drivers (15.9%) or Hispanic male drivers (14.2%), compared to white male drivers (7.9).

However, these data, like the police generated traffic stop data, are also self-report studies.

As a survey, the data are also limited by the ability of the respondents to recall information concerning police traffic stops. In fact, the report itself cautions, “analysis of data from the 1999 Police-Public Contact Survey cannot determine whether or to what extent racial profiling exists” (Schmidt et al., 2002: 3).

A multivariate study conducted by Smith and Petrocelli (2001) examined over 2,600 traffic stops conducted by the police in Richmond, Virginia during February and March of 2000. This study was based upon agency-generated records of traffic stops. Using 1990 Census information as a benchmark, the study concluded that African Americans were disproportionately stopped. Other differences between races determined that whites were more likely to be subjected to consent searches. Minority drivers were more likely to be warned while it was more probable that white drivers would be ticketed or arrested. Therefore, while African Americans were more likely to be stopped, whites were more likely to be the target of official police action.

One study has examined police stop behavior through the use of both observation and official data (Meehan and Ponder, 2002a & b). Trained observers recorded drivers on the roadways.⁴ Official data were collected from mobile data terminals (MDTs).⁵ Thus, the official data were regularly collected by the police rather than for a special purpose.

⁴“Vehicles were sampled on the 15 major roads that run north to south and east to west in this community. A two-person team in an observation car was randomly assigned one of eight designated travel routes (called sorties) that they drove for three-hour time windows. Observation time windows spanned 24 hours a day excluding 3 a.m. to 6 a.m. because of the low traffic volume. Each sortie entailed citywide coverage, and the starting points were randomly chosen (Meehan & Ponder, 2002b: 413).”

The research determined that:

- Whites (87% of the drivers) made up only 73% of the proactive police queries.
- African American drivers are twice as likely as are white drivers to be queried.
- Effect changes as African Americans move from one area of the city to another.
- The African American stop rates of officers in the nonborder sectors are three times greater than African American drivers on these roads.
- African American drivers are not only surveilled because they are “out of place”, but are also more likely to be stopped in these areas.
- African American hit rates are somewhat higher overall, an analysis by place shows that *queries are the highest for African Americans where hits are the lowest*. Therefore, considerations of place, not productivity from hits, drive the African American query rate.
- Level of MDT use was also a significant predictor of higher levels of racial profiling. The 12 high MDT users accounted for 43% of all proactive African American queries. Their rate of use was 1.6 times greater than the low MDT users.
- Officers patrolling in whiter areas had a higher percentage of African American queries.
- The police did not record about 25 percent of the stops made (Meehan & Ponder, 2002b: 420).

These authors concluded: “our data strongly suggest that police expectations about place – who belongs and where they belong – play a very large role in police behavior. Furthermore, we have argued that these expectations about place do not exist in a social vacuum: They reflect community attitudes and practices, notably, residential segregation” (Meehan & Ponder, 2002a: 309-310).

The Meehan and Ponder study was conducted in a suburban area. It would be difficult and expensive (in terms of both time, persons, and money) to conduct such observations in a

⁵ The MDT query database consists of all 5,604 MDT queries made by 111 patrol officers working during seven days (24 hour periods) spanning two weeks in April 2000. In this article, we analyze 3,716 queries that occurred in *proactive* time windows during which, we argue, officers have more discretion whether to query the MDT. The analysis focuses on the queries that officers *chose* to initiate when they were not engaged in reactive work (Meehan & Ponder, 2002b: 413).

large city. One possibility to conduct such a study is to use a data collection task force. The task force approach has the potential to collect accurate data on roadway usage and the demeanor of police and the persons they stop. It also leads to a more constructive dialogue once the analysis is completed. It should have “full representation from all interested segments of the local community” including patrol officers, union leadership, a cross section of different communities (neighborhood residents, religious leaders, civil rights group representatives) “bound by a willingness to regulate rather than sanction police action” (Farrell, McDevitt, & Buerger, 2002: 371). Such an approach would require a massive training effort and consistent recording by the observers. It may well be impossible to actually determine whether racial profiling is a problem in police traffic stops without intrusive forms of documentation, such as in car cameras and voice recording of all police traffic stops. Even with this type of objective observation, the officer’s internal decision-making processes would go unmeasured.

Officer Discretion

The surfacing of race as a predictor of some stop event does not necessarily indicate “racial profiling” by any officer. The question is whether an officer abused his or her discretion in deciding what action to take or not to take in any particular stop event. The key is the issue of discretion, which is contingent on various factors. That is, discretion levels are not constant among stops, among officers, among various stop events and characteristics, but vary constantly—even within one particular stop event.

For example, it is true that officers probably have more discretion at the time of the initial stop than perhaps any other time during the event. This, too, however, is influenced by the severity of the potential offense for which the person is under stop consideration, time of day, traffic, weather conditions, etc. Among these, severity of the potential offense is probably the

most important. A driver exceeding the speed limit by 8 miles per hour is less likely to be stopped than a driver exceeding the limit by 20 miles per hour. Location also is important. “Minor” speeding in construction zones and school zones are more likely to get a driver stopped than “minor” speeding on the interstate. Penal code violations, equipment/registration violations and vehicle violations are events that involve little or no discretionary decision-making by the officer. It also is crucial to determine whether the officer is responding to a call for service (CFS) or initiating the stop on his or her own. Obviously, officers have little discretion when CFS are involved.

After the initial decision to stop, the officer is faced with other decisions. These, too, are influenced by various events and characteristics. For example, if an officer makes an initial stop and discovers “plain view” contraband, his or her actions after that point are less discretionary and more guided by policy.

Whether to give a warning or a citation may be a discretionary decision on the part of the officer, depending on all the events surrounding the initial stop. For example, most officers will cite a driver who exceeds the posted speed limit by 20 miles per hour, but may only issue a warning when the violation is less extreme, but extreme enough to be stopped in the first place.

In addition, several unmeasured variables are likely to influence the decision-making after the initial stop decision is executed. For example, an officer initially may stop a driver who is going over the speed limit by only 7 or 8 miles per hour with the intention of issuing a warning. Certain events or characteristics during the stop, however (e.g., driver demeanor), may result in the issuance of a citation instead.

Current Study

This report summarizes the analysis of traffic stop data collected by the ICPD for the period January 1, 2002 to December 31, 2002. The report begins with a brief discussion of the background of the study, provides a detailed discussion of the data analysis process and findings, and concludes with recommendations for future data collection and analysis efforts.

Background

In 2001, data were collected about traffic stops by the Iowa City Police Department over a 9-month period (April 1 – December 31) to determine whether those data might reveal a pattern of discrimination by race. A report was prepared and results were presented to the Chief of Police, members of the Command Staff, and to the City Council of Iowa City. That report concluded that race did not appear to be a factor in traffic stop events during 2001. Race appeared as a factor in only one event; drivers who were of a certain age group, who were Iowa residents, and who were “other persons of color” were more likely stopped for moving violations. The data in this report focuses primarily on the 2002 data, but makes some comparisons to the 2001 data where possible.

Methods

Data Collection

Data were collected about each traffic stop (N = 13,459) made by officers of the Iowa City Police Department over the period between January 1 and December 31, 2002. Officers were required to enter data into mobile data terminals (MDTs) after each traffic stop interaction. A copy of this form is contained in Appendix B.

When an officer would initiate a traffic stop, he or she would call that stop into the dispatcher, who would document the contact. After the stop, the officer would fill out a screen

on the MDT located in the vehicle. These data were centrally stored in a Microsoft Excel spreadsheet. Each stop became a case for analysis. The Excel file was subsequently transferred into SPSS for analysis.

Collection and Measurement Concerns

During the first attempt at data collection during 2001, several data collection issues arose. However, most of these were resolved before data collection began during 2002. One of the main concerns was that officers would make traffic stops, yet fail to record those stops for this study. Reconciliation between stops recorded by computer-aided dispatch (CAD) and stops entered into the MDT terminals, however, indicated a high degree of correlation. Specifically, correlation between CAD records and entries into SPSS ran between 95-100% each month for the 12-month duration of this study. Therefore, it is safe to say that the majority of stop data was captured and available for analysis.

The primary concerns with the current data involve discrepancies in some categories. For example, there were 958 arrests, but only 411 of those arrests involved a search. Standard police practice would seem to dictate that everyone arrested should be searched. In a similar vein, there were only 135 stops in which a request was made for consent to search the vehicle or the person (or both). However, officers checked "Type of Search = Consent" for 231 cases.

Part of the problem may be that there is no distinction between drivers and passengers on the Iowa City form. Therefore, if an officer stops a vehicle and ends up searching or arresting one of the passengers, he or she may be confused as to what information to record and for whom. For example, an officer who arrests a passenger may record an arrest for that stop, but not a search since the driver was not searched. Another problem may be that most of the data involve

multiple responses. Officers may check that the type of search conducted was for officer safety and for probable cause.

Future data collection should clearly distinguish between actions taken against drivers and actions taken against passengers. Furthermore, it may be desirable for officers to indicate the primary reasons for actions instead of indicating all possible reasons (e.g., primary type of search; primary reason for stop).

Finally, supervisors should check each form for consistency. The number of searches should correlate with the types of searches; the number of arrests should have corresponding searches.

Variables

Information was collected about the driver, the officer, and the stop event. Driver demographics included race, sex, age, residency, and vehicle registration. The only information collected about the officer was officer badge number. More data about the officer, such as sex, race, age, time in service, etc., can be entered at a later date. Several items of interest pertain to the stop event, including the date and the time of day.

One broad category related to the stop event involved the “reason for the stop.” These were coded dichotomously (yes/no) and included the following: moving violation, equipment/registration violation, criminal offense, other violation, call for service/suspect or vehicle description, pre-existing knowledge or information, special detail, and other.

Information regarding any “search” that might have been requested or conducted also was collected and included the following dichotomous variables: consent search requested, consent search of vehicle requested, consent search of person requested, consent search

conducted, officer safety search conducted, search incident to arrest conducted, and probable cause search conducted.

Data pertaining to any “property seized” also was collected and included the following dichotomous variables: property seized, alcohol seized, weapons seized, money seized, narcotics seized, evidence seized, other seized.

The “outcome of the stop” also was measured, and included the following dichotomous variables: no action, citation, arrest, warning, and field interview. Finally, information also was collected about whether any “force” was used during the stop and whether the force was against the driver or a passenger.

Originally, 38 variables were measured and entered for analysis. Some of these were recoded for analysis. For example, driver race was collected in 3 categories (Caucasian, Black, and Unknown). These were collapsed into 2 categories for the analyses (White and Other). Ages were grouped into 5 categories for ease of understanding. Similar processes were done with the time-related variables, such as time and month of contact.

Descriptive Analyses and Results

Driver Demographics

A summary of driver descriptive data is contained in Table 3 below. Detailed charts are contained in Appendix C. The variables related to the driver involved in the stop were the following: race, sex, age, residency/registration. Drivers stopped were mostly White (84%), male (63%), between the ages of 21 and 30 (44%), Iowa City residents (62%), with Iowa vehicle registrations (88%).

Race. More than 8 in 10 (84%) of stopped drivers were White and about 16% were “Other,” including Black (15.5%) and “Unknown” (.2%) (See Chart 1).

Sex and Sex by Race. Most (63%) stopped drivers were male. A higher percentage of Other males (71%) than White males (62%) were stopped, whereas a higher percentage of White females (38%) than Other females (30%) were stopped (See Charts 2 & 3).

Age. The median age of drivers stopped was 23, with most stopped drivers being 21. In fact, about 7 in 10 drivers stopped were age 30 or younger. When the race of the drivers is considered, the youngest (under 21) and oldest (over 40) White drivers are more likely to be stopped, whereas Other drivers between 21-40 are more likely to be stopped than Whites (See Charts 4 & 5).

Residency and Vehicle Registration. Of all drivers stopped, less than two-thirds (62%) were Iowa City residents and 12% were Johnson County residents. Approximately 1 in 5 drivers (20%) were from out of state, and about 6% were from other locations (See Chart 6). This is probably characteristic of a city with commuters and a large college campus. Given this, city census figures should NOT be used as a baseline for comparison to the overall stop data.

Table 3: Summary of Driver Demographics

Variable	N	%
Race		
White	11346	84.3
Other	2113	15.7
Gender		
Male	8500	63.2
Female	4941	36.8
Age		
Under 18	1199	8.9
18-20	2239	16.6
21-30	5964	44.3
31-40	1719	12.8
Over 40	2338	17.4
Residency		
Iowa City	8276	61.6
Johnson Co.	1664	12.4
Other	3497	26.0

Stop Event

Table 4 below contains summary information about selected stop events. Again, detailed charts are contained in Appendix C.

Temporal Distribution. In general, stops were fairly evenly distributed throughout the year. The most active month for stops was March (10.1%), and the least active month was June (6.9%). The time distribution of stops was unusual, with 44% of all stops occurring between 11pm and 7am (See Charts 7 & 8).

Reason for the Stop. In general, drivers were stopped for moving violations (70%) or equipment/registration violations (24%), were not searched (96%), and were released with a warning (58%) (See Chart 9). Only 8 cases (0.1%) involved use of force, so this variable was not used in any analyses. Likewise, only 155 (1.2%) cases involved any type of property seizure (mainly narcotics) so this variable is not considered further.

Reason for the Stop by Race. There was very little difference in reason for stop by race. Both White and Other drivers were stopped for each reason in similar proportions, as a whole. The only exception is stops for “pre-existing knowledge” where Other drivers (2.7%) were stopped at over three times the rate than White drivers (.7%). Of course, this reason involves very little, if any, officer discretion.

Searches by Race. As previously mentioned, only 4.5% of all stops involved a search of either the driver or the vehicle. Most stops involved searches incident to arrest (64%) and/or consent (38%). This percentage adds to more than 100% because officers could conduct a search for more than one reason. White drivers (65%) were more likely than Other drivers (61%) to be searched incident to arrest, while Other drivers were more likely to be searched with consent

(45% versus 36%), to be searched for officer safety (6% versus 2%), and to be searched due to probable cause (9% versus 7%) (See Chart 10).

Outcome of Stop. The most common stop outcome was a warning (54%), followed by a citation being issued (38%). Only about 7% of all the stops resulted in an arrest. Other drivers and White drivers were about equally likely to be subject to a field interview (0.2%) and to have “no action” as a stop outcome (2%). White drivers (41%) were more likely than Other drivers (39%) to be issued citations, but Other drivers were more likely to be warned (60% versus 58%) and to be arrested (9% versus 7%) (See Chart 11). This may be partially explained by the fact that Other drivers were more likely than White drivers to be stopped for “pre-existing knowledge” and being stopped for this reason was significantly related to being arrested. In fact, 34% of drivers stopped for pre-existing knowledge were arrested, compared with only 7% of drivers stopped for other reasons.

Table 4: Stop Characteristics

Variable	N	%
Reason For Stop		
Moving Violation	9439	70.1
E/R Violation	3249	24.1
Criminal Offense	39	.3
Other Violation	918	6.8
Call for Service	95	.7
Pre-Existing Knowledge	137	1.0
Special Detail	23	.2
Other	68	.5
Search Conducted		
No	12857	95.5
Yes	602	4.5
Person	107	17.7
Vehicle	120	19.9
Stop Outcome		
Warning	7845	53.9
Citation	5470	37.6
Arrest	958	6.6
No Action	260	1.8
Field Interview	27	0.2

Summary of Descriptive Analyses

Overall, the descriptive analyses seem to indicate that stops were fairly evenly distributed throughout the department and across the races. Although the percentages may not be exactly the same, they are not different enough to signify any type of glaring over- or under-representation.

However, descriptive statistics are very superficial and only give the broadest picture of the data. This type of analysis lacks inferential ability. One cannot use it to predict events or to describe the relationships among characteristics and events. Descriptive statistics only should be used to describe the state of affairs. They will not help to: 1) understand why the percentages are the way they are; 2) determine the relationships among the characteristics and events; 3) predict one outcome or event over some other outcome or event.

Providing a description of the data should only be the first step in a thorough analysis. More comprehensive multivariate analysis is required to understand the relationships between and among variables, and to understand how these variables interact with one another to produce a certain reality, as portrayed by the descriptive statistics. In this case, a procedure called chi-square-automatic interaction detector (CHAID) was used to more fully explore the relationships between and among the various variables.

Descriptive Data Comparisons Between 2001 & 2002

In 2002, ICPD documented 13,459 stops, compared to 9,702 stops during the last 9 months of 2001. Therefore, the number of stops per month was fairly consistent between the two time periods (2001: about 1122 per month; 2002: about 1078 per month).

Moreover, while there were some problems during 2001 with consistency of reporting between the CAD system and the MDTs, correlation of these data in 2002 was much improved.

For the year, there were 13,657 calls recorded by the CAD system and 13,462 calls recorded in the MDTs. This represents a 98.6% correlation between the two systems and greatly enhances the validity of the data reported herein.

When comparing the descriptive patterns from 2001 to 2002, there was amazing consistency. Percentages from 2002 are nearly identical to percentages from 2001. The only possible exception is stops by vehicle registration. In 2001, only 13.5% of stops involved non-Iowa drivers. In 2002, this percentage was 20%. There was little difference in any other factor (e.g., reason for stops, searches, sex, race, and age) between 2001 and 2002.

CHAID Analyses & Results

This portion of the report examines the relationship between three demographic predictors (age, race, sex), vehicle registration (Iowa/non-Iowa) and several events related to the traffic stop. These events involve the following questions:

- 1) Reason for the Stop (moving violation, equipment/registration violation, pre-existing knowledge, other violation, crime, special detail, other)?
- 2) Search Conducted (vehicle search or driver search)?
- 3) Type of Search?
- 4) Property Seized?
- 5) Outcome of the Stop (warning, citation, or arrest)?

Some of these decision points also were examined as predictors of subsequent events. For example, whether property was seized might be related to whether a driver was warned, cited, or arrested.

Basically, CHAID (chi-squared automatic interaction detector) is a multivariate technique that segments the sample of traffic stops and reveals the interrelationship between the potential predictors and the events involved in the stop. The CHAID procedure generates a “decision

tree” that identifies significant predictors or each decision in question. In effect, the procedure “cross-references” each event with each potential predictor.

For example, if we are interested in the factors related to whether a person was arrested, the program examines all the cases in which individuals were arrested. It then examines all the factors associated with each case and determines the ones that keep occurring in conjunction with an arrest. Then, the program compares that state of affairs with the cases in which drivers were NOT arrested. In this way, it is possible to determine whether factors are really predictive of an event or whether observed differences between those arrested and those not arrested occurred purely by chance.

For example, if our descriptive analysis determines that 30% of the drivers arrested were white and 70% were black, one might be tempted to conclude that there was a racial bias in arrests. However, the CHAID analysis would examine the cases and simultaneously consider all the other potential factors involved in an arrest. The decision tree that it generates might indicate that the most significant factor related to arrest is a stop for “pre-existing knowledge.” The analyses demonstrate which of the potential predictors (if any) had the strongest and most important relationship to the events or outcomes. In this case, the potential predictors were used to examine the five events listed above to determine if they were actually related or whether any observed differences occurred purely by chance.

The advantage of multivariate analysis is that it reveals the strongest predictors of the event in question. In other words, if race is a factor, it will emerge independently of the other factors. If race is not a factor, then the one or more of the other predictors will emerge, or none of the selected predictors will emerge as related to the events/outcomes. If no significant

predictor emerges, it either means that the analyses did not include the most relevant predictors or that no measured factor is related to the event.

This attribute is particularly relevant for a traffic stop situation in which many things go unmeasured. For example, one cannot measure the quality of the personal interactions between an officer and the individuals stopped. One cannot measure the demeanor of the driver. In this case, one cannot measure any information about the passengers in the vehicle. Finally, extraneous factors such as the weather, the time of year, the social environment, and the location are not measured in this study.

CHAID Results

Results from CHAID analyses using the 5 event categories and the potential predictors outlined above resulted in four events with significant predictors. Being stopped for moving violations and equipment/registration violations and the two stop outcomes of citation and arrest had subgroups of drivers with rates significantly higher than the overall rates for the entire stopped population. Having a search conducted, type of search, having property seized, and being warned as a stop outcome had no significant predictors.

Reason for the Stop

Reasons for stops included the following: 1) moving violation; 2) equipment/registration violation; 3) other violation; 4) pre-existing knowledge; 5) criminal offense; 6) special detail; and 7) other. The only reasons with significant predictors were being stopped for a moving violation and being stopped for an equipment/registration violation.

Moving Violations: Of all the traffic stops made in 2002, 70.2% (9,438/13,453) were made for moving violations. This is the base rate for moving violations. To determine whether

any subgroup of drivers was stopped for this reason disproportionately, one must compare the rates among those subgroups to this base rate of 70.2%.

The sole predictor of a moving violation was the **age** of the driver; 76.6% (1,011/1,320) of all stopped drivers age 47 and older were stopped for a moving violation. No other significant predictors emerged. There was no evidence of racial bias in drivers being stopped for a moving violation.

Equipment/Registration Violations: Of all the traffic stops made in 2002, 24.2% (3,249/13,453) were made for equipment/registration violations. Again, the sole predictor of this type of stop was **age**; 26.7% (1,952/7,303) of all drivers age 19 – 30 were stopped for equipment/registration violations. There was no evidence of racial bias in stops for this reason.

Outcome of the Stop

Citation: Of all the stops made by the Iowa City Police Department in 2002, a citation was issued in 40.7% (5,470/13,453). The most significant predictor of a citation was **age**; 45.1% of all drivers age 30-47 (1234/2736) were cited. There were no other significant predictors of a citation. There was no evidence of racial bias in drivers being issued citations.

Arrest: About 7% (958/13,453) of the entire group was arrested. The most significant predictor of being arrested was **age**; 8.5% (629/7,376) of all drivers age 20-38 were arrested. Within this age group, the next strongest factor was the **sex of the driver**; 10.2% (492/4,826) of all men age 20-38 were arrested. Again, race was not a factor in the decision to make an arrest during a traffic stop.

Summary of CHAID Analyses

Only four events involved significant relationships to tested predictors. In every case, age (in different groupings) was the primary predictor of decision-making. Race failed to appear as a significant predictor in any of these stop events.

Given the results of the exhaustive CHAID analysis, we conclude that driver race was not a significant predictor of any of the events of interest. These data do not, however, address the possibility that individual officers may be engaging in racially biased practices, both in determining which drivers they will or will not stop and in determining what steps to take after the initial contact. These data suggest that stops conducted by the Iowa City Police Department, as a whole, during the study period, do not involve the race of the driver as a significant factor related to events and outcomes.

CHAID Comparisons Between 2001 and 2002

In 2001, three events involved significant predictors: being stopped for a moving violation (age); being cited (reason for stop); and being warned (search). Race of driver (being an “other person of color,” appeared only once, as a third-order predictor (along with age and residency) in being stopped for a moving violation. In 2002, four events were significantly related to the age of the drivers involved, but race never surfaced in any of the events.

The base rates for events were consistent, although some of the predictors changed. The relationship between being stopped for a moving violation and age is clear. Further, the absence of race as a primary predictor in either year is telling; stops and stop characteristics or events in Iowa City do not appear to be related to the race of the driver.

Conclusion and Recommendations

The Iowa City Police Department, as a whole, does not appear to be systematically stopping drivers based on their “racial or ethnic status or characteristics” as defined by departmental policy (Racial Profiling, General Order 01-01). While the percentages of races were not always equal in some categories, the discrepancies are most likely explained by factors other than the driver’s race. For example, the age and sex of the driver were important explanatory factors in most events. This makes sense given that we know driving behavior to be different among various ages and between the sexes; younger drivers drive differently than older drivers and males drive differently than females.

This study used a fairly comprehensive set of data collected about a population of stops over a 12-month period. The data were collected in a consistent manner, with only minor consistency problems that can be easily addressed with more supervisory oversight. The statistical analysis used to evaluate the data was rigorous, thorough, and conducted by academicians with expertise in the collection, analysis, and interpretation of such data. Further, this analysis was conducted on a contractual basis with researchers from the University of Louisville in Louisville, Kentucky, providing a level of objectivity that is necessary to avoid any conflicts of interest or appearances of impropriety. These factors have yielded valid data, making valid conclusions highly likely.

Moreover, the legal considerations set forth by the courts have been met, making legal actions against the Iowa City Police Department based on accusations of “racial profiling” very unlikely. However, the Department must still recognize that this does not preclude the actions of any one officer becoming suspect. Our findings do not conclude that such profiling might not be occurring against individual citizens by one or more individual officers. This type of

discrimination on an individual level, however, is virtually impossible to detect or to prove given the type and amount of discretion that officers must use in the completion of their duties. These matters are more likely to be discovered through administrative and supervisory vigilance, and through community awareness, rather than through the collection and analysis of traffic stop data.

The Iowa City Police Department can continue to monitor their traffic stop activities. The consistency between 2001 and 2002 suggests that this department is conducting traffic stop activities with little regard for driver characteristics. The fact that the age of the driver (and the sex of the driver in one instance) surfaces as a predictor of some stop outcomes and events does not necessarily indicate any sort of age or sex “bias,” but may just be that drivers of different ages and sexes drive differently. In fact, we know this to be true given data collected by insurance companies to assess the driving behaviors of drivers within certain age and sex categories.

It is suggested that the department continue to collect data and monitor itself for any changes in these patterns. In this way, data can be compared from year to year to insure that race never surfaces as a predictor of events. Second, as previously mentioned in the 2001 report, census population data should not be used as a baseline. The CHAID analysis provides its own baseline by providing the overall percentage, to which different subgroups of drivers (based on race, sex, age, etc.) can be compared. Further, the compilation of trend data over several years will provide the department with its own descriptive baseline.

A third recommendation involves the continued training of all officers in regard to departmental policy, data collection procedures, and the results of the analysis. Officers collecting the data must have a thorough understanding of the project in order to ensure more

accurate and complete data collection and entry. In a similar vein, supervisors must be proactive in ensuring line officers understand the policies and procedures related to the project.

Supervisors also should identify officers who require additional training or closer supervision to ensure adequate understanding of the data entry procedures as well as policy compliance. Further, as suggested earlier, supervisors should be required to check for consistency within the data reported by the officers. For example, if the departmental policy is that all arrested drivers are searched, supervisors should check to insure that this policy is being followed.

One of the recommendations from 2001 pertained to the correlation between CAD entries and MDT entries. Obviously, with correlations consistently in the 90-100% range, this recommendation has been taken to heart. The department should continue to monitor these correlations to insure that all stops are recorded by both systems.

In terms of the content of the data collection forms, a few data elements could be added to the form. First, in attempt to control for variations in traffic stop practices by location, the quadrant in which the stop occurred could be added to the form allowing for traffic stop identification. Second, possible discrepancies in actions taken during the stop event may be due to confusion over whether actions pertain to the driver or to the passenger. Therefore, it is recommended that the form distinguish these individuals and actions taken with respect to each. Finally, the form should include an item that indicates whether the driver was asked to exit the vehicle. These additions are consistent with data collection efforts throughout the country, require minor modifications to the form, and would aid in the development of a more accurate understanding of the key events that are likely to occur during traffic stops.

These recommendations are offered to improve the data collection process and to enhance the quality of the data. Several of these recommendations were communicated to the Department as the study progressed and have been addressed. Others are currently being implemented. Overall, the departmental administration has been receptive to recommendations for the improvement of their data collection and analysis, and seems genuinely concerned about the accurate measurement of traffic stop practices. Although no evidence of departmental discriminatory stop practices may be welcome news, the department now is faced with the responsibility of continual monitoring to maintain these practices for the continued benefit of both the department and the community.

Bibliography

- Bayley, D.H. (1986). The tactical choices of police patrol officers. *Journal of Criminal Justice*, 14, 329-348.
- Buerger, M.E. (2002). Supervisory challenges arising from racial profiling legislation. *Police Quarterly*, 5, 380-408.
- Buerger, M.E. & Farrell, A. (2002). The evidence of racial profiling: Interpreting documented and unofficial sources. *Police Quarterly*, 5, 272-305.
- Carrick, G. (2001). A police response to racial profiling. *Law and Order*, 49, 79-82.
- Engel, R.S., Calnon, J.M. & Bernard, T.J. (2002). Theory and racial profiling: Shortcomings and future directions in research. *Justice Quarterly*, 19, 249-273.
- Farrell, A., McDevitt, J., & Buerger, M.E. (2002). Moving police and community dialogues forward through data collection task forces. *Police Quarterly*, 5, 359-379.
- Grossi, E.L., Vito, G.F., West, A.D., & Edwards, T.L. (2002a). *Traffic stop practices of the Iowa City police department: April 1 – December 31, 2001*. Louisville, KY: Department of Justice Administration, University of Louisville.
- Grossi, E.L., Vito, G.F., West, A.D., & Edwards, T.L. (2002b). *Traffic stop practices of the Louisville police department: January 15 – December 31, 2001*. Louisville, KY: Department of Justice Administration, University of Louisville.
- Lundman, R. & Kaufman, R.L. (2002). Driving while Black: Effects of race, ethnicity, and gender on citizen self-reports of traffic stops and police actions. *Criminology*, 41, 195-220.
- MacDonald, H. (2003). *Are cops racist?* Chicago: Ivan R. Dee.
- MacDonald, H. (2000). *The burden of bad ideas: How modern intellectuals misshape our society*. Chicago: Ivan R. Dee.
- Mastrofski, S.D., Parks, R.B., Reiss, Jr., A.J., Worden, R.E., DeJong, C., Snipes, J.B., & Terrill, W. (1998). *Systematic observation of public police: Applying field research methods to policy issues*. Washington, DC: National Institute of Justice.
- Meehan, A.J. & Ponder, M. (2002). How roadway composition matters in analyzing police data on racial profiling. *Police Quarterly*, 5, 306-333.
- Meehan, A.J. & Ponder, M.C. (2002). Race and place: The ecology of racial profiling African American motorists. *Justice Quarterly*, 19, 399-430.

- Meek, J.G. (2001). Racial profiling and traffic stops conference. *Law and Order*, 49, 95-96.
- Newport, F. (1999). Racial profiling is seen as widespread, particularly among young Black men. *Gallup Poll, December 1999, #411*, 18-23.
- Ramirez, D., McDevitt, J., Farrell, A. (2000). *A resource guide on racial profiling data collection systems*. Retrieved from the World Wide Web: www.doj.org.
- Reiss, A.J. (1968). *The police and the public*. New Haven, CT: Yale University Press.
- Roberg, R., Crank, J. & Kuykendall, J. (2000). *Police & society*. Los Angeles, CA: Roxbury.
- Schmitt, E.L., Langan, P.A. & Durose, M.R. (2002). *Characteristics of drivers stopped by police, 1999*. Washington, D.C.: Bureau of Justice Statistics.
- Simms, J. (2000). *The Maryland I-95 corridor study*. University of Washington in Missouri. Retrieved from the World Wide Web: http://www.artsci.wustl.edu/~focus205/supreme/stats_i95.html.
- Smith, M. & Petrocelli, P. (2001). Racial profiling? A multivariate analysis of police traffic stop data. *Police Quarterly*, 4, 4-27.
- Weitzer, R. & Tuch, S.A. (2002). Perceptions of racial profiling: Race, class, and personal experience. *Criminology*, 40, 435-456.
- West, A.D. (2003). Chicken little, three blind men and an elephant, and racial profiling: A commentary on the collection, analysis, and interpretation of traffic stop data. *Journal of Forensic Psychology Practice*, 3, 63 – 77.
- Withrow, B.L. (2002). Race based policing: An initial analysis of the Wichita Stop Study. Paper presented at the meeting of the Academy of Criminal Justice Sciences, Anaheim, CA.
- Vito, G.F., Latessa, E.J., & Wilson, D.G. (1988). *Introduction to criminal justice research methods*. Springfield, IL: Charles C Thomas.
- Walker, S. (2001). *Police accountability: The role of citizen oversight*. Belmont, CA: Wadsworth – Thompson Learning.
- Zingraff, M. Warren, P., Tomaskovic-Devey, D. Smith, W., McMurray, H., Mason, M & Fenlon, C. (2001). *Evaluating North Carolina State Highway Patrol Data: Citations, warnings and searches in 1998*. North Carolina Department of Crime Control and Public Safety. Retrieved from the World Wide Web: www.nccrimecontrol.org/shp/ncshreport.htm

APPENDIX A

Iowa City Police Department Policy on Racial Profiling
General Order # 01-01
Section Code OPS-17

APPENDIX B

Iowa City Police Contact Sheet

APPENDIX C

Descriptive Charts

Chart 1: Percentage of Stops by Race of Driver

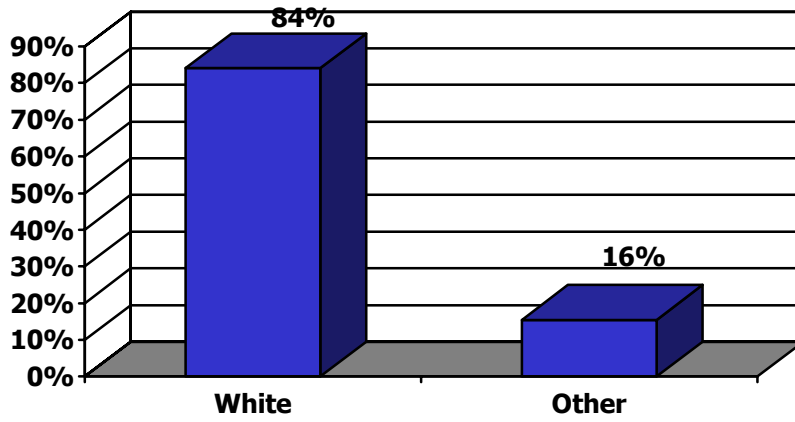


Chart 2: Percentage of Stops by Sex of Driver

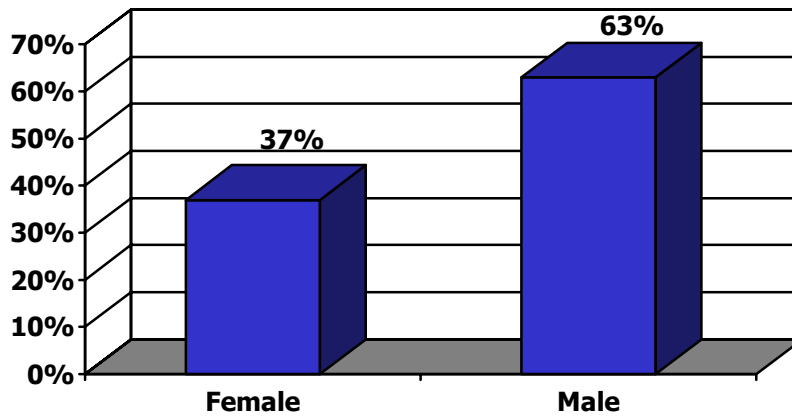


Chart 3: Percentage of Stops by Sex and Race of Driver

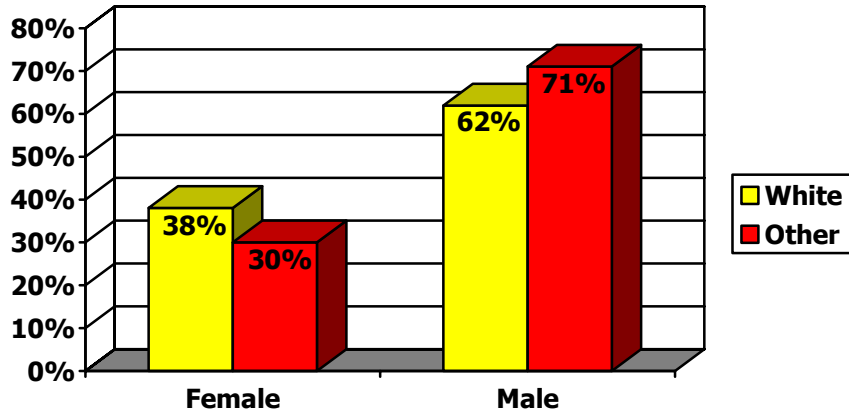


Chart 4: Age Categories of Drivers Stopped

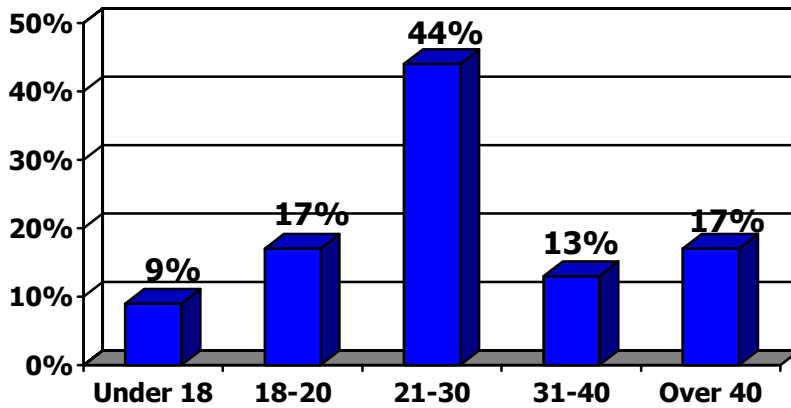


Chart 5: Percentage of Drivers Stopped by Race and Age

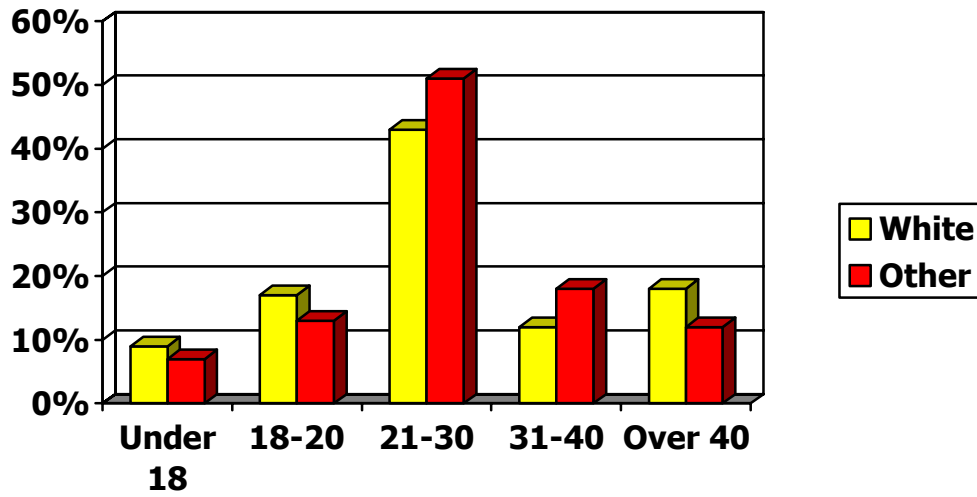


Chart 6: Percentage of Drivers Stopped by Residency/Registration

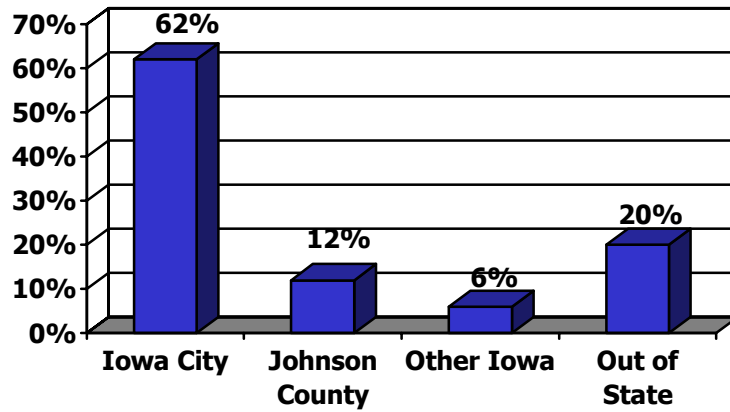


Chart 7: Percent of Stops by Month

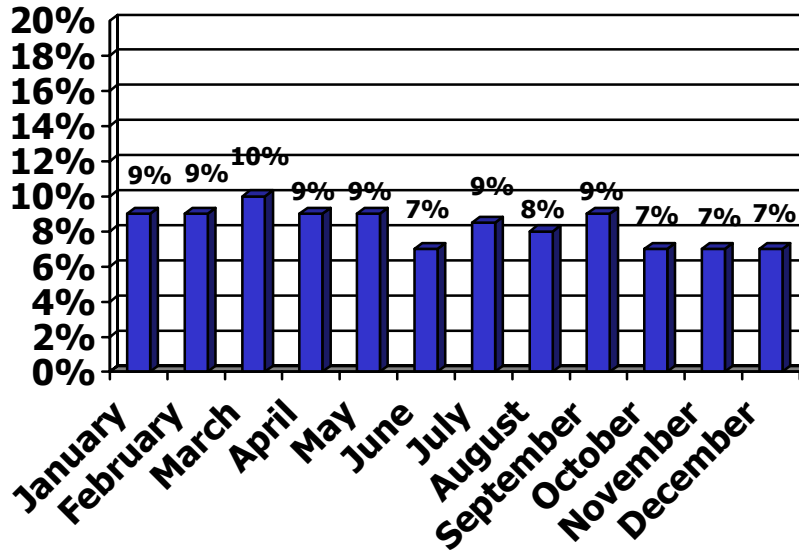


Chart 8: Percent of Stops by Time Period

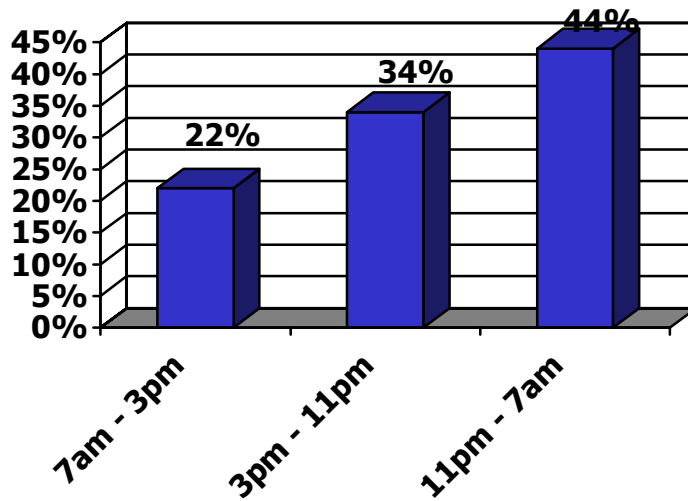


Chart 9: Reason for the Stop

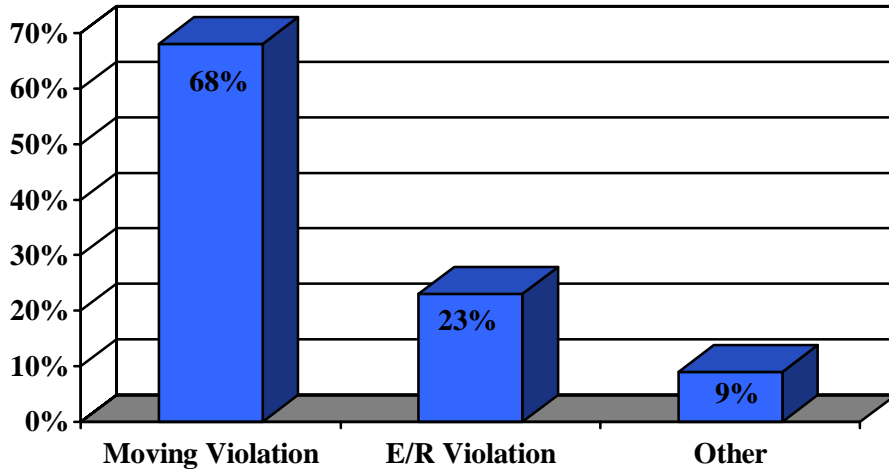


Chart 10: Percentage of Searches (n = 602) by Type and Race of Driver

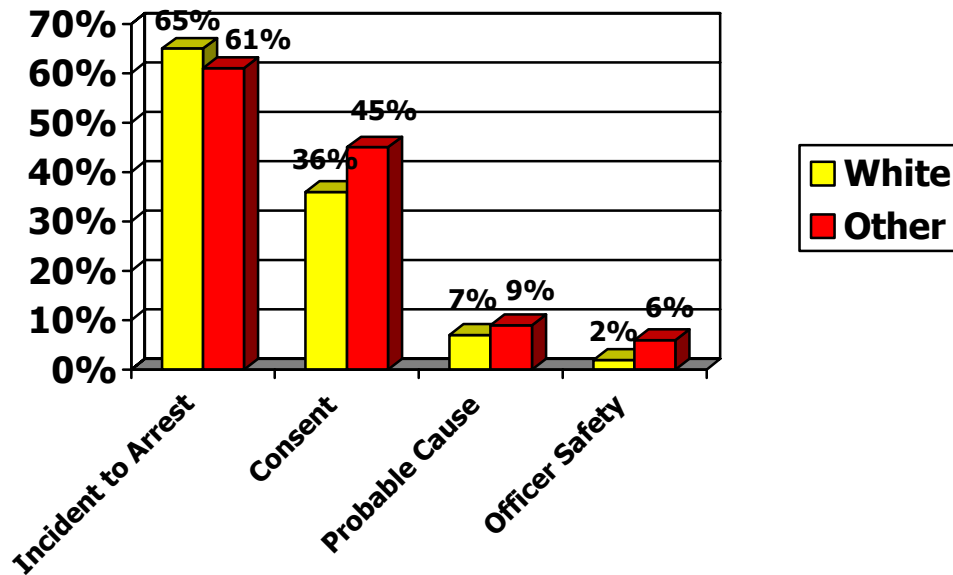


Chart 11: Percentage of Drivers Stopped By Outcome and Race

