❂ SEARCHING FOR THE DENOMINATOR: PROBLEMS WITH POLICE TRAFFIC STOP DATA AND AN EARLY WARNING SYSTEM SOLUTION

Samuel Walker
University of Nebraska at Omaha

❂ Abstract

In response to widespread allegations of racial and ethnic discrimination in traffic stops, a practice that has been labeled "racial profiling," law enforcement agencies are now collecting data on traffic stops that include the race or ethnicity of drivers. Interpreting these data to determine whether a pattern of race discrimination exists poses enormous difficulties. Specifically, it is not clear what baseline (often referred to as "the denominator") should be used to assess the racial and ethnic distribution of people stopped. Using the first traffic stop data reports from the San Jose Police Department as a case study, this paper examines baselines that are commonly used or discussed as appropriate. The paper argues that resident population data and/or official crime data are not adequate as baselines. As an alternative, the paper proposes an approach based on police early warning systems.

Allegations that the police in the United States stop motor vehicle drivers on the basis of race or ethnicity rather than suspected law violation has rapidly emerged as a major national controversy (Ramirez, McDevitt, & Farrell, 2000). To curb these alleged abuses, civil rights groups have demanded that law enforcement agencies collect data on the race and ethnicity of drivers who are stopped. A number of agencies have already initiated data collection efforts, and several have released reports analyzing the data. Interpreting traffic stop data for the purpose of determining whether a pattern of race discrimination exists remains problematic, however, because of controversy over what should serve as the baseline, or denominator, for analyzing data on traffic stops. As one conference participant recently put it, "we are searching for the denominator" (American Society of Criminology Annual Meeting, *Race and Policing: Empirical and Conceptual Perspectives*, November 15, 2000).

Using the first reports of traffic stop data issued by the San Jose Police Department (1999, 2000) as a point of reference, this paper critiques the baselines that have been used in reports to date or have been proposed for future studies. An alternative approach based on police early warning (EW) systems is offered. These systems have emerged in recent years as an accountability measure designed to identify officers whose records indicate repeated problematic performance, such as high rates of citizen complaints (Alpert & Walker 2000; Walker & Alpert, 2000; Walker, Alpert, & Kenney, 2000). This paper argues that an EW approach not only resolves the central problem related to interpreting traffic stop data but also provides practical direction for police managers seeking to correct improper officer performance.

▧ The Racial Profiling Controversy

The issue of racial profiling, what is often referred to as the problem of "driving while black" (DWB), has emerged as a major national controversy in the past two years (American Civil Liberties Union [ACLU], 1999; Harris, 1997, 1999; Meeks, 2000; Ramirez, McDevitt, & Farrell, 2000). Racial profiling refers to allegations that police officers stop African American drivers for alleged traffic violations on the basis of race and not because of legitimate suspicion of any law violation. Similar allegations that police also stop Hispanic drivers on the basis of their ethnicity is referred to as "driving while brown." Profiling exists either when race or ethnicity is used as the sole indicator or one of several indicators that enters into a police officer's decisionmaking calculus. The U.S. General Accounting Office (2000, p. 1) defines racial profiling in terms of "using race as a *key* [emphasis added] factor in deciding whether to make a

traffic stop." Racial profiling has also emerged as a controversy in the United Kingdom (Home Office, 2000).

The racial profiling controversy is part of a broader indictment of systematic racism on the part of police that includes allegations of discrimination in the use of deadly force and physical force (Amnesty International, 1998; Center on Constitutional Rights, 1997; Human Rights Watch, 1998; U.S. Commission on Civil Rights, 2000), stops and frisks of pedestrians (Fagan & Davies, 2001; Spitzer, 1999), and anti-gang (Katz, 1997) and anti-drug enforcement activities (ACLU, 1999; Miller, 1996; Sentencing Project, 1995). Allegations of racism on the part of the police, in turn, are part of a larger indictment of race discrimination in the entire criminal justice system (Cole, 1999; Kennedy, 1997; Leadership Conference on Civil Rights, 2000; Mann, 1993; Russell, 1998; Walker, Spohn, & Delone, 2000). There is much controversy over the extent of race discrimination in the criminal justice system, however, with some experts finding no clear pattern of racism (Wilbanks, 1987) and other authorities finding at best only weak evidence of systemic discrimination (National Research Council, 1989). There is also considerable controversy over the validity and reliability of official data on race and ethnicity, and one authority has called for a "moratorium" on the collection of such data (Knepper, 1996).

The issue of whether race or ethnicity should ever be used by criminal justice officials as a proxy for suspected or predicted criminal behavior is a matter of debate among legal scholars.[1] Many experts argue that it should never be permitted (Harris, 1997; Kennedy, 1997; Maclin, 1998; Thompson, 1999; Verniero, 1999, p. 52). No authority argues that race should be the *only* factor in police decisionmaking, but there is controversy over the extent to which race can be used as *one of several factors.* Several experts argue that race or ethnicity can be used for enforcement decisions as long as it is a descriptor of a specific suspect (Ramirez, McDevitt, & Farrell, 2000, p. 3; Police Executive Research Forum, 2001).

Law enforcement officials and some academic experts argue that focusing on African Americans and/or Hispanics for official intervention does not represent discrimination, but instead a rational and empirically based judgment that minorities have greater involvement in serious crime, and in drug-related offenses in particular (Bennett, DiIulio, Walters, 1996, pp. 43–47; Goldberg, 1999; Taylor & Whitney, 1999; Kennedy, 1997; Scully, 1999).[2] Harris (1999, pp. 294–

---

[1] The constitutional law aspects of this controversy have been extensively argued by legal scholars and are not addressed in this article.

[2] See the nuanced position of Kennedy (1997) to the effect that profiling represents effective crime control but is wrong and should be abolished.

298) characterizes this argument in terms of "rational discrimination"; others have termed it "good faith discrimination" (Verniero, 1999, p.38). Critics of this argument reply that it is a circular justification, with discriminatory arrest patterns being used to justify discriminatory traffic enforcement practices (ACLU, 1999; Harris, 1999). Some police officers, in fact, support data collection because they believe it will vindicate them by finding no pattern of discrimination in traffic stops ("Cops Rap Veto," 1999).

The matter is complicated by the fact that studies of policing have found that a certain element of stereotyping is inherent in most police work. In his classic study of policing, Skolnick (1994, pp. 44–47) adopts a law-in-action perspective and argues officers develop "a perceptual shorthand" to classify people and situations and to guide their actions. Skolnick found, for example, officers routinely regard as "suspicious" the presence of a person of one race in an area predominantly populated by people of a different race. Given the fact that American society is deeply divided by race, it is probably inevitable that race will affect police decisionmaking in some respect.[3] The use of informal classification schemes to guide decisionmaking, moreover, pervades the criminal justice system: in bail setting (Suffett, 1966), plea bargaining (Newman, 1966), and sentencing (Ulmer, 1997). In fact, much criminal justice research is devoted to "typification," the identification of the general patterns of dispositions (often referred to as the "going rate" [Walker, 2001, chap. 3].[4] In short, the use of race (or factors closely intertwined with race such as social class) as a factor in decisionmaking is not simply a matter of a few "bad apples" but is deeply embedded in the day-to-day working norms of the police and perhaps other criminal justice agencies.

Response to the Controversy

Response to the racial profiling controversy has been multifaceted and national in scope. First, the issue has received extensive media coverage, with a consequent effect on public opinion.[5] A December 1999 Gallup Poll found that

---

[3] The extent to which formal rules, whether in the form of statutes, administrative rules, or court decisions, can control police officer behavior is a major issue in policing. This author takes a moderately optimistic view in Walker (1993).

[4] Academic research of this sort is devoted to the identification of the crude classification systems used by criminal justice decisionmakers. The findings are not intended to be *guides* to decisionmaking, particularly where extra-legal factors are used. And in fact, there has been some controversy over the use of existing sentencing practices in the development of sentencing guidelines, a process that at its worst transforms description to prescription (Bureau of Justice Assistance, 1996). I would like to thank my colleague Cassie Spohn for helping me think through this issue.

[5] The explosion of public interest in the issue is indicated by the fact that *The New*

59% of all Americans, including 77% of blacks and 56% of whites, believe that racial profiling by the police is "widespread" (Gallup New Service, 1999). Second, legislation has been introduced in Congress (U.S. House of Representatives, 1999) and numerous states and municipalities to require law enforcement agencies to collect data on all traffic stops, including the racial and ethnic identity of the driver and/or passengers. Data collection legislation has been enacted in several states and at least one city. President Bill Clinton (1999) ordered federal law enforcement agencies to collect data on the race of people stopped in 1999, and President George W. Bush (2001) condemned racial profiling shortly after being inaugurated in January 2001.[6] The Bureau of Justice Statistics (BJS), meanwhile, is conducting a national survey of citizens' experiences with traffic stops (U.S. General Accounting Office, 2000 p. 2, Appendix III). Third, a growing number of law enforcement agencies have initiated data collection efforts on their own, and several have released reports on that data (San Diego Police Department, 2000; San Jose Police Department, 1999, 2000). Fourth, consent decrees negotiated by the U.S. Department of Justice to settle suits alleging patterns of excessive force or race discrimination have included data collection requirements (*United States v. New Jersey*, 1999; *United States v. City of Pittsburgh*, 1997).

Reflecting an emerging national consensus, one major city police chief stated in 2000 that data collection was rapidly becoming a "national standard" for law enforcement agencies (R. W. McNeilly, as quoted in American Civil Liberties Union, 2000) and a U.S. Department of Justice report recommended data collection as one of several policies and procedures for promoting police integrity (U.S. Department of Justice, 2001, pp.15–17).

Data Collection–And Its Problems

Data collection on traffic stops has emerged as the principal strategy of civil rights leaders and groups for eliminating racial profiling (ACLU 1999; Leadership Conference on Civil Rights, 2000, p. 53; Meeks, 2000; Shelton, 1999; U.S. Commission on Civil Rights, 2000, p. 38). The implicit assumption underlying

---

York Times published no stories on racial profiling in 1997, 8 in 1998, 79 in 1999, and 31 in the first half of 2000. *The Los Angeles Times* published none in 1998, 24 in 1999, and 25 in the first half of 2000. Estimates by author, with the assistance of Leigh Herbst and Carol Archbold.

[6] One indication of how rapidly events are moving on this subject is the fact that a survey of proposed and enacted legislation published by the U.S. General Accounting Office (2000, Appendix V) in March 2000 was seriously out of date by October 2000. The various federal efforts arising from the President's directive are described in U.S. General Accounting Office, 2000, Appendix IV.

this strategy is that systematic data will both document the existence of racial profiling and provide the basis for corrective action. Data collection represents an alternative to other reform strategies (Police Executive Research Forum, 2001). These alternatives include (1) exhortation, in the sense of a formal prohibition of discrimination, through official policy and/or public statements by chief executives ("Racial Profiling Ban," 1999),[7] (2) improved recruitment, training and supervision of officers (Cohen, Lennon, & Wasserman, 2000; U.S. Department of Justice, 1997), and (3) interpreting the Fourth Amendment to prohibit the use of race as a proxy for suspected criminality (Kennedy, 1997; Maclin,1998).

Police officials oppose data collection for a variety of reasons (summarized in Police Executive Research Forum, 2001). First, some deny that racial profiling exists in their departments. Second, some argue that data collection is expensive and time-consuming and will therefore impede effective law enforcement.[8] Third, there is concern that it will cause officers to "disengage" from their work and conduct fewer traffic stops altogether (Ramirez, McDevitt, & Farrell, 2000, pp. 20, 26, 30, 35). Fourth, some officials argue that even if some racial profiling does exist, there are other more effective strategies for eliminating it. Finally, some police officials argue that traffic stop data do not yield valid or conclusive information about whether racial profiling exists.

Data collection as a reform strategy is far more problematic than many of its advocates realize. The central problem involves the analytic framework used to determine if racial or ethnic disparities exist, and if those disparities indicate discrimination in enforcement (Home Office, 2000; Ramirez, McDevitt, & Farrell, 2000, pp. 53–54; U.S. General Accounting Office, 2000). What does it mean, for example, that 35% of all traffic stops by a law enforcement agency involve African American drivers? As the Interim Report of the New Jersey Attorney General states, "There is no way to interpret the significance of this data [the proportion of drivers stopped who are minorities] in the absence of a reliable study of the racial and ethnic characteristics of the persons who [are drivers] to serve as a 'benchmark'" (Viernero,1999, p. 34). The crucial question involves the proper baseline, benchmark, or denominator to use in analyzing traffic stop data.

---

[7] The Interim Report of the New Jersey Attorney General, however, points out that a 1990 policy statement by the New Jersey State Police prohibited race discrimination but at the same time "may have unwittingly...exacerbated" the use of racial stereotypes by also stating that race could be used as one factor in the decision to establish reasonable suspicion or probable cause (Verniero, 1999, p. 40).

[8] Ramirez, McDevitt, and Farrell (2000, pp. 20, 26, 30, 35, 40) examined four data collection efforts in the United States and one in the United Kingdom and found estimates of the time required to complete data collection forms ranging from three seconds to five minutes.

The general population cannot serve as a valid baseline since it does not reflect the racial composition of drivers at risk of being stopped. For many of the same reasons, official data on criminal activity also cannot serve as a baseline. In fact, the problems associated with both population and official crime data may well be insurmountable. An analytic framework based on the new administrative tool of Early Warning (EW) systems may be an alternative.

The search for the proper analytic framework for analyzing traffic stop data has assumed increasing urgency. First, efforts to eliminate racial profiling have invested enormous hope in the data collection strategy (ACLU, 1999; Harris, 1999; Traffic Stops Statistics Study Act, 1999). The as yet unanswered question is whether this strategy will yield the intended results. Second, reports on traffic stop data from various law enforcement agencies began to appear in early 2000, and given the number of agencies voluntarily collecting data, the number of reports promises to become a flood by 2001. One commentator recently observed that soon "we will be awash in data" (American Society of Criminology Annual Meeting, *Race and Policing: Empirical and Conceptual Perspectives*, November 15, 2000).

❖ Traffic Enforcement and Official Traffic Stop Data

Traffic enforcement is a specialized law enforcement function. In most municipal police departments it is handled by a special unit that typically comprises about 7% of all sworn officers (Police Executive Research Forum, 1981, p. 22). With state law enforcement agencies, however, it assumes a much larger role. In about half of all state law enforcement agencies traffic enforcement is the primary, if not sole, function. In the other state agencies traffic enforcement is the major, but not the only, function (Torres, 1987).

Traffic enforcement represents a major point of contact between police and citizens. A Bureau of Justice Statistics (2001) survey found that 52% of all police-citizen contacts in 1999 were the result of a traffic stop. Traffic enforcement shares one central feature with other law enforcement activities in that is highly discretionary (Davis, 1975; Gardiner, 1969; Ramirez, McDevitt, & Farrell, 2000, p. 8–11; Walker, 1993). Most patrol officer contacts with citizens are based on citizen calls for service, and while the decision to make contact is nondiscretionary, what the officer does once the contact is made is highly discretionary. (Mastrofski, et al., 1998; Reiss, 1971) The decision to make a traffic stop, however, is almost entirely discretionary on the part of the officer. It is precisely the discretionary nature of traffic enforcement that opens the door for potential abuse, including discrimination based on race and ethnicity.

Empirical Data on Traffic Enforcement

There is little research on traffic enforcement. The principal study of municipal police departments is now more than 30 years old, and it did not address issues of potential discrimination based on race and ethnicity (Gardiner, 1969). Skolnick's (1994, pp. 69–87) qualitative study of traffic warrant enforcement in "Westville" (early 1960s) focused primarily on parking violations rather than moving violations. His discussion of the interplay of task, discretion, and racial attitudes of officers is extremely suggestive but contains no systematic data.

Three national surveys provide some evidence of driving behavior and experience with traffic enforcement. The Monitoring the Future project, a national self-report survey of high school seniors (1975 – present) consistently finds that African American juveniles are less likely to drive a car in an average week, and that white juveniles are more likely to receive a traffic ticket or warning for a moving violation than African Americans and also more likely to receive multiple traffic tickets (Bachman, Johnston, & O'Malley, 1988; Johnston, Bachman, & O'Malley, 1997). A national survey of police-citizen contacts found that African Americans are more likely to be stopped while driving than whites and that Hispanic drivers are slightly less likely to be stopped than whites (Bureau of Justice Statistics, 2001). The National Highway Traffic Safety Administration conducted a national telephone survey of experiences and beliefs regarding driving habits but did not analyze the data with regard to race or ethnicity of drivers (National Highway Traffic Safety Administration, 1998).

The three surveys cited above provide no conclusive evidence on either driving habits or experience with traffic enforcement, although all three data sets offer potentially rich opportunities for reanalysis. These findings are subject to several possible interpretations. First, they could suggest that the police do not target African American drivers, at least those of high school age. Second, they could indicate that African Americans violate traffic laws less than whites. Third, and not inconsistent with the latter view, the racial disparities in stops by the Maryland and New Jersey State Police (see below) could represent a special law enforcement context (Walker, 2000) involving intensive drug enforcement on interstate highways. The disparities in that special context are not representative of general policing or even general traffic enforcement in municipal contexts. At present, however, the U.S. General Accounting Office (2000, p. 1) properly concludes that there is "no comprehensive, nationwide source of information that could be used to determine whether race has been a key factor in motorist stops."

The strongest evidence that racial profiling exists has arisen from litigation against state law enforcement agencies, primarily in Maryland, New Jersey, and

Illinois. The methodologies in these and other studies are discussed by the U.S. General Accounting Office (2000). In the Maryland case, for example, persuasive evidence was presented to the effect that African Americans represent 16.9% of all drivers on Interstate 95, 17.5% of the observed traffic law violators, but 72.9% of drivers stopped.[9] Additionally, of those drivers stopped, African Americans represented 81.3% of those searched (Harris, 1997; Lamberth, 2000). A second and equally important pattern of discrimination involved the percentage of drivers stopped who were subsequently searched. For both the Maryland and the New Jersey state police, about 80% of all people searched were African American or Hispanic (Verniero, 1999, pp. 26–27).

Several aspects of the data from these cases merit discussion. First, these data were collected by plaintiffs as part of civil litigation. While the evidence in each case was persuasive to the court, the studies were not subject to traditional academic peer review. Studies of traffic stops that are independent of litigation and that will ultimately be peer reviewed by scholars have only recently been initiated and are not yet completed (Alpert, 2001; Zingraff, 2001).

Second, interstates are confined physical spaces where citizens are essentially engaged in only one activity—driving—and police officers are also engaged in essentially one activity—traffic enforcement. These circumstances make it possible through direct observation to obtain reliable estimates of both all drivers and law violators. The context of routine municipal policing, where the bulk of American law enforcement occurs, is quite different. In that context, large numbers of officers are working in often vast geographic areas. Officers engage in a wide variety of police tasks and interact with citizens in innumerable ways (Mastrofski, et al,1998; Reiss, 1971). These circumstances make it extremely difficult to obtain systematic data on drivers and traffic violations by race and ethnicity. Observation of patrol—as opposed to traffic unit—officers would yield relatively few traffic stops.[10] Observation of the traffic unit would yield the de-

---

[9] In an important criticism, the U.S. General Accounting Office (2000, pp. 28–29) points out that it is not clear whether this study took into account the *relative* seriousness of various traffic violations, a factor that might increase or decrease a driver's risk of being stopped.

[10] It is widely believed that one important aspect of the DWB phenomenon is stops of minority drivers in predominantly white residential neighborhoods. Officers perceive these drivers as "suspicious" because they are "out of place" (Skolnick, 1994, p. 44). It is likely that such stops are extremely rare, and collecting any meaningful data on them would require an enormous investment in observational time. Walker (2000) argues that while statistically rare, such stops have enormous psychological resonance among African Americans and Hispanics because they serve as vivid and highly personal symbols of larger patterns of racism in American society.

sired data on traffic stops, but leave unresolved problems related to the baseline data on drivers and traffic law violators. Even if the traffic unit were operating on a main thoroughfare, such roadways are not confined spaces like interstate highways, with the result that vehicles routinely enter and leave. Consequently there is no stable population of drivers as there is on an interstate from which to derive estimates of the racial composition of drivers and observed law violators. As Mastrofski, et. al (1998) argue, the systematic observation of policing is an extremely complex and expensive undertaking, one that is clearly beyond the capacity of academic researchers in the absence of substantial funding.

Third, interstate highway traffic enforcement may be a special case because, as some civil rights activists argue, racial profiling is a product of the national "war on drugs" (ACLU, 1999). The desire to produce "results," in this case drug and weapon arrests, encourages officers on the street to stereotype racial and ethnic minorities as drug dealers and single them out for high rates of traffic stops. It is not known whether all state police agencies are equally driven by the imperatives of the war on drugs, nor the extent to which drug enforcement explains the tendency of regular patrol officers in municipal police departments to make traffic stops.

The unique aspects of traffic enforcement on interstate highways represent a special context of policing. Walker's (2000) contextual approach to policing, and to police-minority interactions in particular, holds that patterns of police activity vary according to particular contexts (e.g., different departments, departmental units, enforcement activities, geographic areas, etc.) and that it may not be possible to generalize from one context to another. Stop, frisk, and arrest patterns that characterize drug enforcement activities, for example, may not exist in general, patrol-related activities; a department may engage in aggressive crime-fighting actions in one part of a city but not in others. As Skolnick (1994, p. 78) suggested many years ago, "racial prejudice affects some [police] specialties more than others," primarily as a result of how the task environment affects the exercise of discretion and the resulting capacity of officers to act on their prejudices.

Just as different contexts affect enforcement patterns, so do they also provide very different opportunities or obstacles for research. The research strategy that has yielded the very persuasive data in the state police cases operating on interstate highways may not be applicable to routine municipal policing. And it needs repeating that state police represent only 50 of the more than 17,000 state and local law enforcement agencies and only about 8% of the sworn officers in the United States (Bureau of Justice Statistics, 1998). It is imperative to develop a research strategy that will be relevant to most of the traffic stop data sets that will be generated in the near future.

Reliability of Traffic Stop Data

Traffic stop data collection strategy assumes that the resulting data are reliable; that is, that the official data accurately reflect on-the-street practices (Ramirez, McDevitt, & Farrell, 2000, p. 51). The U.S. General Accounting Office (2000, p. 35) warns that data sets will not be useful "if (1) stop data were selectively recorded, [and] (2) race or other stop information is inaccurately recorded." Yet, as already noted, it is a truism that officers on the street exercise enormous discretion, and in some important respects have the capacity to ignore or subvert explicit agency directives (Davis, 1975; Walker, 1993). One of the most important issues in police administration and police reform is whether officers on the street comply with rules and regulations designed to control the exercise of discretion and reduce or eliminate abuse of police power. This issue is critical in such areas of policing as the *Miranda* requirement (Leo & Thomas, 1998), the exclusionary rule (Oaks, 1970), domestic violence policies (Sherman, 1992), deadly force regulations (Fyfe, 1979; Geller & Scott, 1992), and high-speed pursuit policies (Alpert, 1997).

It cannot be assumed, therefore, that a set of traffic stop data from a particular police department accurately reflects on-the-street practices. An investigation by the Attorney General of New Jersey found that state troopers were not documenting the race of persons stopped in violation of the agency's own policies (Verniero, 1999, p. 31). In at least one instance two state troopers were indicted on criminal charges for having falsely reported African American drivers as being white ("Trenton Charges," 1999). A study of stop and frisk practices by New York City police officers, arguably the most sophisticated study to date, conceded that "there is no way to establish the extent of reporting compliance of NYPD officers for reports of each encounter" (Spitzer, 1999, Appendix H).

A data collection requirement, on the other hand, may have an "observation effect" on enforcement practices. It is well-established in police research that direct observation may have some unknown effect on the behavior of officers (Mastrofski, et al, 1998). A new reporting requirement has a similar and more systematic impact, as officers are on notice that they will be held accountable for each action. Several different responses are possible. First, they may reduce all traffic enforcement efforts and thereby undermine the mission of the agency (Ramirez, McDevitt, & Farrell, 2000, pp. 20, 26, 30, 35). Second, they may deliberately reduce the number of stops of minority drivers in an effort to avoid any suspicion of discrimination. Alternatively, they may deliberately increase the number of stops of white drivers in an effort to compensate for stops of minority drivers. Third, they may falsify their official reports either by not reporting some stops altogether or identifying minority drivers as being white.

A final issue involves the ability of a police officer to correctly identify the race or ethnicity of a driver. Anti-racial profiling activists assume that officers can make correct judgments and base traffic stops on those judgments. Common sense suggests that the specific enforcement context has a major effect on officer abilities in this regard. It is undoubtedly much more difficult to identify the race or ethnicity of drivers at night than during the day. Tinted or smoked car windows also impede visual perceptions of drivers. At the same time, it is not known to what extent officers profile vehicle types, associating certain kinds of vehicles or vehicle modifications with particular racial or ethnic groups. In any event, independent research is needed on the capacity of police officers to correctly identify the race or ethnicity of drivers.

San Jose VSDS Reports

Publication of the first two reports on traffic stop data (officially the Vehicle Stop Demographic Study, or VSDS) by the San Jose Police Department (San Jose Police Department [SJPD], 1999, 2000) provides an opportunity for examining the issues related to traffic stops. These reports are believed to be the first such reports from a law enforcement agency.

While the analytic approach used in the SJPD voluntary data collection was limited (see the following discussion), it needs to be viewed in the proper context. The SJPD's voluntary data collection effort represents a sharp break from the traditional police response to allegations of race discrimination or other forms of misconduct. Traditionally, police departments deny that any problem exists, or claim they have the problem under control. Moreover, police departments have traditionally refused to allow outsiders to see the relevant internal department reports regarding incidents of alleged abuse. This response is a major contributor to the long-standing police-community relations problem in the United States. Civil rights leaders and groups perceive police departments as denying the existence of racism, conducting superficial investigations of alleged misconduct, and failing to discipline officers who are, in fact, guilty of misconduct (National Advisory Commission on Civil Disorders, 1968; U.S. Commission on Civil Rights, 1981; Walker, Spohn, & DeLone, 2000, chap. 4).

With its voluntary data collection effort, the SJPD has officially acknowledged the possibility that racial profiling exists, has taken formal steps to determine whether such a problem exists, and has publicly released the reports where they can be scrutinized by outsiders. In the introduction to the first report, the SJPD chief of police states that "San Jose has not been immune to suggestions that the Police Department practices racial profiling," and that the department

"prides itself upon being responsive to the needs and concerns" of the community (SJPD, 1999, p. 1-1).

In a similar fashion, the San Diego Police Department (SDPD), which is believed to be the first police department to announce that it would voluntarily collect data, has released its first report analyzing its traffic stop data. Like San Jose, the San Diego report states that it "is committed to the fair treatment of all citizens" and that "achievement of this goal depends upon a deliberate and sustained effort to identify and eliminate any barriers to fair enforcement of police powers (San Diego Police Department, 2000, p.1).

SJPD Data Collection Process

The SJPD began its voluntary data collection program in mid-1999 (described in Ramirez, McDevitt, & Farrell, 2000, p. 17). As part of that effort, the department revised its procedures for collecting traffic stop data.[11] Currently the process begins with the police officer notifying the communications center that a stop is being made.[12] The officer eventually records data on (1) the reason for the stop,[13] (2) the race and/or ethnicity of the vehicle driver,[14] (3) the disposition of the stop, (4) whether the driver is an adult or minor, and (5) the number of stops[15] (SJPD, 1999, p. 2-1). The San Jose process does not include data on the percentage of stopped drivers who are searched despite the fact that the actions of both the Maryland and New Jersey state police in this regard reflected a strong pattern of discrimination.

─────────────────────

[11] See also the new procedure adopted by the New Jersey State Police (Verniero, 1999, p. 96).

[12] The officer has some discretion in whether to call the dispatcher. In the event the radio is not a viable means for transmitting data (i.e., radio traffic is busy), "the officer enters the same exact information into the mobile computer terminal to clear the call with the same codes, and the same automated information will be gathered" (SJPD, 1999, p. 2-1).

[13] The SJPD utilizes the following categories: (1) violation of the California Vehicle Code, (2) violation of the California Penal Code, (3) violation of a City of San Jose Municipal Code violation, and, (4) the vehicle matches the description of a "Be-On-The-Lookout, All-Points-Bulletin," or, "a written entry on a bulletin or report issued by the department which describes suspects and/or vehicles involved in crimes in the area" (SJPD, 1999, p. 2-2).

[14] To record the race or ethnicity of the driver, the SJPD uses the official categories established by the federal government. These categories, as listed on a laminated card issued to the officers, are: (A) Asian American, (B) African American, (H) Hispanic, (I) Native American Indian, (O) Other/Unclassified, (P) Pacific Islander, (S) Middle Eastern/East Indian, (W) European American. For age of the driver, police record "A" for adults and "M" for minors.

[15] The meaning of this item is not clear from the SJPD documents, and there is no discussion of it in the department's report.

To facilitate the process, officers are issued a small, laminated card indicating the proper codes for each of these items. Statistical reports on traffic stops based on entered data are generated monthly. Upon receipt of these reports, the Crime Analysis Unit interprets the results and produces semiannual reports that are presented to the chief.

Two observations are appropriate here. First, the SJPD attempted to keep the amount of data collected relatively "simple" (SJPD, 1999, p. 2-2). This highlights the inherent tension between the need for efficiency on the part of law enforcement agencies and the interests of social scientists who desire data on as many variables as possible. Second, the SJPD has a highly sophisticated technological infrastructure that facilitates the entry of data. It cannot be assumed that all law enforcement agencies presently have information systems adequate to the task of collecting systematic and reliable traffic stop data.[16] In fact, a number of law enforcement officials have objected to data collection on the grounds of cost and the time burden placed on officers making the stop (San Diego, however, estimates that filling out its paper form "takes less than 20 seconds" [SDPD, 2000, p. 3]).

Findings and Interpretation

The first VSDS report covers the period from July 1 to September 30, 1999. (Because there are no significant differences in the findings of the first and second reports, this article focuses on the first report only.) In that period, the SJPD made 27,961 vehicle stops; 4,449 were excluded from the statistical analysis because of invalid disposition code entries, leaving 23,462 stops in the statistical analysis (SJPD, 1999, p. 3-1). Hispanics represent 43% of all those stopped, compared with 29% for European Americans, 16% for Asian Americans, 7% for African Americans, 3% for Middle Eastern, 1% for Native American, and 1% for other. Virtually all vehicles stopped were driven by adults (97%), and a majority were driven by males (72%). Virtually all (99%) traffic stops were the result of vehicle code violations.[17] The largest number of stops resulted in a disposition of a traffic citation for hazardous driving (43%). Citations for non-hazardous driving comprised only 6% of dispositions. Criminal citations were issued in 6% of the stops, while arrests constituted less than 1%.

---

[16] See the report of the Police Department Information Systems Technology Enhancement Project (Office of Community Oriented Policing Services, 1999). In San Diego officers fill out a 4" by 6" paper form; the data are entered into a computer later (SDPD, 2000, 3).

[17] The U.S. General Accounting Office (2000, p. 35) warns that use of overly broad categories, such as "vehicle code violation," will impede meaningful analysis of data.

To determine whether the patterns in traffic stops represent impermissible racial or ethnic disparities, the SJPD report utilizes three different analyses: comparing the traffic stop data with (1) the racial and ethnic population of the city of San Jose, (2) citizen calls for police service and departmental assignment patterns by police district, and (3) law enforcement data for the city by race and ethnicity. Each of these analyses is discussed below, with a critique of the SJPD analyses following that.

Resident Population Data. The population of San Jose is estimated to be 900,000 (1990 Census modified through the use of the California Department of Finance population projections), of whom 43% are European American, 31% Hispanic, 21% Asian, and 4.5% African American (SJPD, 1999, p. 4-1). Using the population data as a baseline, the SJPD concludes that "some minorities are stopped at a rate higher than their corresponding percentage in the total population" (SJPD, 1999, p. 5-1). Hispanic drivers represent 31% of San Jose's population and 43% of those stopped, while African Americans represent 4.5% of the population and 7% of the traffic stops. Asian Americans and European Americans are underrepresented in traffic stops.[18] In an attempt to explain the overrepresentation of Hispanics and African Americans, the SJPD conducted two additional analyses.

SJPD Police District Data. The SJPD first examines the overrepresentation of racial and ethnic minorities in traffic stops in terms of the composition of departmental police districts and officer assignment patterns within the department.[19] The SJPD deploys its officers in 16 districts which vary considerably with respect to racial and ethnic composition, socioeconomic status, reported criminal activity, and calls for police service. More officers are assigned to those districts with relatively larger minority populations because of more calls for police service and more reported crime in those areas. The report includes data on calls for service for each of the 16 districts. The department's assignment practices are consistent with established professional standards that dictate that officers be deployed according to a workload formula that reflects calls for service and reported crime (Fyfe, Greene, Walsh, Wilson, & McLaren, 1997; Wilson & McLaren, 1977). It is well-established that the use of this formula results in the assignment of a relatively high proportion of patrol officers to racial and ethnic minority communities (Walker, Spohn, & Delone, 2000).

The SJPD argues that the relatively greater assignment of officers to minority neighborhoods produces greater exposure to the risk of traffic stops among the residents and accounts for the disproportionate representation of minorities among

---

[18] A similar disparity based on the population was found in San Diego (SDPD, 2000).
[19] San Diego did not conduct a similar analysis (SDPD, 2000).

those stopped. The SJPD also points out that in low socioeconomic districts more vehicles will be stopped because "they have not been properly maintained" (SJPD, 1999, p. 5-1). The report argues that in the five districts with the highest concentrations of Hispanic residents, "the percentage of Hispanics stopped in these districts appears to be proportional to their population within those Districts" (SJPD, 1999, p. 5-15).

Official Crime Data. In a second attempt to explain the overrepresentation of minorities in traffic stops, the SJPD compares traffic stop data with official crime data[20] on persons arrested, crime victims, and criminal suspects. These data are derived from crimes reported to the SJPD. The logic is that official arrest data are a surrogate for participation in criminal activity and therefore a valid indicator of the risk of a traffic stop or other enforcement intervention. Thus, if one racial or ethnic group represents 75% of all arrests in a given jurisdiction, it is not unreasonable that it would represent 75% of all traffic stops. (See the discussion of the New York stop and frisk study [Spitzer, 1999] below.)

With respect to arrests for Part I crimes, Hispanics comprise 51% of all people arrested, compared with 25% for European Americans, 7% for Asian Americans, and 6% for others (SJPD, 1999, p. 5-2; see the report's Table 2, which compares the percentage of each racial and ethnic group among arrestees and among traffic stops). The report also includes data on the race and ethnicity of crime victims, including the categories of all crimes and Part I crimes. The data indicate that Hispanics are somewhat underrepresented among crime victims compared with traffic stops (36% for Part I crimes vs. 43% for traffic stops), that European Americans are overrepresented among crime victims (40% vs. 29% for traffic stops), and that African Americans are equally represented in both categories (SJPD, 1999, p. 6-3).

The SJPD argues that these data indicate that "the percentages of vehicle stops made on members of all of the city's various racial/ethnic groups are not out of proportion to the rates for each group in other law enforcement statistical measurement categories, such as those indicating who is arrested, who is victimized, and who is named as a suspect in a crime in San Jose" (SJPD, 1999, pp. 5-8).

❁ Critique of the SJPD Analysis

As discussed above, the SJPD presents three analyses of its traffic stop data in its report. The following section examines its interpretation of the data.

---

[20] San Diego did not utilize crime data in its analysis (SDPD, 2000).

Resident Population Data

It is a widely held assumption that the resident population of a particular law enforcement jurisdiction is the proper baseline for determining whether an impermissible pattern of racial profiling exists. The SJPD report finds disparities with regard to both Hispanics and African Americans, and employs two modes of analysis to account for them.

The basic problem with this approach is that the representation of a particular racial or ethnic group in the resident population does not reflect the risk of a traffic stop. As the U.S. General Accounting Office (2000, p. 34) explains, using the population as a base does not "address whether different groups may have been at different levels of risk for being stopped because they differed in their rates and/or severity of committing traffic violations." Risk of intervention is primarily indicated by *participation in crime* by members of the group in question, and specifically participation in the *particular offense under consideration*. Criminological research has established that offending rates for different crimes vary by race and ethnicity (Blumstein, 1982; Bureau of Justice Statistics, 1997; Hindelang, 1978). The data presented by the plaintiffs in the Maryland State Police case are persuasive precisely because independent observation determined that African American drivers were no more likely to be violating traffic laws than were white drivers. Thus, the higher rates of traffic stops and searches were presumed to be based on race rather than suspected law breaking.

In response to the limitations of population data, Harris (1999, pp. 281–288) developed estimates of the African American driving age population in Ohio. He further adjusted the driving age population figure on the basis of estimates of the percentage of African American households without motor vehicles. The result is an estimate of who is likely to be driving a motor vehicle by race and ethnicity. While an improvement over the population data, this heroic effort still does not yield an estimate of traffic law violation rates by race and ethnicity. Harris himself concedes that his own figure is "less exact" than the method used in New Jersey and Maryland (Harris, 1999, pp. 287–288).[21]

Another factor complicating the use of resident population data as a baseline is the fact that an unknown number of drivers may be nonresidents (SDPD, 2000, p. 7). If nonresidents passing through the area violate traffic laws at a higher rate than residents, police officers are justified in making more traffic stops of nonresidents. And if minorities constitute a disproportionate share of the nonresi-

---

[21] This article was stimulated in large part by my dissatisfaction with Harris's attempt to solve the problem of the proper baseline.

dent drivers, and in turn a disproportionate share of the nonresident traffic law violators, then the police are justified in stopping them at a higher rate than for white drivers. The full impact of nonresident drivers and police response to those drivers is not known. This factor is potentially important enough not to be ignored, but the resident population data do not take it into account.

SJPD Police District Data

The SJPD's attempt to explain the disproportionate rate of traffic stops of minorities in terms of the combined effect of crime patterns and police department assignment patterns by police district also fails to provide a reasonable estimate of the at-risk population. The SJPD is correct in asserting that the assignment of a disproportionate number of officers to racial and ethnic minority neighborhoods increases the exposure of minorities to police and increases the risk of intervention. The key factor is not mere exposure, however, but actual police enforcement activity. An important distinction needs to be made between *departmental assignment patterns* and *officer behavior*. Imagine, for example, that a police department saturates minority neighborhoods with officers (even beyond the level dictated by professional standards), but the officers themselves engage in little, if any, proactive law enforcement. Mastrofski, et al. (1998) found significant variations in proactive police-citizen contact patterns among departments, and Gardiner (1969) found significant variations in officer-initiated traffic enforcement. By the same token, imagine another police department where minority neighborhoods are assigned relatively few officers but where those officers engage in very aggressive law enforcement (e.g., high rates of pedestrian stops, traffic stops, and arrests). The point is that assignment patterns do not necessarily reflect enforcement activity levels. Actual on-the-street police behavior is a complex mix of officer attitudes (Weisburd, Greenspan, Hamilton, Williams, & Bryant, 2000), situational factors (Black, 1980), organizational policies designed to constrain discretion (Walker, 1993), and informal organizational norms (Wilson, 1968). Smith, Visher, and Davidson (1984) found that neighborhood context exerts an effect on police activity, at least with respect to arrest discretion. In particular, that study found higher levels of arrest in lower income neighborhoods. The SJPD data on officer assignment patterns by police district do not represent traffic stop *enforcement patterns* by district, and therefore are not a proper baseline for analyzing traffic stop data.

The SJPD's observation that a higher proportion of cars in low-income neighborhoods will not be properly maintained deserves comment. The issue of social class and traffic enforcement has not received sufficient attention in discussions of racial profiling. Racial and ethnic minorities are disproportionately poor, and this fact affects traffic enforcement in two contradictory ways. First, they are less

likely to own and drive a vehicle, thus reducing their risk of being stopped for a traffic violation. Second, poor people are more likely than middle-class people to drive cars that in some way do not meet state vehicle standards because they cannot afford the repairs or license renewal, thereby increasing their risk of being stopped. Other factors might also come into play. A highly publicized gun reduction experiment, for example, instructed police officers to use legitimate traffic law violations as a pretext for stopping cars and then conducting a search for guns on some other legitimate pretext (e.g., behavior indicating an attempt to hide a gun) (Sherman, Shaw, & Rogan, 1995). In short, the role of social class, its impact on vehicle ownership, vehicle condition, and actual driving patterns need additional research.

Official Crime Data

The SJPD also attempts to explain the disparities in traffic stops in terms of crime data by race and ethnicity. Its use of arrest data as a baseline represents another version of the "rational discrimination" argument advanced by other law enforcement officials and some academic experts (Taylor & Whitney, 1999). There are two flaws with this approach, however. First, as critics of the police have pointed out, the data could well represent a self-fulfilling prophecy (ACLU, 1999; Harris, 1999; Viernero, 1999). Arrest rates for minorities could be the result of discriminatory enforcement patterns. It is impermissible to then use arrest data to justify patterns in another enforcement activity that could also be discriminatory.

An important cautionary observation is appropriate here. This critique of the SJPD analysis does not purport to allege that the SJPD engages in a discriminatory pattern of arrest. No evidence relevant to that issue is available. The point is simply that it is theoretically possible that official arrest data do reflect such a pattern. By the same token, it is equally possible that official arrest data underrepresent criminal activity by minorities and that, in turn, traffic stop data underrepresent the actual level of traffic law violation by minorities.

A second problem with official arrest data is that data related to Part I crimes are not necessarily a valid surrogate for traffic law offending. As already noted, there is good evidence that offending rates for different crimes vary by race and ethnicity (Bureau of Justice Statistics, 1997; Hindelang, 1978). Offending rates for homicide, for example, cannot serve as a surrogate for estimates of, for example, theft or unlawful substance abuse. By the same token it cannot be assumed that participation in Part I crimes is indicative of participation in traffic law violations. In fact, the data in the Maryland State Police case indicate that African Americans do not violate traffic laws at a higher rate than whites (Lamberth, 2000).

The validity of official arrest data as a baseline for analyzing traffic stop data is an extremely important issue. The most sophisticated study using this approach

is the analysis of stop and frisks in New York City by the Attorney General of New York (Spitzer, 1999; also reported in Fagan & Davies, 2001).

After comparing the percentage of African Americans and Hispanics subject to stop and frisks with their presence in the New York City population, the study obtained crime-specific arrest data by race for all of the NYPD precincts. Although the study refers to "crime," in fact it uses official arrest data as a surrogate for participation in criminal activity. It concedes that the "arrest rate is not a perfect surrogate for crime rates" (Spitzer, 1999, p. 120) but cites respected criminological research to the effect that the two rates converge sufficiently to permit their use in this type of analysis. The study concludes that "even when population rates and crime rates are controlled for, minorities were 'stopped' at a higher rate in New York City than whites. Crime rates do not account for the disparity" (p. 135).

The linchpin in the analysis is the assumption that official arrest data are a surrogate (albeit an imperfect one) for participation in crime. Even if we accept that this assumption is valid for the purposes of this study, there are good reasons for questioning the applicability to studies of *traffic stop* data. The vast majority of stops in the New York study were related to suspected violent crimes or weapons possession. In this respect the author can make a persuasive case for convergence between the stop and frisk data and arrests for Part I crimes. It does not necessarily follow, however, that Part I crime arrest data have any connection to traffic law violations.

Summary

The San Jose report uses three baselines to determine whether a pattern of race discrimination exists with respect to traffic stops—the racial and ethnic composition of the city as a whole, district-level calls for service and departmental officer assignment patterns, and citywide arrest rates by race and ethnicity—but the baselines used are simply inadequate to the task. Furthermore, for reasons related to the nature of municipal policing explained earlier, developing a viable baseline might not be possible at all. The early warning system framework explained in the following section provides a possible way out of this impasse.

◆ Early Warning System Approach

Early warning systems are data-based management information systems that systematically collect and analyze officer performance data for the purpose of identifying those officers who receive an unusually high rate of citizen complaints, are involved in a high rate of use of force incidents, or whose records indicate

other forms of problematic behavior (Alpert & Walker, 2000; Walker & Alpert, 2000; Walker, Alpert, & Kenney, 2000). Officers who are identified are then subject to some form of intervention, usually counseling or training to correct their performance problems. EW systems are designed not as discipline but as an informal warning to help subject officers. No record of EW intervention is placed in an officer's personnel file. EW intervention does not, however, preclude formal discipline for a particular act of misconduct.

Some existing EW systems are rigid and mandatory in the sense that any officer who receives a specified number of indicators within a specified time frame (e.g., 3 citizen complaints within 12 months) is automatically referred for intervention. Other systems are flexible and discretionary, in that a high number of indicators relative to other officers triggers a performance review by command officers to decide whether intervention is appropriate (Walker, Alpert, & Kenney, 2000). A discretionary approach allows for consideration of factors that explain why an officer, for example, received a number of citizen complaints or used force a number of times within a certain time period. Flexible and discretionary systems help allay officers' fears that they will be punished for proactive police work.

The underlying assumption of EW systems, namely that in any law enforcement agency a few officers have a disproportionate number of indicators of problematic performance (e.g., citizen complaints), is supported by substantial evidence. The Christopher Commission (1991) found 44 such officers in the Los Angeles Police Department and concluded that they were "readily identifiable" through existing department records. Investigative journalists found a similar pattern in Kansas City ("Kansas City Police," 1991), Boston ("Wave of Abuse," 1992), and other cities. A national evaluation of EW systems found that officers selected by EW systems do, in fact, have more serious disciplinary histories than their peers, defined as officers hired in the same recruit class cohort (Walker, Alpert, & Kenney, 2000).

EW systems are an increasingly popular tool for achieving police accountability, and have been endorsed by the U.S. Commission on Civil Rights (1981), the U. S. Department of Justice (1997, 2001), and the International Association of Chiefs of Police (1989). EW systems were included in the consent decree settling a U.S. Justice Department suit against the City of Pittsburgh (United States v. Pittsburgh, 1997) and the New Jersey Attorney General's response to the DWB problem (Verniero, 1999, p. 94). By 1998, about 28% of all local law enforcement agencies had an EW system in place, and another 12% were planning to develop one (Walker, Alpert, & Kenney, 2000). EW systems are analogous to COMPSTAT, another important innovation in policing that uses the systematic analysis of timely crime data to hold police commanders accountable (Bratton & Knoblach, 1998; Silverman, 1999).

While EW systems are increasingly popular, research on their effectiveness is limited to one study directed by the author of this article (Walker, Alpert, & Kenney, 2000). That study found that EW systems were effective in reducing citizen complaints among those officers subject to EW system intervention. Officers received an average of one third as many citizen complaints per year following EW intervention than before intervention. A number of questions surround the data in this evaluation, however (discussed in Walker, Alpert, & Kenney, 2000), and further studies of the effectiveness of EW systems are needed. In short, EW systems should be regarded as a *promising but not fully proven* technique for reducing police officer misconduct. It should be noted that the initial study of mandatory arrest for domestic violence (Sherman, 1992) provoked considerable debate over the wisdom of basing criminal justice policy on only one academic study (Lempert, 1984, 1989; Sherman & Cohn, 1989).

Applying the EW Approach to Traffic Stop Data

Assuming for the moment that EW systems are effective, the EW concept can be usefully applied to traffic stop data. The basic assumption underlying this approach is that racial profiling resembles other forms of police misconduct and will therefore be particularly acute among a small number of officers in any given agency. There is some evidence in both the Maryland and Illinois cases that particular officers stopped far more African American drivers than their colleagues (ACLU, 1999). The EW approach analyzes the traffic stop activity of particular officers *relative to their peer officers*, defined as *officers working comparable assignments*. That is, the data should be analyzed in terms of all officers working a particular area or precinct during the same shift. The working hypothesis is that in a professionally managed department with close and consistent supervision, the activity levels of all officers should be roughly similar (taking into account specific incidents that produce short-term variations).[22] An EW approach is suggested, although without elaboration, in Ramirez, McDevitt, and Farrell (2000, p. 46–54). The following examples illustrate how the EW approach would operate in practice.

Example One. In the section of a metropolitan area that is the center of the local Hispanic community, it is reasonable to expect that the overall percentage of traffic stops of Hispanic drivers in this area will be higher than in other parts

---

[22] The qualification with regard to professionally managed departments rests on the assumption that good management will result in the delivery of a consistent message to all officers regarding both departmental priorities (e.g., a high or low priority for traffic enforcement) and unacceptable behavior. Unfortunately, the nature of front-line supervision by sergeants has not been thoroughly studied (Mastrofski, et al., 1998).

of that metropolitan area. The EW approach analyzes the traffic stop activity for all officers assigned to this area in particular shifts and looks for officers who make significantly more stops of Hispanic drivers than their colleagues. The mere fact that an officer's traffic stop activities diverge from the norm is not an automatic presumption of guilt but rather the occasion for a performance review to determine the exact nature of the officer's performance.

Example Two. Many metropolitan areas have entire neighborhoods or police districts that are entirely or almost entirely African American. As a result, virtually all traffic stops in such areas will involve African American drivers. As with Example One, an EW approach looks for those patrol officers who make far more traffic stops than their colleagues working the same area during the same shift. A high rate of stops by a particular officer is likely to be perceived as arising from bias even though it may reflect an overemphasis on traffic enforcement per se. Whatever the motive, the impact on police-community relations is equally negative.[23]

Example Three. Many allegations of driving while black involve stops of African American drivers in all-white neighborhoods. The EW approach would seek to determine whether particular officers assigned to these neighborhoods are repeatedly responsible for such stops. The data may indicate, however, that all officers assigned to these neighborhoods stop a high number of African American drivers. As explained below, the analysis would then shift to determine whether the nature of the problem is particular supervisors or a department-wide policy.

Example Four. Analysis of traffic stop data may find that all the officers assigned to a particular area and shift are making high rates of traffic stops of minority group drivers. The data can be analyzed to determine whether the volume of traffic stops is significantly higher than in other areas and shifts (e.g., other low-income neighborhoods, other racial or ethnic minority neighborhoods, etc.). The assumption is that the problem is not one of bias in individual officers but of the supervision given those officers. The problem, in other words, is not the patrol officers but their sergeant.

From Data to Action

As the above examples indicate, there are several potential forms of racial profiling. The utility of the EW approach is that it can distinguish between these forms and point toward the appropriate remedial action in each case.

---

[23] In a focus group study of the residents of one midwestern city, this author found that African American adults were acutely sensitive to the fact that the performance of some officers was far worse in their judgment than other officers working the same area (Walker, 1997).

Where the data analysis identifies potential problem officers or supervisors, the EW approach moves to the intervention stage. Intervention begins with a review of an officer's performance by supervisors. There may be extenuating circumstances that explain a particular pattern of traffic stops. The officer under review should enjoy a presumption of innocence until a full performance review is completed. The important point is that *the data represent a starting point*, the beginning of a departmental inquiry, *and are not in and of themselves conclusive* (Walker & Alpert, 2000). Thus, no officer is automatically presumed guilty simply because he or she has made a high number of stops of minority drivers. A flexible system involving a command review of performance can accommodate officers who may be doing professional, proactive police work.

If no extenuating circumstances are found, the intervention stage of the EW system moves to some form of counseling or training. The purpose of the intervention is to discuss an officer's performance, determine the underlying causes of the behavior in question, communicate the department's priorities and performance expectations, and clearly indicate that further evidence of problematic behavior could result in formal discipline.

Should counseling or training fail to correct an officer's behavior, the department could transfer the officer to an assignment where potentially sensitive citizen contacts are less likely to occur, or not occur at all. Such transfers must, of course, be done within the constraints of existing department policies and collective bargaining agreement. Virtually all police departments have established policies for periodic reassignment and the transfer described here can be done in the context of "routine" reassignment and not be interpreted as discipline.[24] In the folklore of policing, it is generally believed that every large department has certain dead-end assignments ("Siberia") which are used to punish or bury officers (Westley, 1970). Transferring an officer with a bad attitude toward Hispanics (and/or immigrants) from a heavily Hispanic area to a patrol area with few Hispanics does not eliminate the underlying problem but does nonetheless reduce its overt manifestation, with positive benefits to the department.

Direct and Indirect Benefits

An EW approach to traffic stop data offers a number of potential benefits,

---

[24] The folklore of policing is filled with stories of police departments using punitive transfers to retaliate against officers who had offended the top command in some way. For anecdotal evidence that departments willfully "dumped" incompetent officers on African American neighborhoods, see Reiss (1971). These practices have been significantly curbed by seniority-based assignment systems in contemporary police collective bargaining agreements.

both direct and indirect. The first and most important benefit is that it provides a framework for identifying and doing something about those officers who are in fact engaging in racial profiling or in activities that have an adverse effect on relations with racial and ethnic minority communities. Correcting the behavior of the worst offenders substantially reduces the number of such stops for the department as a whole, with a net improvement in the performance of the department and the perception of that performance in the community. It also communicates a message to other officers about the department's priorities with respect to race and ethnicity in particular and accountability in general. This effect may be conceptualized in terms of general deterrence. At some point, a record of consistent interventions with regard to racial profiling (or other inappropriate behavior) begins to change the organizational climate of the department (Walker & Alpert, 2000).

An EW approach also has a number of potentially important indirect or collateral benefits. Analysis of the data may reveal that one officer has a relatively high level of traffic stops because the other officers working a comparable assignment engage in almost no officer-initiated activity of any sort. These officers also can be referred to counseling or training. The data, in short, can serve as a general measure of officer performance and serve as an important accountability tool (International Association of Chiefs of Police, 1989; Walker and Alpert, 2000).

As mentioned above, analysis of the data may reveal inconsistencies in enforcement practices between neighborhoods or shifts that need to be corrected. In some cases, these inconsistencies may be the product of supervisors with inappropriate priorities.

Finally, analysis of the data may uncover other problems. It is possible, for example, that a few male officers have a suspiciously high number of stops of female drivers (and young female drivers in particular). Anecdotal evidence suggests that this problem, which may be labeled "driving while female," does, in fact, exist. The database can serve to identify the officer in question and serve as the basis for counseling or training designed to correct the behavior.

Limits to the EW Approach

An EW approach to traffic stop data has one major limitation: It is not an effective tool in cases where an entire agency is engaging in racial or ethnic discrimination. In such a case, the behavior of all officers will be roughly the same—all will be engaged in aggressive and potentially biased traffic enforcement. A different remedy will be required for such situations where discrimination is systematic and institutionalized.

Also, as noted above, EW systems have been subject to only one evaluation, and the authors of that study acknowledge a number of limits with the meth-

odology used. The extent to which the best and most active officers may be "caught" by an EW system and/or the extent to which officers may be deterred from proactive police work are not known at this time. More research on EW systems is needed.

Data Needs and Related Problems

Applying an EW approach to traffic stop data requires the collection of data on individual officers. This is a highly sensitive issue with a number of difficult administrative and political ramifications. Rank and file police officers, usually speaking through their union representatives, have generally opposed any data collection that identifies individual officers ("Police identities," 2000). This is prompted in large part by the fear that plaintiff's attorneys will subpoena the data in race discrimination law suits. Some law enforcement agencies have yielded to the interests of the rank and file and agreed to data collection without individual identifiers.

Despite this opposition, a reasonable argument can be made that law enforcement agencies have a responsibility to collect traffic stop data that identifies individual officers. The U.S. General Accounting Office (2000, p. 36) expressed interest in data on the race of officers making stops, apparently reflecting the general assumption that profiling involves primarily white officers stopping drivers of color. The argument here assumes that perceived racial profiling could involve factors independent of the race of the officer (e.g., overly aggressive enforcement irrespective of the race or ethnicity of drivers) and serves to distinguish between those white officers whose performance is exemplary and those whose activities are problematic.

While agencies have a legitimate right to collect data on individual employees and use that data for management purposes, the names of individual officers do not and probably should not be made public. Police departments routinely collect data on the performance of officers that are not publicly available: internally generated allegations of misconduct, personnel evaluations, and so on. The existence of these data, in fact, provide a major part of the rationale for individual identifiers in traffic stop data. The public *does*, however, have a right to information about the general activities of a police department. Police departments have long acknowledged this by publishing annual reports with data on criminal activity and arrests. (An increasing number include data on citizen complaints and their disposition.). Thus, it is appropriate for a police department to publish aggregate data, indicating, first, that a review of traffic enforcement activities is regularly conducted, and, second, that a certain percentage of officers have been identified for counseling or training.

The EW approach, however, poses a challenge to the dominant approach to traffic stop data, and as a consequence introduces an additional political contro-

versy and possible stumbling block into the data collection movement. It requires the collection of data on individual officers making traffic stops. Yet, few existing or proposed data collection efforts to date include data on officers. The consent decree involving the New Jersey State Police (United States v. New Jersey, 1999) requires identification of individual officers, but the proposed federal data collection bill specifically states that no data on individual officers will be collected (Traffic Stops Statistics Study Act, 1999). A U.S. General Accounting Office (2000, Appendix V) survey of 13 proposed or enacted state laws in March 2000 found that only one included data on officer demographics. Under pressure from local police unions, some law enforcement agencies have undertaken voluntary data collection but with the provision that individual officers not be identified ("Police Identities," 2000). In short, the development of useful data on the racial and ethnic dimensions of traffic stops depends, first, on the proper analytic framework, and second, on the collection of the particular data dictated by that framework.

❀ Conclusion

The issue of racial profiling in traffic enforcement by the police has emerged as a major controversy in American society in recent years. Charges that the police stop drivers solely on the basis of their race or ethnicity, moreover, are only one part of a larger crisis in police-community relations involving similar allegations of discrimination related to the use of deadly force, excessive physical force, arrest, and other police actions. The collection of systematic data on traffic stops has become the principal demand of civil rights groups seeking to end racial profiling. An increasing number of law enforcement agencies are already engaging in traffic stop data collection, whether voluntarily or by legislative mandate.

This paper argues that outside of the special context of interstate highways, the commonly used baselines, such as the resident population of a jurisdiction or official data on criminal activity, are not appropriate for determining whether a pattern of discrimination exists in traffic stops. Traffic stop data can be meaningfully analyzed through a framework adapted from police EW systems. The proper baseline—or denominator—in this approach is the behavior of other officers working comparable assignments. The value of the EW approach is that it not only provides a meaningful framework for analyzing the data but also points towards appropriate and effective corrective action: some form of intervention directed toward the officers who appear to be the worst offenders. The EW approach also offers important collateral benefits. It can serve to identify supervisors of department-wide policies that are the source of the racial profiling problem. It can also serve as a general performance database and identify officers who are engaging in no real police work.

❈ References

Alpert, G. (1997). *Police pursuit: Policies and training.* Washington, DC: U.S. Government Printing Office.

Alpert, G. (2001). Traffic stop data study: Miami-Dade, Florida. In progress.

Alpert, G., & Walker, S. (2000). Police accountability and early warning systems: Developing policies and programs. *Justice Research and Policy, 2* (2), 59–72.

American Civil Liberties Union. (1999). *Driving while black.* New York: Author.

American Civil Liberties Union. (2000, May 18). Pittsburgh police chief calls traffic-stop data emerging "national standard." [Online.] Available: www.aclu.org, News.

Amnesty International. (1998). *Rights for all.* London: Author.

Bachman, J.G., Johnston, L. D., & O'Malley, P. M. (1988). *Monitoring the future: Questionnaire responses from the nation's high school seniors.* Ann Arbor: Institute for Social Research.

Bennett, W. J., DiIulio, J. J., & Walters, J. P. (1996). *Body count.* New York: Simon and Schuster.

Black, D. (1980). *The manners and customs of the police.* New York: Academic Press.

Blumstein, A. (1982). On the racial disproportionality of United States' prison populations. *Journal of Criminal Law and Criminology, 73* (3), 1259–1281.

Bratton, W., & Knoblach, P. (1998). *Turnaround.* New York: Random House.

Bureau of Justice Assistance. (1996). *National assessment of structured sentencing.* Washington, DC: Government Printing Office.

Bureau of Justice Statistics. (1997). *Criminal victimization in the United States, 1994.* Washington, DC: Government Printing Office.

Bureau of Justice Statistics. (1998). *Sourcebook of criminal justice statistics, 1998.* Washington, DC: Government Printing Office.

Bureau of Justice Statistics. (2001). *Contacts between police and the public: Findings from the 1999 national survey.* Washington, DC: Government Printing Office.

Bush, G. (2001, February 28). Racial profiling. Memorandum for the Attorney General. U.S. Newswire.

Center on Constitutional Rights. (1997). *Proceedings of the National Emergency Conference on Police Brutality and Misconduct.* New York: Center on Constitutional Rights.

Christopher Commission. (1991). *Report of the Independent Commission on the Los Angeles Police Department.* Los Angeles: Author.

Clinton, B. (1999). Fairness in law enforcement: Collection of data. Washington, DC: The White House.

Cohen, J. D., Lennon, J., & Wasserman, R. (2000). *Eliminating racial profiling: A third way approach.* Washington, DC: Progressive Policy Institute.

Cole, D. (1999). *No equal justice.* New York: New Press.

Cops rap veto of traffic-stop tally. (1999, September 30). *San Francisco Chronicle*, p. 15.

Davis, K. (1975). *Police discretion.* St. Paul: West.

Fagan, J., & Davies, G. (2000). Street stops and broken windows: Terry, race and disorder in New York City. *Fordham Urban Law Journal*, XXVIII (December), 457–504.

Fyfe, J. (1979). Administrative interventions on police shooting discretion: An empirical examination. *Journal of Criminal Justice, 7* (Winter), 309-323.

Fyfe, J. J., Greene, J. R., Walsh, W. F., Wilson, O. W., & McLaren, R. C. (1997). *Police administration,* 5th ed. New York: McGraw-Hill.

Gallup News Service. (1999). *Racial profiling is seen as widespread, particularly among young black men.* Princeton, NJ: Author.

Gardiner, J. (1969). *Traffic and the police.* Cambridge: Harvard University Press.

Geller, W. A., & Scott, M. (1992). *Deadly force: What we know.* Washington, DC: Police Executive Research Forum.

Goldberg, J. (1999, June 20). The color of suspicion. *The New York Times Magazine*, pp. 51ff.

Harris, D. (1997). "Driving while black" and all other traffic offenses: The Supreme Court and pretextual traffic stops. *Journal of Criminal Law and Criminology, 87* (2), 544–582.

Harris, D. (1999). The stories, the statistics, and the law: Why "driving while black" matters. *Minnesota Law Review, 84* (December), 265–326.

Hindelang, M. (1978). Race and involvement in common law personal crimes. *American Sociological Review, 43* (February), 93–109.

Home Office. (2000). *Profiling populations available for stops and searches.* [Police Research Series, Paper 131.] London: Home Office.

Human Rights Watch. (1998). *Shielded from justice.* New York: Human Rights Watch.

International Association of Chiefs of Police. (1989). *Building integrity and reducing drug corruption in police departments.* Washington, DC: Government Printing Office.

Johnston, L. D., Bachman, J. G., & O'Malley, P. M. (1997). *Monitoring the future: Questionnaire responses from the nation's high school seniors.* Ann Arbor: Institute for Social Research.

Kansas City police go after their "bad boys." (1991, September 10). *New York Times*, p. 1.

Katz, C. (1997). *Police and gangs: A study of a police gang unit.* Unpublished doctoral dissertation, University of Nebraska at Omaha.

Kennedy, R. (1997). *Race, crime, and the law.* New York: Vintage Books.

Knepper, P. (1996). Race, racism and crime statistics. *Southern University Law Review, 24* (Fall), 71–112.

Lamberth, J. (2000). *Statistical report.* [Online.] Available: www.aclu.org, In the Courts.

Leadership Conference on Civil Rights. (2000). *Justice on trial: Racial disparities in the American criminal justice system.* Washington, DC: Author.

Lempert, R. (1984). From the editor. *Law and Society Review, 18* (4), 505–513.

Lempert, R. (1989). Humility as a virtue: On the publicization of policy-relevant research. *Law and Society Review, 23* (1), 145–161.

Leo, R. A., & Thomas, G. C. III. (1998). *The Miranda debate.* Boston: Northeastern University Press.

Maclin, T. (1998). Race and the fourth amendment. *Vanderbilt Law Review, 51* (March), 333–393.

Mann, C. R. (1993). *Unequal justice.* Bloomington: University of Indiana Press.

Mastrofski, S. D., Parks, R. B., Reiss, A. J., Jr., 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: Government Printing Office.

Meeks, K. (2000). *Driving while black.* New York: Broadway Books.

Miller, J. (1996). *Search and destroy.* New York: Cambridge University Press.

National Advisory Commission. (1968). *Report of the National Advisory Commission on Civil Disorders.* New York: Bantam Books.

National Highway Traffic Safety Administration. (1998). *Nationwide survey regarding speeding and other unsafe driving actions.* Washington, DC: Government Printing Office.

National Research Council. (1989). *A common destiny: Blacks and American society.* Washington, DC: National Academy Press.

Newman, D. (1966). *Conviction.* Boston: Little, Brown.

Oaks, D. (1970). Studying the exclusionary rule in search and seizure. *University of Chicago Law Review, 37* (Summer), 665–757.

Office of Community Oriented Policing Services. (1999). *Police department information systems technology enhancement project.* Washington, DC: Government Printing Office.

Police Executive Research Forum. (1981). *Survey of police operational and administrative practices.* Washington, DC: Author.

Police Executive Research Forum. (2001). Traffic stop policies and practices: Report and recommendations. Washington, DC: Author. Forthcoming.

Police identities a sticking point in racial-profile study of drivers. (2000, October 2). *Providence Journal,* p. 27.

Racial profiling ban lauded. (1999, September 21). *Omaha World Herald,* p. 9.

Ramirez, D., McDevitt, J., & Farrell, A. (2000). *A resource guide on racial profiling data collection systems: Promising practices and lessons learned.* Washington, DC: U.S. Department of Justice.

Reiss, A. (1971). *The police and the public.* New Haven: Yale University Press.

Russell, K. (1998). *The color of crime.* New York: New York University Press.

Sacramento Police Department. (2000). *Data collection project.* [Online] Available: www.sacpd.org.

San Diego Police Department. (2000). *Vehicle stop study mid-year report.* San Diego: Author.

San Jose Police Department. (1999). *Vehicle stop demographic study: First report.* San Jose: Author.

San Jose Police Department. (2000). *Vehicle stop demographic study: Second report.* San Jose: Author.

Scully, R. T. (1999, May 3). Alleged race profiling by police exaggerated. *Omaha World Herald,* p. 17.

Sentencing Project. (1995). *Young black Americans and the criminal justice system: Five years later.* Washington, DC: Author.

Shelton, H. (1999, May 12). Testimony for the NAACP, House Judiciary Committee.

Sherman, L. W. (1992). *Policing domestic violence.* New York: Free Press.

Sherman, L. W., & Cohn, E. (1989). The impact of research on legal policy: The Minneapolis domestic violence experiment. *Law And Society Review, 23,* (1), 117–144.

Sherman, L. W., Shaw, J. W., & Rogan, D. P. (1995). *The Kansas City gun experiment.* Washington, DC: Government Printing Office.

Silverman, E. (1999). *NYPD battles crime.* Boston: Northeastern University Press.

Skolnick, J. H. (1994). *Justice without trial* (3rd ed.). New York: Macmillan.

Smith, D. A., Visher, C. A., & Davidson, L. A. (1984). Equity and discretionary justice: The influence of race on police arrest decisions. *Journal of Criminal Law and Criminology, 75* (Spring), 234–249.

Spitzer, E. (1999). *The New York City police department's "stop and frisk" practices.* New York: Attorney General of New York.

Suffett. D. (1966). Bail setting: A study of courtroom interaction. *Crime and Delinquency, 12*, 318–331.

Taylor, J., & Whitney, G. (1999). Crime and racial profiling by U.S. police: Is there an empirical basis? *Journal of Social, Political and Economic Studies, 24* (4), 485–510.

Thompson, A. C. (1999). Stopping the usual suspects: Race and the fourth amendment. *New York University Law School, 74* (October), 956–1013.

Torres, D. A. (1987). *Handbook of state police: Highway patrols, and investigative agencies.* New York: Greenwood Press.

Traffic Stops Statistics Study Act of 1999. H. R. 1443. (1999).

Trenton charges 2 troopers with faking drivers' race. (1999, April 29). *New York Times,* p. 27.

Ulmer, J. T. (1997). *Social worlds of sentencing.* Albany: State University of New York Press.

U.S. Commission on Civil Rights. (1981). *Who is guarding the guardians?* Washington, DC: Government Printing Office.

U.S. Commission on Civil Rights. (2000). *Revisiting who is guarding the guardians: A report on police practices and civil rights in America.* Washington, DC: Government Printing Office.

U.S. General Accounting Office. (2000). *Racial profiling: Limited data available on motorist stops* [GAO/GGD-00-41]. Washington, DC: Author.

U.S. Department of Justice. (1997). *Police integrity: Public service with honor.* Washington, DC: Government Printing Office.

U.S. Department of Justice. (2001). *Principles for promoting police integrity.* Washington, DC: Government Printing Office.

United States v. City of Pittsburgh. (W. D. Pa., 1997).

United States v. New Jersey. (1999).

Verniero, P. (1999). *Interim report of the state police review team regarding allegations of racial profiling*. Trenton: Attorney General of New Jersey.

Walker, S. (1993). *Taming the system: The control of discretion in criminal justice, 1950–1990*. New York: Oxford University Press.

Walker, S. (1997). Complaints against the police: A focus group study of citizen perceptions, goals, and expectations. *Criminal Justice Review, 22* (Autumn), 207–225.

Walker, S. (2000). *Police interactions with racial and ethnic minorities*. Washington, DC: Police Executive Research Forum.

Walker. S. (2001). *Sense and nonsense about crime* (5th ed.). Belmont: Wadsworth.

Walker, S., & Alpert., G. (2000). Early warning systems: Concept, history, and issues [IQ Service Report, No. 8, August]. Washington, DC: International City Management Association.

Walker, S., Alpert, G., & Kenney, D. (2000). *Responding to the problem police officer: A national evaluation of early warning systems*. Final Report to the National Institute of Justice.

Walker, S., Spohn, C., & DeLone, M. (2000). *The color of justice* [2nd ed.]. Belmont: Wadsworth Publishing.

Wave of abuse laid to a few officers. (1992, October 4). *Boston Globe,* p. 1.

Weisburd, D., Greenspan, R., Hamilton, E. E., Williams, H., & Bryant, K. A. (2000). *Police attitudes toward abuse of authority: Findings from a national survey*. Washington, DC: Government Printing Office.

Westley, W. A. (1970). *Violence and the police*. Cambridge: MIT Press.

Wilbanks, W. (1987). *The myth of a racist criminal justice system*. Monterey: Brooks/Cole.

Wilson, J. Q. (1968). *Varieties of police behavior*. Cambridge: Harvard University Press.

Wilson, O. W. & McLaren, R. C. (1977). *Police administration* [4th ed.]. New York: McGraw-Hill.

Zingraff, M. (2001). Traffic stop data study: North Carolina state police. In progress.