Racial Profiling

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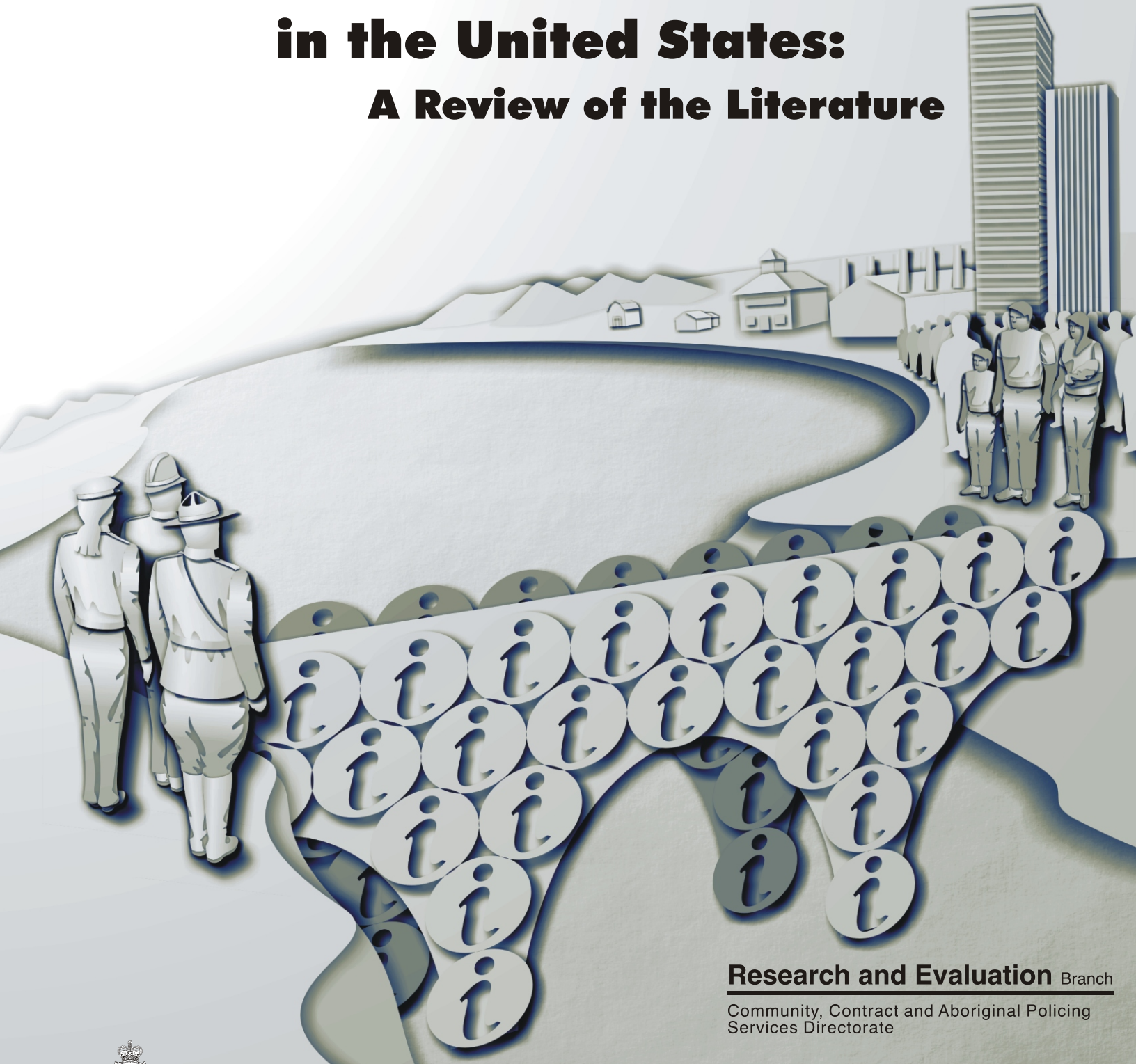
in the United States:

A Review of the Literature



Research and Evaluation Branch

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Racial Profiling in the United States: A Review of the Literature

by

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Executive Summary

One of the most important public policy and research issues facing police executives today is the concern that race is being used as a major determining factor in police decisions to make a traffic stop and, in some cases, to subsequently search the vehicle and its occupants. This type of behaviour is, increasingly referred to as 'racial profiling' by the public. There is a concern about racial prejudice and/or discrimination by police officers and their supervisors. The term racial profiling was originally used to refer to the use of race as an explicit criterion in developing more accurate profiles of offenders that some police organizations used to guide the decision-making of their officers. Today, there is a highly publicized debate as to whether racial discrimination exists and, if so, to what extent.

This report reviews empirical studies conducted in the United States to evaluate police-citizen contacts during traffic stops. The thrust of these studies has been to determine if racial profiling (in the popular sense) exists within an agency or jurisdiction, by determining if minorities are disproportionately represented in traffic stops, searches and/or citations based on their population in the study jurisdiction. Many of these studies concluded that racial disparities exist in the aggregate rates of such stops. The issue with these conclusions is the mere presence of a disparity in the aggregate rate of stops does not, in itself, demonstrate racial prejudice or racial discrimination by police officers any more than the racial disparity in prison populations demonstrates racial prejudice and/or discrimination by judges. As a result, all studies investigating racial profiling focus much of their attention upon methodological concerns, most notably the proper denominator or base rate – that is, the expected rate of stops of a racial minority group by police officers. Different studies have used different base rates, but to date, the studies of racial profiling are split in their conclusions about disparity in the aggregate rate of stops being adequately explained by individual police officers racial prejudice and/or discrimination. However, since there is no general agreement concerning the appropriate base rate, all such conclusions are premature.

One issue with these studies involves the actual definition of racial profiling. The term has developed without a universally agreed-upon definition, although what it involves has become clearer through public debate, research studies and legislation. Generally speaking, it appears that any definition of racial profiling should have two elements-the first element typically makes a statement that individuals are being stopped as the result of their belonging to a class of individuals, and the second element notes, that the police must have some level of suspicion beyond race to stop them.

The bulk of the research literature in this area focuses upon pretextual traffic stops. Pretextual stops occur when a police officer, who is suspicious about a vehicle, stops it under the pretext of a traffic violation to conduct an investigation of matters that may not be related to the specific traffic offence. The United States Supreme Court, in Whren v. U.S. (1996), cleared the way for pretextual stops in the United States. In this case, the Supreme Court stated that regardless of a police officer's actual motivation, a police officer is legally permitted to conduct an investigation into other possible criminal activities once a traffic violation has occurred.

The studies reporting the existence of racial profiling as evidenced by the disproportionate representation of racial minority groups in traffic stops, searches and/or citations are based on three assumptions that may be false. The first assumption is that 'baseline' data (i.e., observations of the driving population) as opposed to 'benchmark' data (i.e., census-based data) are the best source of data for traffic stop comparisons, i.e., the denominator. While most researchers today prefer to use baseline data, this is a costly and time-consuming approach. In addition, many courts in the United States are now requesting jurisdiction-wide data on police activities, a request best served by collecting benchmark data.

The second assumption is that the rates of traffic violations and offending are the same for all racial groups. Some researchers argue that this is so, while others argue that groups violate traffic laws at different rates.

The third assumption is that law enforcement is equally distributed across space and time. In fact, most police agencies distribute their officers across a jurisdiction according to the time of shifts and/or by management strategies, such as calls for service.

The issues noted above, such as the selection of a benchmark or baseline as the denominator, demonstrate that there is no coherent theory to guide the data collection or to interpret the results. Specifically, almost all of the studies reviewed in this report fail to measure any explanatory factors beyond the simple aggregate rate of stops. This is a significant variation compared to other research efforts in police activities that have been conducted since the 1970s, many of which have studied police behavior. Studies of racial profiling have, in contrast, failed to explain how and why police officers make their decisions; for example, is it the result of bias on their part or a problem with policy?

While there are problems with research to date on 'racial profiling', this does not mean that police agencies should discount the importance of data collection in this area. There could be a small number of officers who do engage in such activities, but because all traffic stops are analyzed, their activities do not influence the aggregate outcomes. Some policies now exist that attempt to uncover whether or not such officers do exist through the use of early warning or intervention systems. In addition, because the type of data requested by the courts is not typically collected by the courts, it is important to engage in pilot projects to identify the appropriate data. Finally, and perhaps most emphatically, it is important for police agencies to study the perceptions of racial minority groups concerning their treatment by the police. This would involve how unfair they perceive their treatment to be, whether or not they believe this unfairness to be the result of a bias and how this may have influenced their perception of the police. In addition, the police should explore what needs to be done to increase citizens' confidence in the fairness of the police.

Introduction

In the United States, the accusation of racial profiling has become one of the most controversial issues in the recent history of policing. A number of media outlets have carried articles accusing the police of engaging in discriminatory practices against members of racial minority groups. Other groups, such as the American Civil Liberties Union, have criticized the practices of the police, in some cases conducted their own studies, and have called on state legislatures to pass laws directed at prohibiting and/or controlling the police practices they feel lead to such practices. In addition, there have been a number of lawsuits directed at police agencies alleging that the complainants were the victims of such police practices. This volatile climate surrounding racial profiling has led an increasing number of police agencies in the United States to consider or start collecting data related to police contact with members of racial minority groups. This interest has, in most cases, centered upon traffic stops, but pedestrian stops (most typically in large American cities) have also been studied. Regardless of the type of stop being studied, demands that police agencies start to collect data about the possibility that their officers are engaging in racial profiling have come from legislative mandates and court decisions. In some cases, voluntarily actions have been undertaken by the police themselves.

Racial Profiling Studies in the United States: A Brief History

In 1999, two states in the United States (Connecticut and North Carolina) had passed legislation that mandated officers to collect race data for all traffic stops (Strom and Durose, 2000). Several states (such as Missouri and Connecticut) conducted statewide examinations of the issue. In addition, United States federal agencies such as the General Accounting Office, the National Institute of Justice and the Office of Community Oriented Police Services (through its contract with the Police Executive Research Forum) examined the activities of selected police agencies. By the end of 2001, 18 states had

passed legislation concerning racial profiling, most of which included data collection (National Conference of State Legislatures, 2001). In that same year, a survey of 49 state law enforcement agencies reported that 16 police agencies required all of their officers with traffic patrol duties to record drivers' race and/or ethnicity for traffic stops. Nearly one-half of these agencies were collecting data as a result of a self-initiated policy. Twenty-three other state police agencies reported requiring their officers to collect information on drivers' race and ethnicity in specific circumstances, such as arrests, use of force, etc. (Strom et al., 2001).

The majority of the state agencies currently collecting race-based data are doing so for all stops with most, if not all, making their data available to the public. The Police Executive Research Foundation (Fridell et al., 2001) indicates that the most common way for the police to disseminate this information has been through the Internet. At the legislative level, the general trend has been toward mandatory, universal, and ongoing data collection efforts (Institute on Race and Poverty, 2001). Various state and local police agencies are currently involved in data collection of police actions with racial minority groups, as a result of federal Department of Justice investigations or consent decrees. By 2003, over 400 law enforcement agencies in the United States had started to collect some type of traffic stop data, and 14 states had passed laws requiring racial profiling policies. An overview of individual police departments which had produced studies or had been studied by the year 2000 was completed by Office of Community Oriented Police Services, U.S. Department of Justice. They reviewed the reports that had been concluded to date on these issues, and reported that, in terms of racial profiling in traffic stops, nine studies reported that they had not found evidence of racial profiling compared to four which had; in terms of racial profiling with respect to searches and 2 which reported mixed support; with respect to racial profiling when searching vehicles, four studies reported racial profiling, four reported no racial profiling, and three reported mixed findings (McMahon et al., 2002, 28).

Concerns about racial profiling and appropriate strategies to eliminate it have led to a large number of research projects on the part of police agencies to collect data on traffic

and pedestrian stops during the past 10 years (Fridell et al., 2001; Police Foundation, 2001). The findings from racial profiling or traffic stop studies have been fairly consistent to date: Almost all of the studies have found some type of disparity (or disparities) in the rate of minority citizens, especially African Americans, who are stopped, cited, searched or arrested, when compared to comparison groups. For example, the American Civil Liberties Union (1999), in their analysis of court records in four Ohio cities, reported that African Americans were stopped and searched by the police at a higher rate compared to their speeding violations. Cordner et al. (2000, 2002) found similar results in San Diego, California as did Zingraff et al. (2000) in their study of the North Carolina Highway Patrol.

The Need for an Empirically Based Policy

It is very difficult to interpret traffic stop data and/or searches of vehicles to determine whether or not a pattern of racial discrimination exists. The racial profiling controversy has forced law enforcement agencies and executives to discuss when and how race can be used legitimately in police work. It has also led to discussions about when and if rare is used illegitimately as well as how policies can be developed and implemented to reduce and eliminate discrimination altogether. To make sense of this complex topic, it is useful to think of three different kinds of situations (all of which are specific to the United States). The first situation occurs when there is agreement that police officers cannot stop or arrest an individual solely on the basis of race. That is, the officer cannot make a traffic stop purely on the basis of the driver being, for example, Aboriginal, Asian, or African American. The second situation involves agreement that the police cannot use race solely to stop a suspect when it is only one of a number of elements used to describe a general profile of a criminal suspect. The third situation occurs when race is used by the police as one element in a description of a specific criminal suspect and where the information is provided by a credible source. According to a report published by the Police Executive Research Forum (PERF) titled *Racially Biased Policing* (2001), of all the three situations noted above, the third one is the recommended approach for the

police to take. As such, policies have to be developed to insure that police action in a stop and/or search of a vehicle is done according to the law and the policy of the police service.

PERF (2001:49-50) specifically recommends the following policies for police agency adoption based on information collected from focus groups, a national survey of police executives, existing policies, American constitutional law scholars and law enforcement agency counsel among others. As specified by Fridell et al. (2001, 49-50) the PERF policy is:

- Arrest, traffic stops, investigative detentions, searches and property seizures must be based on reasonable suspicion or probable cause

- Permission for police officers to use race/ethnicity in establishing reasonable suspicion or probable cause must be restricted to these situations in which trustworthy, locally relevant information links an individual or individuals of a specific race/ethnicity to a particular unlawful incident

- The above restrictions must apply to requests for consent searches and even those non-consensual encounters that do not amount to legal detentions

- The use of race and ethnicity must be in accordance with all the appropriate Charter and Criminal Code requirements

- Provisions must be set to guide police officer behavior during encounters that can serve to prevent perceptions of racially biased policing

- A review of policy must be done to determine what has been done to date to prevent racial profiling or the discriminatory use of racial characteristics

- Policies must be designed to prevent racial bias in traffic enforcement.

The United States Department of Justice (Ramirez et al., 2000, 24) has also identified a number of major challenges in any given racial profiling study, including:

(1) How can police officers determine the race or ethnicity of the citizens they stop in the least obstructive manner and without increasing the intrusiveness of the stop?

(2) What budgetary, time and paperwork burdens will data collection impose on police departments?

(3) How can departments ensure the accuracy of data collection procedures and be certain that reporting requirements are not circumvented by police officers who fail to file or who report erroneous information?

(4) How can police departments ensure full compliance by line officers and deal effectively with any police officer resistance?

(5) Will the data that is collected and be used for research and training purposes or will it be used to discipline police officers and facilitate lawsuits?

(6) Will the data be analyzed and compared to an appropriate measure of the statistically correct representative population? How can the parameters of that population be ascertained?

(7) Can stakeholders collaborate sufficiently in planning and conducting the study such that they will be in agreement in interpreting the findings of the study?

(8) Can the study's stakeholders work productively to develop improvements to the jurisdiction involved and/or local justice system that could be pursued jointly following the study?

(9) Will the study itself bring about changes in crime rates or violation rates in the jurisdiction and, if so, will the stakeholders be able to anticipate, detect, and respond to such changes in an effective manner?

Definitions of Racial Profiling

What is racial profiling? Racial profiling means different things to different people and/or groups. The term racial profiling, although used by the media and others as if it has the status of legal standing, is "a political moniker that has little meaning within the confines

of the law" (Smith and Alpert, 2002, 679). The term is most commonly used by researchers and interested groups to describe the inappropriate targeting of race by police officers when they are using their law enforcement authority, usually in the context of traffic stops. Officer intentions and aggregate stop outcomes appear to be at the core of many of the most common definitions of this term.

Police officials point out that when police officers decide to stop, investigate or search a vehicle, race is only one factor in a whole variety that might be considered (Fridell et al., 2001). Individual police officers see their activities as attempts to reduce crime and disorder in problem areas and as an integral part of problem solving. Racial profiling is typically defined as the police use of race for initiating law enforcement activity (Ramirez et al., 2000). By this definition, for an action to constitute racial profiling, the police officer's motivation or intent to discriminate by race must be demonstrable. In the United States, it is extremely difficult to prove racial profiling, particularly in those cases involving traffic offenses, which the United States Supreme Court has ruled can be used as a pretext for investigating other offences (see Whren v. United States (1996) below) (Abramovsky and Edelstein, 2000).

One important point to recognize concerning the definition of racial profiling is that definitions agreed upon by a community and the police may not have legal standing in court. Whatever term is used, there is no widespread agreement over "precisely what activities constitute the police practice commonly referred to as racial profiling" (Smith and Alpert, 2002, 679). While law enforcement agencies have, in recent years, attempted to define racial profiling in their administrative policies, the courts and legislatures have not yet agreed on a single definition. As such, it is important to realize the importance of legal realities when developing definitions and policies, as PERF has pointed out (see Appendix A).

However, the lack of consensus on a definition of racial profiling is gradually changing. For example, the California Legislature, in their attempt to eliminate this practice, passed legislation that defines racial profiling as "the practice of detaining a suspect based on a

broad set of criteria which casts suspicion on an entire class of people without any individualized suspicion of the particular person being stopped." The first section of this definition identifies persons that the law protects from racial profiling or from being stopped as the result of their belonging to a class of individuals. The second element sets forth the conditions that the police could use to stop people, that is, the police must have some level of suspicion other than race to stop an individual, such as suspicions about a person's activities or actions.

To date, most definitions of racial profiling can be classified into two categories: conceptual and operational. It should be noted, however, that there are no agreed upon definitions, with the result that there are subtle and not-so-subtle variations in the definitions of racial profiling. In fact, some researchers choose not to define this term at all. Some social scientists have not defined this term when discussing it in their text – for example, in their popular undergraduate textbook, Walker et al. (2000:104) state that while racial profiling exists empirically, they do not attempt to define it: "One of the most serious examples of racial discrimination in policing is the so-called 'driving while black' phenomenon. There is considerable evidence that the police target African Americans for traffic stops." Some researchers have decided not to define racial profiling in their research projects, preferring instead to utilize a working definition. For example, Cordner et al. (2001), in a study of vehicle stops for the San Diego Police Department, compare the percentage of minorities to white drivers stopped. And Zingraff et al. (2000), in their research into the citations, warnings and searches of the North Carolina State Highway Patrol, stated that 'driving while black' refers to the charge that police stop, question, warn, cite, or search African American citizens because of their race.

The most commonly used definition of racial profiling is conceptual. As noted, while there is no consensus on a definition, there is an understanding that this activity involves the stopping of a minority group member by a police officer on the basis of a questionable action, however minor. Racial profiling has been defined as "police officers stopping questioning and even searching black drivers who have committed no crime, based on the excuse of a traffic offence" (Harris, 1999, 265). Similar types of definitions

can be found throughout the literature – for example, Kennedy (1997, 11) stated that racial profiling occurs "whenever police routinely use race as a negative signal that, along with an accumulation of other signals, causes an officer to react with suspicion." Meeks' definition states that racial profiling is "the tactic of stopping someone only because of the color of his or her skin and a fleeting suspicion that the person is engaging in criminal behavior." State agencies defined racial profiling conceptually. For example, the Minnesota Department of Public Safety (2000, 2) used a conceptual definition of racial profiling "to help determine whether motor vehicle drivers in Minnesota are being stopped by law enforcement officers because of their race" while the Washington State Patrol (2001, 1) defines it as "the targeting of certain racial groups during the course of conducting traffic stops."

While most definitions of racial profiling are conceptual, operational definitions are probably the main concern of police departments. Specifically, operational definitions attempt to specify some type of measure (typically using a benchmark - see below) to determine whether or not racial profiling does, in fact, occur. The Washington State Patrol (2001, 1) believes that "officer-initiated contacts of violators … (should be) … racially proportionate to two standards: driving age populations and collisions." Langan et al. (2001, 20) illustrated two operational definitions in their national study of contacts between the police and African Americans: "One definition of racial profiling is using race as a key factor in deciding whether to make a traffic stop.' The second definition involves 'using race as a key factor in deciding whether, during a traffic stop, to search the vehicle or the driver.'

There is a need for police departments to consider both conceptual and operational definitions of racial profiling. One of the most, if not the most frequently cited definitions of racial profiling is conceptual in nature, and is found in the work of Ramirez et al. (2000) who, in their guide to racial profiling data collection systems, propose the following definition:

> Racial profiling is defined as any police-initiated action that relies upon: (a) the race, ethnicity or national origin of an individual; rather than (b) the behavior of that individual, or (c) information that leads the police to a particular individual

> who has been identified as being engaged in or having been engaged in criminal activity" (Ramirez et al., 2000, 3).

According to Ramirez et al. (2000), justification for police action requires the presence of suspicious behavior or law enforcement information that leads the police to reasonably conclude that a specific person is involved or is about to become involved in criminal behavior. These authors are proposing what is referred to as a broad definition of racial profiling, that is, racial profiling occurs when a police officer uses race or ethnicity as one of a number of factors when deciding to stop, question, arrest, and or search someone. An example of a broad definition of racial profiling is the police stopping someone on the basis of the following: age, time of day, location, race of the suspect, etc. That is, the police may use race or ethnicity to determine whether an individual fits a specific description of a particular suspect. In contrast, a narrow definition of racial profiling is when a police officer stops questions, arrests, and/or searches someone purely on the basis of that individuals' race or ethnicity. The narrow definition is usually condemned by both critics and the police themselves as it involves the selection of a person's race or ethnicity as the sole factor when determining whom to stop or search.

It should be pointed out that the definition proposed by Ramirez et al. (2000) had a significant impact upon the type of data collected by researchers in their area of racial profiling. Prior to the introduction of this definition, many studies used data from the police collected for other purposes and which often involved an analysis of only certain actions following a stop by the police, such as a search. Following the publication of this definition, data collection efforts focused upon a more inclusive view of police officers' activities, such as police officers' decisions regarding stops, including citations, written warnings, searches, seizures, detentions and arrests.

Perhaps the most important broad definition of racial profiling has been proposed by PERF. They suggested using the term "racially-biased policing" as an alternative to "racial profiling" since they felt the latter term is most commonly used to refer to those police actions initiated solely on the basis of race in the context of vehicle stops. PERF believes that this use is too narrow since it ignores the potential for police misuse of

power in the many other types of activities when they come into contact with citizens. For example, they pointed out that it "likely references [sic] only a very small proportion" of police activities involving the use of race as a determining factor since "a racially prejudiced officer likely uses more than the single factor of race when conducting biased law enforcement" (Fridell et al. 2001, 3). Part of the strength of the alternative definition proposed by PERF lies in their argument that the narrow definition of racial profiling does "not include activities that are legally supportable in terms of reasonable suspicion or probable cause, but are nonetheless racially biased" (Fridell et al. 2001, 4). In addition, it was found that the term racial profiling was problematic as it was used as a catchall phrase: they discovered during their focus group interviews that citizens tended to use it within the context of the broader definition while police used the narrow definition. The definition favored by PERF is conceptually-based: "Racially biased policing occurs when law enforcement inappropriately considers race or ethnicity in deciding how to intervene in a law enforcement activity" (Fridell et al., 2001, 5).

The definition proposed by PERF has important policy and practical considerations. In terms of policy, PERF stipulates that it is necessary to have a policy in place to guide police officers when it is and when it is not permissible for them to consider race and ethnicity when making law enforcement decisions. Their policy (see Appendix A) is built upon a principled response to legal considerations, i.e., two key principles found within the United States Constitution – the Fourth Amendment (Search and Seizure) and the Fourteenth Amendment (Equal Protection). They feel their definition has the advantage of attempting to clarify to police officers when they can in fact use race and ethnicity as a determining factor to establish reasonable suspicion or probable cause as well as including procedures that can reduce the perceptions of racially biased policing by the public. In terms of practical considerations, PERF discovered that without policies based upon clearly articulated policies and definitions, some officers in fact do use race and ethnicity as a general indicator of criminal activity in order to help justify their actions in relation to citizens who belong to minority groups. According to Fridell et al. (2001, 55-6), "without clear guidance in both policy and training, law enforcement executives risk

having line personnel inappropriately intrude on citizens' freedom based on those officers' personal biases as opposed to objective criteria."

The PERF researchers found that law enforcement agencies rarely had policies based on a clearly articulated definition of racially biased policing. In their study of 12 police agency focus groups, they reported finding differences of opinion as to when race and ethnicity can be used as in a law enforcement decision between line officers and command staff, even within agencies. Overall, their survey revealed that of the 1,087 police agencies in the United States which responded to one of their questionnaires, just under 4 per cent of them reported having policies dictating when race and ethnicity can be used as one factor among several to make policing decisions (Fridell et al., 2001, 55).

In recent years, in order to counter accusations of racial profiling, some police agencies in the United States started to collect information about the individuals stopped, searched, given citations and/or arrested by their police officers. These data collection efforts were thought to be sufficient for collecting the necessary statistics and information about the policing of minority groups, particularly as it applied to traffic stops. Once such data were collected and analyzed, it was felt that they would make it possible for police agencies to determine if changes were necessary to their policing strategies and tactics. Other advantages or benefits arising from the collection of this data include the positive impact upon external partnerships (such as community stakeholders) as well as the potential for improving internal administration tasks (such as increasing police officer accountability).

Pretextual Stops

A large part of the racial profiling controversy has been cased by pretextual stops. Pretextual traffic stops occur when a police officer, who is suspicious about a vehicle and/or its occupants, stops the vehicle under the pretext of a traffic violation in order to conduct an investigation usually unrelated to the traffic offence. The United States Supreme Court opened the avenue for the police to conduct pretextual traffic stops in

Whren v. United States (1996). In this case, the Supreme Court held that regardless of a police officer's actual motivation, a vehicle stop is reasonable and permitted by the Fourth Amendment when the officer has probable cause to believe that a traffic violation has occurred. This case also established the legal precedent which enables the police to stop vehicles going only one mile an hour in excess of the posted speed limit. This case validated pretext stops as long as there was a substantial violation that served as probable cause, thereby justifying the "one mile over the limit" threshold (although it must be noted that it is rare, if ever, that a police officer stops a vehicle for traveling one mile over the speed limit).

Regardless of the facts of any particular case, the key issue involving most claims of racial profiling in the United States is that law enforcement officers have discriminated against the complainants because of their race, ethnicity, or nationality in violation of the Equal Protection Clause of the U.S. Constitution. These plaintiffs often seek relief in the courts on the grounds of selective enforcement. The constitutional doctrine of selective enforcement applies the precepts of equal protection to the law enforcement decisions of police officials. Generally speaking, an individual who claims selective enforcement of a "facially neutral statute" must show that the police officials who were involved in the enforcement action had both a discriminatory purpose and that the enforcement action had a discriminatory effect (*Chavez v. State of Illinois*, 2001). To prove this allegation in court, the plaintiffs have to demonstrate that persons of another race violated the same law, but that the law was not enforced against them. In *United States v. Armstrong* (1996), the United States Supreme Court noted that disparity in conviction rates was not unconstitutional. The remedy for selective enforcement by state or local law enforcement officials is usually either suppression of the evidence or a criminal case or damages in a civil suit brought under 42 U.S.C. 1983.

Although the Fourth Amendment is the primary mechanism for checking overly intrusive police behavior in most other contexts, its prohibition against unreasonable searches and seizures is rarely applicable in cases of racial profiling due to the U.S. Supreme Court's decision on pretextual stops in *Whren v.United States* (1996). The primary issue in *Whren*

was whether a traffic stop made with reasonable suspicion of a traffic infraction was nonetheless unlawful if the police officer had an ulterior motive in making the stop. The majority of the Supreme Court held that for Fourth Amendment purposes, the relevant inquiry was an objective one: Did the officer have a legal basis for making the stop? According to this analysis, whether race played a role in the officer's decision to make a traffic stop or not is simply irrelevant for Fourth Amendment purposes. This case continued a line of legal decisions in which the American the courts have indicated they are not open to Fourth Amendment challenges to police vehicle stops based on statistical claims of racial profiling (see also Brignoni-Ponce (1975) and Martinez-Fuerte (1976), with these previous cases involving stops by law enforcement officials involving Hispanics at or near the U.S. border). The courts held that race can be taken into account together with other factors to constitute reasonable suspicion in deciding which vehicles to stop on suspicion of immigration violations.

Notwithstanding *Whren*, however, the equal protection based claim of selective enforcement is still available to a citizen who can prove that a traffic stop was motivated by a discriminatory purpose (i.e., racially motivated) and had a discriminatory effect (i.e., racially discrimination, even if that stop was also supported by reasonable suspicion or probable cause. Although such a stop would not constitute a Fourth Amendment violation, it would still be offensive under the Equal Protection clauses of the Fifth or Fourteenth Amendments of the U.S. Constitution.

In *State v. Soto* (1996), a criminal court accepted statistical evidence that African-American drivers on the New Jersey Turnpike were stopped at higher rates than were Whites. But the important distinction here is that Soto and other cases involved suppression of evidence in criminal cases based on search and seizure (Fourth Amendment) violations, not equal protection (Fourteenth Amendment) discrimination claims.

Recent court decisions in the United States have expanded the reasonableness standard to include the location of the individual as well as the individual's behavior as an indicator

of suspicion. In *Illinois v. Wardlaw* (2000), for example, the United States Supreme Court noted that although an individual's presence in a "high crime area" does not meet the standard for a particularized suspicion of criminal activity, a location's characteristics are relevant in determining whether an individual's behavior is sufficiently suspicious to warrant further investigation. Since "high crime areas" often are areas with concentration of minority citizens, this logic places minority neighborhoods at risk for elevating the suspiciousness of its residents.

To date, it appears that the courts in the United States agree in both Fourth Amendment claims (e.g., *State v. Soto*) and Fourteenth Amendment cases (e.g., *Whren et al. v. United States*) that the police cannot stop, search or arrest people solely because of their race. The courts have typically used reasonable suspicion in their adjudication of racial profiling claims under both the Fourth and Fourteenth Amendment doctrines, but have yet to offer a consistent standard for defining it. The need for additional factors that constitute reasonableness broadens the definition of profiling beyond race, and introduces into the definition factors such as suspect behavior and location. As such, it is constitutionally permissible to stop or search people because of their race if race is one of several motivating factors.

These rulings have led critics to comment that the addition of non-race-based factors as motivating issues "opens the door to stops based on a substitution of the correlates of race for the actual racial categorization. In effect, it is cheating statistically to cite other non-racial factors as a stop rationale when in fact that second factor adds no new information to the probabilistic determination" (Fagan, 2002, 108). For example, it has often been pointed out that drug courier profiles include over a dozen pieces of information that are used to invoke reasonable suspicion and that many of them are internally contradictory as indicators of criminality (e.g., Cole, 1999). Fagan (2002, 108) points out that "ruling out race as the sole justifying factor in a police action opens profiling claims to 'strict scrutiny' about the purposes and state interests in race-based actions."

Case law, however, is not uniformly applied against complainants in cases of racial profiling. In a decision in a profiling lawsuit against the California Highway Patrol, the Northern District Court of California held that the discriminatory-impact prong of a selective prosecution claim was inapplicable in the civil context and ruled that the plaintiffs may state a claim for relief under the Equal Protection Clause by "alleging the existence of statistical evidence and other facts which if proved would support an inference of discriminatory intent" (*Rodriquez v. California Highway Patrol*, 2000). Similarly, the Northern District court of Illinois recently allowed a racial profiling claim against the U.S. Customs Service to move beyond the summary-judgment stage when statistical evidence showed that black women at O'Hare airport were selected for strip searches and X-ray examinations at rates that far exceeded their proportion of the total travelers searched at the airport (*Anderson v. Cornejo*, 2002). As the Rodriquez court noted, even the Supreme Court has recognized that statistical evidence "may for all practical purposes demonstrate unconstitutionality because in various circumstances the discrimination is very difficult to explain on nonracial grounds" (Washington v. Davis, 1976). These cases suggest that further courts may allow racial profiling lawsuits to reach juries when the plaintiffs can present statistical evidence of discriminatory law enforcement practices derived from good social science research.

Methodological Issues of Racial Profiling Studies

As noted above, a number of studies have examined whether or not racial profiling exists within a police agency or jurisdiction by determining if racial minorities are disproportionately represented in traffic stops, searches, citations or arrests based on their population in the study jurisdiction. Two important measurement decisions have to be made about studying the issue of racial profiling. One is determining what types of activities of the police should be measured (i.e., the numerator) and the comparison group that needs to be used (i.e., the denominator) within the jurisdiction where the study is being conducted.

Identifying the Numerator

The presumed simplicity of collecting data hides the complexity of their interpretation. Important decisions have to be made about exactly what data to collect and use as the numerator. By referring to a numerator, one is looking at traffic stops made by the police, such as the number of times and the reason why the police stop someone at a certain location on a street, highway, etc. This is an important element in the study of potential racial profiling by the police, as it is the decision by a police officer to stop a vehicle that leads to "the denominator issue" (Walker, 2001). In addition, most complainants who allege racial profiling rely on official records of traffic stops as the basis of their claims.

An evaluation of the exact reason(s) why the police stop a vehicle is undertaken involves looking beyond the number of times a police officer stops a vehicle. Questions about why a stop is made have to be asked, since the police hold considerable discretionary powers to stop a vehicle. For example, the police may stop a vehicle due to driver and passenger traits and/or pertinent vehicle information among many others. If one wants to have a clear and detailed description as to why the police pull over a vehicle, data has to be collected as to the reasons why it happened. There are concerns in some jurisdictions that the police do not always record the reasons why a stop is made. And if the police do not record the reasons for a stop, it complicates the process of gaining a complete understanding and greater reliability as to why a stop occurred. What follows is an overview of the issues of using existing data for the numerator and the identification of the different types of traffic enforcement measures that can be used as the numerator. First, however, there will be a brief discussion of issues related to using existing data in police files.

Existing Data

Researchers have found it very difficult to use existing police data on stops prior to any implementation of systematically studying racial profiling and gaining a thorough

understanding of the reasons for officers' actions. A number of issues related to the use of existing data are relevant and need to be discussed in some detail.

One issue is that, even if it initially appears that good data currently exists about the reasons for police stops, it may be limited for the following three reasons: first, officers may be selectively recording their stops and therefore not providing complete data on the both the number and reasons why stops were made. In some jurisdictions, the use of video monitors has enabled the police to record each stop and a corresponding written record will exist. Attempts have been made to ensure that the number, reasons and dispositions of stops are accounted for. This includes the placing of video cameras in patrol vehicles, as well as giving police officers personal digital assistants (PDAs, commonly referred to as palm pilots). Second, even if records are kept, if they have not been filed in a secure location, some may raise questions about whether or not they have been falsified at a later date. Third, even if the police have provided information about the race of a driver and/or the passengers of a vehicle, there can be confusion about the race of a citizen by an officer, as the process of determining the race of an individual can vary according to the circumstances.

Measures of Traffic Enforcement

Based on police stop data, a wide range of performance indicators can be utilized concerning police activities when citizens are stopped, including (1) percentage of vehicles searched by consent, (2) percentage of vehicles searched without consent, (3) arrests made of drivers or passengers, and (4) contraband seized. In all such cases, racial disaggregation of the data is a necessary component of this approach.

Identifying the Denominator

Whether police practices involve racial profiling or not requires tests of the extent of racial disparities, under what circumstances, and the role of race relative to the race of the

targeted behavior(s) in the selected area(s) being examined. The central question is whether stops and searches were made because of race. This requires precise estimates of the supply of individuals who are involved in similar behaviors. Various terms have been used to describe the denominator, most commonly the benchmark (i.e., data already collected for other purposes such as census and driver license population data) and the baseline (i.e., observations of the driving population conducted specifically for comparison purposes in a study on racial profiling).

Many researchers feel there are definite advantages in using baseline rather than benchmark data as the primary technique to study racial profiling. Baseline data uses systematic observations to collect data and involves counting ordinary events in their natural settings. In addition, this approach to data collection can be specifically designed to collect information on the actual population of interest in a natural setting. This approach avoids the problems inherent in the use of previously collected information on overall populations. Studies of police stops which have to assess accurately the rate of stops and searches of a particular racial group by the police need to have information about those individuals available for these events or outcomes to occur. The use of observation allows researchers to count the population(s) under consideration at specific places and times, thereby allowing the researchers to focus on the racial group(s) and on the times of the day or days of the week when the traffic stops in question actually occur. However, there are two major limitations associated with using baseline data. One is that it is very expensive and labor intensive and the other is that it can look only at the specific sites being evaluated in the study. These last limitations can be overcome by using benchmark data.

At the end of the 1990s, Trende (2000) stated that most people in the United States who alleged that they were the victims of racial profiling relied on official records of traffic stops as the basis of their claims. The typical process that these complainants followed was that, once the relevant data were analyzed and the percentage of the minorities who were stopped, searched and arrested was calculated, the complainants had to then identify an appropriate comparison population to demonstrate that minority drivers were

overrepresented among the persons stopped. Some American court cases (e.g., Chavez v. Illinois State Police (2001)) have established that some comparison populations, such as census data, may in fact be flawed. As a result, some studies, in order to establish racial profiling, changed their approach to observation-based data collection.

The decision to collect race-based data concerning police contacts with citizens is an important one for police executives. They have to be aware that there are a number of methodological and empirical issues involved in data collection that have great importance and implications for the final analysis and interpretation of the data. The police also have to be aware that researchers themselves have debated the best way to measure whether or not the police do in fact engage in behaviors that lead to racial disparities in their contacts with nonwhites. However, pressures to collect information about police officers' contacts with nonwhites has led to police departments in the United States providing data about such activities to researchers in some cases without considering the benefits and drawbacks of various methodological approaches.

Whatever methodology used, however, the fact remains that data collected about police contacts with nonwhites must be compared to some type of reasonable criteria. A problem with this information about whom the police stop is that it does not include adequate comparisons. Once the data have been compiled, the police are confronted with issues of how to interpret accurately and use the data. Researchers investigating potential racial profiling by the police have indicated that, after data have been collected on traffic stops and further actions by the police, interpretation of this data is problematic due to issues related to what they have described as the "base rate problem" (Ekstrand, 2000; Ramirez et al., 2000; Cox et al., 2001; Walker, 2001).

Once researchers have determined the occurrence of police stops, questioning of drivers and other vehicle occupants, searches and arrests of nonwhite suspects, they must then create comparisons (also referred to as 'ratios') to some other population. It is this comparison that has created problems for researchers and has been the source of much controversy within the courts, legislatures, focus groups and various social groups. In

particular, decisions have to be made by researchers concerning the appropriate comparison group to which the practices of police officers will be made. A number of base rates have been used, but since these have in most cases been criticized, it is perhaps advantageous to present them as questions – should base rates be created by comparing the percentage of suspects stopped by the police who are nonwhite to the percentage of nonwhite citizens in the population or another group, such as the percentage of nonwhite drivers? Or should the base rate be determined by comparing the percentage of nonwhite suspects stopped by the police to the percentage of nonwhite drivers who are involved in traffic offences or the types of illegal behavior. Or should an entirely different denominator be used?

The first research efforts (see below) used research designs that captured racial differences in census-based population figures by using census data. These were deemed to be problematic by other researchers, who then focused their attention upon racial differences in driving behavior. Still others focused upon nondriving populations stopped by the police, such as pedestrians.

Researchers who prefer to use census-based population data of local nonwhite residents as the base rate defend their decision by pointing out that no research to date has found that members of nonwhite groups violate traffic laws more often or to a greater degree than white drivers, or that nonwhite drivers behave more suspiciously or disrespectfully during traffic stops than do white drivers, or that they pass through or frequent specific sections of roadway more often than whites. However, it cannot be dismissed out of hand that particular types of minority drivers do in fact drive in ways that violate the law and thus legitimately come to the attention of the police for their law-violating actions. On this matter, traffic data collected by various federal government agencies in the United States report gender and age differences in driving frequency, speeding and other unsafe driving behaviors (Boyle et al., 1998). Other differences have been found in the racial patterns for driving frequency: minority group members are more likely to use public transit as their primary means of transportation (Bureau of Transportation Statistics, 1997) and African Americans are more likely to live in households without a vehicle

(Federal Highway Administration: 1995), and African-Americans are less likely than either Whites or Hispanics to have driver's licenses (Langan et al., 2001). These findings indicate that differences do exist in the United States among driving populations – in fact, based on the information presented by the federal government agencies in the United States, it is possible that racial disparities in traffic stops are actually more serious than they first appear. Yet, some researchers (e.g., Ekstrand, 2000; Zingraff et al., 2000) have pointed out that the question of whether racial groups differ in their rate and degree of law-violating driving behavior is an important race-neutral explanation of disparity that has to be examined fully.

Most studies of racial profiling compare police stop data with the expected rate of stops of minority group members, assuming there is no racial prejudice or discrimination. This means that comparisons are made between police officers' rates of actions (e.g., stops, searches) toward minorities to the "expected probability" of these actions toward minorities (Rojeck et al., 2004). Some researchers have calculated a disparity or disproportionality index based on the difference between the actual and expected rates of police action (e.g., Cox et al., 2001).

What follows next is a description of benchmarks and then baselines in the context of racial profiling by the police. It should be noted that most of the first studies investigating racial profiling relied upon census-based population (a benchmark) estimates to determine "expected probabilities." After these initial attempts, researchers identified some of the problems related to this approach and attempted to develop improved baselines for their comparisons. To date, studies of police-citizen contacts have relied upon six primary methods to collect data: census data, roadway observations, official accident data, traffic violations, citizen surveys, and internal police department comparisons. In the next part of this report, these base rates will be discussed individually and followed by their relative strengths and weaknesses.

Census-Based Data

The most popular measure used for studying police-citizen contacts are census-based estimates of population figures. Benchmark data is commonly used in this context – this term refers to previously collected information about a (presumed) relevant population (e.g., census data, individuals who possess a valid driver's license). An assumption of this approach is that the racial composition of the surrounding area (as measured by census data) approximately represents the racial composition of the drivers in the area under investigation. Attempts to measure possible racial profiling by police officers by utilizing this approach has compared the racial distribution of traffic stops to a base rate based on the racial distribution of individuals living within a specified location. Deviations between these two distributions are taken as an indication that some racial groups are stopped at a disproportionate rate compared to their representation in the local population.

Most of the first studies investigating racial profiling use percentages of racial minorities found within the total population as the basis of comparison for traffic stop data (e.g., Spitzer, 1999; American Civil Liberties Union, 2000; Lansdowne, 2000; Cox et al., 2001). As researchers became more familiar with using census-based data, they refined the population base rates to improve their estimate of roadway usage by using racial percentages of the driving-age population. Originally, most census-based comparisons were made at both the state and city levels; recently, however, there has been a trend toward using base rates of smaller units of analysis, such as at the precinct, census tract, and block levels.

The use of census-based data as the base rate has been criticized because population estimates for specific spaces may not represent accurately the driving population in those particular areas. The residents of any particular area must represent approximately the drivers in that particular area for census data to provide valid comparisons. However, in the United States, data collected by national transportation and travel surveys have shown that racial, ethnic, age and gender differences exist for driving frequency. As indicated

above, U.S. government data collected in the late 1990s reported that African Americans were less likely than both whites and Hispanics to own a driver's license. These studies also revealed that African Americans were more likely to live in households without a vehicle as compared to whites. Other variations have been found. It has been found, for example, that members of minority groups in the United States are six times more likely than whites to use public transit rather than personal use vehicles as their primary means of transportation (Bureau of Transportation Statistics, 1997). In addition, Lamberth et al. (2001) found in their study of one Michigan jurisdiction that the population statistics overrepresented or underrepresented the non-white driving population anywhere from 7 per cent to more than 300 per cent. As a result, if this type of base rate is used to examine whether or not there are racial differences in the rates of police-citizen contacts during traffic stops, it would be necessary to study both the frequency and patterns of driving behavior in order to make this approach more precise. A first reaction to this approach would be that it is very expensive and time-consuming, as data would have to be collected, analyzed and interpreted in a designated jurisdiction before any appropriate analysis could be undertaken and before making an interpretation.

Rojeck et al. (2004), in order to avoid some of the limitations of using census based data, developed a better procedure, they felt, to address some of the issues related to the use of local population estimates. Their research was developed in response to requests by some police officials in Missouri who expressed concern that it was incorrect to use local residential population data to study the number of African Americans stopped in their jurisdictions, since many drivers were just passing through their jurisdiction when they were stopped. These officials argued that using only local residential populations as the base rate gave a misleading impression that their officers were engaged in racial profiling. Their approach measures the driving population based on what is referred to as spatial weighting. Through the use of mapping software and spatial statistics, a procedure was developed in an attempt to estimate driving populations more accurately. This was achieved by giving greater weight to residents, nearby residents, and nonresidents from more densely populated areas. The estimated driving populations, based on spatial weights, differed significantly from those using all types of census locations on an equal

basis. The researchers concluded this procedure gave a better estimate of roadway use in two of the three locations where it was used.

Rojeck et al. (2004) developed a Disproprotionality Index (DI) to determine the degree to which members of a given race are over- or under-represented among drivers stopped by the police. This index was designed to measure the difference between the actual and expected rates of police actions involved in stopping, arresting and searching drivers. Their approach relies upon population estimates to determine the expected probabilities that an African American or Hispanic would be stopped. Their procedure involved estimating the driving population for 92 Missouri municipalities on the basis of spatial weights of drivers who would be driving up to 20 miles from their residence. This was validated by relying on observational data focusing on the racial distribution of drivers in three suburban areas with "exceptionally high values on DI for blacks" (Rojeck et al., 2004: 137). The results indicated that whites were stopped at about the same rate expected for their proportion of the driving-age population and Hispanics were stopped at a rate of 25 per cent below the expected rate. In comparison, African Americans were stopped at a rate 16 per cent above the expected rate based on their numbers in the driving-age population. In addition, the researchers reported that African American drivers were approximately twice as likely as whites to be searched and arrested after being searched. The researchers also reported that Hispanics were more likely to be searched and arrested than whites, but their rate was in part hidden due to the fact that they were less likely to be stopped than either African Americans or whites. Overall, it was concluded that, for the majority of the 92 jurisdictions studied, "it makes little difference whether the residential population or the 'imputed' population is used to determine the degree of racial disproportionality in traffic stops" (Rojeck et al, 2004: 143). While there were exceptions, the researchers dealt with this only in general terms – specifically, that "(o)nly in some of the St. Louis populations – do we find a wide disparity in the disproportionality values based on the differing estimates of the proportion of black drivers" (Rojeck et al., 2004: 141).

The researchers did not provide any detail about the reasons for the stops, searches and arrests made by police officers. However, the researchers did note that there is a possibility some drivers may have had outstanding warrants and, as a result, were more likely to be arrested after being stopped and outstanding warrants discovered. Since a search is made of drivers who are arrested, it may not be surprising that they have a greater incidence of charges as the searches may lead to the discovery of illegal items. In addition, they noted that "direct-observation studies of drivers, vehicles, and driving patterns will … be necessary …" (Rojeck et al., 2004: 144).

Despite all the research studies to date using population estimates to determine the appropriate base rate, it is still not clear exactly what population base (e.g., local or regional) is the appropriate base rate for comparison. In *State v. Kennedy* (1991), for example, evidence of a discrepancy between population counts and stop rates by the police was sufficient to raise legitimate questions as to whether or not the police in New Jersey were selectively enforcing traffic laws as a function of driver race.

In the court ruling, the judge decided that a more appropriate base rate for assessing racial profiling was necessary in order to estimate the racial composition of those who exceed the speed limit and compare that to the composition of individuals stopped and cited for that offence. In another court case, *Chavez v. Illinois State Police* (2001), however, the issue of census-based population data for comparisons was recognized as potentially flawed, as the court found the database of police field reports to be too incomplete to be a reliable source of data for an accurate measure of the stop activities of the state police (see Insert 'G' for greater detail about this case). In this particular case, public defenders entered into court their findings about an experiment they designed concerning racial profiling. An Hispanic and white driver traveled in separate vehicles at the same speed along Interstate 80. They compared the stops of these drivers to an analysis of a database of drivers, and then computed population estimates of Hispanic drivers on the basis of surname matches. The Illinois Court of Appeals rejected the validity of the database obtained in this experiment because of large amounts of missing data and problems associated with determining its comprehensiveness. The Court also rejected the use of

census-based data to describe the number of persons who could potentially be stopped, distinguishing it from the (unknown) population of drivers, as well as the survey data. This is because they decided that those samples were not relevant to the local situation or an accurate estimate of Illinois travelers or speeders disaggregated by race.

In addition, an interim report by the New Jersey State Police Review Team assigned to investigate allegations of racial profiling by the State Police defined racial profiling as including reliance on race and ethnicity in "selecting vehicles to be stopped from among the universe of vehicles being operated in violation of the law …" (Verniero, 1995:5). Only if the racial distribution of traffic violators reflects the proportionality the racial distribution of local residences would the base rate described in this section be appropriate.

Chavez v. Illinois State Police

This case is important to understand the difficulties of using census-based population statistics to determine whether or not the police were in fact racially profiling nonwhite drivers in their activities. This is because in their judgment in this case, the Seventh Circuit Court of Appeals gave what is considered to be the most comprehensive analysis by a court concerning the proof problems inherent in racial profiling lawsuits alleging selective enforcement under the Equal Protection Clause of the U.S. Constitution.

In *Chavez v. Illinois State Police* (2001), the plaintiffs brought a lawsuit against the Illinois State Police alleging that the police were engaged in racial profiling in a drug interdiction program called Operation Valkyrie. Peso Chavez, a Hispanic private investigator hired by a criminal defendant arrested during this operation, was stopped and searched by Illinois State Police. His presence in Illinois was part of a defense strategy to prove that illegal racial profiling was in fact being practised by the state police. The case in question involved an African American male who alleged that he had been illegally stopped on three occasions by the Illinois State Police. The stop of Chavez was

videotaped by an employee of the public defender's office who was following him in a separate vehicle as he traveled along I-80.

The plaintiffs brought equal protection and other federal statutory and state law claims against the Illinois State Police and a number of its employees. To support their claims, they relied on two statistical databases maintained by the Illinois State Police. The first data set, known as the "citations and warnings" database, contained entries for all traffic stops in which police officers issued citations or warnings to the occupants of vehicles. Although the race of the drivers was not entered into this database, the plaintiffs' experts estimated the number of Hispanic motorists through an analysis of Hispanic surnames provided by the U.S. Bureau of the Census. The plaintiffs also relied on a second database of field reports that were completed usually, but not always, (1) when the state police found contraband, (2) when custodial arrests were made, (3) when police equipment was damaged or police officers injured, or (4) when dogs were used. All of these reports contained a field for the driver's race.

In reviewing the district court's grant of summary judgment to the defendants on the Constitutional claims, the Court of Appeals first addressed the allegation of selective enforcement under the Equal Protection Clause of the U.S. Constitution. In terms of the discriminatory-effect component of this claim, the Court of Appeals noted that the plaintiffs could show that they were treated differently from other similarly situated persons either by naming such individuals or by using statistics. In the case of *Chavez*, the Court held that the employee of the public defender's office who was following him when he was stopped was a similarly situated person, thus allowing the court to reach the second component of the equal-protection claim with respect to Chavez.

However, unlike Chavez, the plaintiff (an employee of the public defender's office) relied solely on the statistical databases and his experts' analyses of them to prove a discriminatory effect. The Court concluded that the statistics were insufficient as a matter of law to support this component of his equal-protection claim. The Court reasoned that the databases were flawed. The citations and warnings database contained no information

on the drivers' races. Although the number of Hispanic drivers could be estimated by analyzing surnames, no comparable information was available for African Americans and whites. Therefore, even a Hispanic plaintiff could not use this database to prove that he was stopped, searched, or arrested in a manner that differed from similarly situated whites for whom no data on traffic stops existed.

The court also determined that the field report database was also flawed. Since field reports were not systematically completed and so few stops resulted in field reports being written (less than five per cent of the stops resulted in citations or warnings), the Court concluded that the field report database did not provide a representative sample of all stops made by the Illinois State Police.

The Court also stated that the comparison population benchmarks were also unreliable. The plaintiffs used two benchmarks for comparison purposes against data on traffic stops, the first being the 1990 U.S. Census. In addition to being outdated, the Court correctly noted census-population data may not accurately reflect the racial makeup of motorists who actually drive on Illinois state highways. The court cited (with approval) the methodology of Lamberth (1997) (see below for a discussion of his methodology) who used systematic observations of both drivers' and violators' races on the instate highways of New Jersey and Maryland to obtain reliable estimates of the racial composition of the driving public.

In addition to census data, the plaintiffs' experts also relied on the Nationwide Personal Transportation Survey for comparison purposes. This survey, conducted at five-year intervals by the Federal Highway Administration, contains national and regional estimates of trips taken by persons of various races, as well as the number of miles traveled by these groups. However, because of its relatively small sample, the survey was not intended to provide accurate state-level information. Thus, the Court of Appeals dismissed the survey as invalid for the purpose of providing accurate data against which to compare traffic stops made by the state police on Illinois state highways.

Having found that Chavez identified at least one similarly situated person of a different race who was not stopped by the Illinois State Police, thereby satisfying the discriminatory effect component of his equal-protection claim, the Court of Appeals next addressed the second component of his claim – discriminatory intent. On this issue, the Court also found that the statistical evidence offered by Chavez was insufficient as a matter of law. The Court noted that only in limited cases involving jury venires, employment discrimination under Title VII, and legislative re-districting has the U.S. Supreme Court accepted the use of statistics to prove discriminatory intent. Since the equal-protection claim in this case did not involve one of these allegations, the Court held that the statistics, by themselves, could not be used to prove intentional discrimination in the context of a racial profiling suit against the Illinois State Police *(Chavez v. Illinois State Police*, 2001).

It should be noted that one reason why the Court of Appeals ruled for the defense in *Chavez* was the lack of good research presented by the plaintiffs. The Court gave the impression that a properly planned and executed study, which included baseline ad/or benchmark data, would have been influential. As a result, researchers began to refine their benchmark data or to create new comparisons based on baseline data. Some of these studies will be discussed below.

The Strengths and Weaknesses of Using Census-Based Data

Most racial profiling studies have used census-based data as the benchmark by which to evaluate police traffic stop data. However, as racial profiling studies have increased, there has been a corresponding increase in the questions raised about whether or not census-based data is the appropriate benchmark to use as it may not accurately represent the driving population to be stopped.

Strengths

- Researchers are able to analyze various units of analysis, e.g., studies have used census-based data as a benchmark at the state, city, precinct census tract and block levels.

- Recent developments in software have enabled researchers to move beyond analyzing straight census populations. Using this software, they can now refine census-based data and make better estimates of driving populations by giving greater weight to local residents, nearby residents, and nonresidents from larger municipalities nearby.

Weaknesses

- Census-based data involves the use of an approach that is too general as it fails to capture both the frequency and patterns of behavior based on race, ethnicity and gender.

- It may not provide a reliable benchmark against which the racial composition of motorists can be compared at the local level, even if adjusted for the driving population (age 15 and over).

- It may use population estimates for certain areas that may not accurately represent the driving population in those areas.

Observations of Road Use

Another approach developed to compare different groups' rates of being stopped, cited, searched, or arrested uses direct observations of the driving public to determine the denominator. This measurement has been referred to as "populations available for stops and searches" (Miller, 2000). Approaches in this area use baseline data. As a result, the

populations are not limited to data already collected on overall populations or some other preconceived group. A study attempting to determine the rate of stops, searches, tickets and/or arrests of a specific racial group more accurately requires information on the specific number of those available for these events or outcomes. Baseline data is measured by observing the roads to record the race of passing motorists for a number of geographical locations, thereby allowing researchers to count the populations under study at specific places and at specific times. This allows researchers to focus on the racial group or groups in question and on the times of day or days of the week when the stops complained about actually did occur. The importance of this approach to the study of racial profiling is that it explores the possibility that groups differ in their driving patterns and that the degree of law-violating behavior is an important race neutral explanation of disparity.

Some individuals believe that population-based data such as the census figures of the surrounding area are not the appropriate denominator. Such population data, it is pointed out, do not indicate who is actually driving on the roads, or who is violating the traffic laws. For example, the percentage of African American drivers may be higher than the percentage of African Americans in the local population. African Americans may be violating traffic laws at a higher or lower rate than white drivers. Resident population data do not reflect nonresidents who are driving through the area. This is important on Interstate highways or local roads that are heavily used by commuters who live outside the immediate local area.

As a result of the problems associated with using local population census information as the denominator, several efforts have been made to develop more refined estimates of the driving population. For example, some of these efforts have used official data available on drivers' licenses by race and ethnicity or estimates of driving habits. However, one particular approach has emerged as the best approach – the direct observation of who is at risk to be stopped while driving. The approach, also known as the rolling survey technique, was developed by Lamberth as an outcome of *Wilkins v. Maryland State Police* (1993) and his results have been used for lawsuits against the Maryland and New

Jersey State Police (see below for profiles of these cases). In a rolling survey, the primary method for collecting data is to have trained observers drive on the roadway and examining and observing the racial composition of all drivers and the racial composition of those drivers observed to be breaking a traffic law. The advantage of this technique is that it provides a reliable and valid estimate of who is actually using the roadway, thus, who is actually at risk for a traffic stop on that particular day. While the rolling survey technique is thought by many to generate good data, one significant drawback is that it is extremely expensive to conduct.

The use of observation based data was one of the outcomes of *Wilkins v. Maryland Police* (1993). The Wilkins case involved a lawsuit based on a May 8, 1992 interdiction-style stop and search on I-68 in western Maryland. A Maryland State Trooper stopped a rented car driven by Robert Wilkins, an attorney, as the family was returning from a family funeral in Chicago. Over Wilkins's objections, the trooper ordered the occupants out of the vehicle, to stand on the side of the highway for an extended period of time, at night and in the rain, until the arrival of a unit with a drug-sniffing dog. The dog did not alert the officers after going around and through the vehicle, so the driver was issued a $105 speeding ticket and the family released. Later, Wilkins called the American Civil Liberties Union to report that his constitutional rights had been violated during the traffic stop as he felt that he was stopped only because he is African American. Wilkins then sued the Maryland State Police for violation of civil rights. The case was settled and the court records were sealed. As part of agreement reached in the settlement agreement, John Lamberth of Temple University analyzed the Maryland State Police stop and search data, comparing those findings with another rolling survey of the I-95 user and law violators population. The lawsuit was finally settled in April, 2003, with the Maryland Board of Public Works approving a settlement ending the practice of racial profiling on the state's highways.

Several aspects of the data used in this case merit attention. First, these data were collected by the plaintiffs as part of civil litigation. While the evidence was found to be 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 academics have only recently become commonplace and, as a result, many conceptual, operational and statistical questions remain unanswered. In addition, many of these studies have focused exclusively upon state highways where citizens are engaged in only one activity – driving – and police officers are also engaged in essentially one activity – traffic enforcement. It is thought that these circumstances make it possible to obtain reliable estimates of the complete population of drivers and violators. The context of routine municipal policing, where the majority of law enforcement occurs, no doubt differs substantially.

A number of researchers have taken the approach developed by Lambreth and his associates. Zingraff et al. (2000), and Lange et al. (2001) both used direct observation (i.e., roadway observers or cameras) to collect information pertaining to the race and in some cases, ethnicity, of both drivers and speeders. In addition, these researchers also tried to estimate the percentage of drivers who violated the speed limit. The purpose of these research efforts was to investigate whether or not African Americans or Hispanics commit speeding violations more frequently than whites on a per capita basis. If this were found to be true, then this information would have to be investigated in order to see if it explained differential stop rates among the members of both races. The work of Lamberth will be given priority in this report since it was he who first developed this approach. In addition, his research was a direct outgrowth of one of the first court cases in this area, *Wilkins v. Maryland State Police* (1993), and has been used in litigation in an attempt to establish a pattern of disparity of vehicular stops.

Lamberth's first study was the result of a mandate from the court in *State v. Soto* (1996). The methodology involved placing observers by the side of the road to count the number of cars and the race of the occupants in randomly selected three-hour blocks of time over a two-week period. Observers were placed at two stationary observation locations on the New Jersey Turnpike and alternated between both locations several times each day. They recorded the race of each driver and any visible passengers as well as the state registration of the vehicle. Lamberth noted that all of the observers reported a high degree

of confidence in their ability to record the required information. Utilizing a 'black-white' dichotomy, observers were able to identify the race of the driver in over 99 per cent of the 42,706 vehicles observed. Between June 11 and June 24, 1993, at four locations between Exits 1 and 3 of the New Jersey Turnpike, the observers counted approximately 43,000 cars, of which 13.5 per cent had one or more African American occupants. This was consistent with the population figures for the 11 states from which most of the vehicles observed were registered. Drivers identified as African American made up 13 per cent of all drivers observed, a percentage much smaller than the 73 per cent of the individuals arrested and the 35 per cent of those stopped during the three previous years.

In order to address more directly the benchmark outlined in *State v. Kennedy* (1991), Lamberth conducted a second study to examine speeding violations as a function of race along the I-95 in Maryland and the New Jersey Turnpike (the latter is discussed after the Maryland study). Lamberth was able to gain access to the files of the Maryland State Police for stops and searches as part of the civil lawsuit settlement agreement in *Wilkins v. Maryland State Police*. In this study, he developed a somewhat different data collection process to study the drivers and occupants of speeding cars. Using roadway observations (in this study he termed it the "carousel method"), the observers now rode in cars that were driving with the cruise control set exactly at the speed limit in Maryland. More specifically, in this study, he had his research assistants gather data from 42 hours of turnpike driving during 21 different daylight sessions, each involving driving one hour north and one hour south on I-95 (this route involved the researchers traveling between Exits 67 and 109). Race could be established for 5,555 of the 5,741 drivers (96.8 per cent). In addition, 5,534 drivers (95 per cent) were classified as violating motor vehicle laws. Lamberth's definition of violation is controversial for some – his assistants drove at the legally-posted speed (55 miles per hour or 65 miles per hour, depending on the actual location, thereby fulfilling the legal requirement that they were functionally parked), counting the drivers who passed them as violators. Other types of violations were also identified by the observers.

According to his data, Lamberth reported that 17.5 per cent of the speeding violators in the designated section of I-95 were African-American, while 74.7 per cent of the violators were white. In terms of searches, it was discovered that of the 823 motorists searched along the I-95 between January, 1995 and September, 1996, 600 (72.9 per cent) were African American. Lamberth also reported that 85 per cent of these I-95 searches were conducted by 13 state troopers with at least 10 searches each (the highest total of searches by any state trooper was 150). He also reported that only one of the state troopers searched motorists close to their proportions of total highway users. In the state as a whole (exclusive of the I-95 data) there were 986 searches of White motorists (64 per cent) compared to 560 searches of minority motorists (of whom 496 were African American). The search rates for the entire state were found to be disproportional to the I-95 driving population but closer to the state's driving population, leading Lamberth to conclude that the police action is discriminatory and racial profiling occurs along the stretch of Interstate highway under observation.

Lamberth also reported on the number of searches that led to the discovery of contraband. Contraband was discovered at almost the same rate across the state: in 29.9 per cent of all stops in the sections of the I-95 being studied, 27.1 per cent of the cases outside of this particular section of I-95, and 28.1 percent of searches across the state (there were 2,372 total searches). The rate of contraband by race was found to be all but identical – 28.4 percent of all African American drivers searched and 28.8 per cent of the whites searched were carrying drugs.

In the New Jersey component of his study, Lamberth also used a rolling survey but changed the speed limit of the car the observers were driving in to five miles over the speed limit. Once again, the observers counted the number of cars that passed them (i.e., speeding violators) and the cars that they passed (i.e., nonviolators) as well as recording the race of the driver in each car. In this study, the comparison for African Americans and whites was based on an assessment of stop, citation and arrest rates. Using this technique, Lamberth reported that African Americans and whites drove indistinguishably - most drivers (98 per cent) violated the speed limit. Yet, African Americans were

overrepresented in stops and arrests, leading Lamberth to the conclusion that something more other than speed was responsible for the higher stop, citation and arrest rates for African Americans - specifically, race is a consistent and decisive explanatory factor. In all of his studies, Lamberth argued that, based on his data, African American drivers, as a group, do not drive any differently than whites and that race is a consistent and decisive explanatory factor in explaining the differences in stops, citations, searches and arrests.

Zingraff et al. (2000) analyzed 1998 traffic stop data obtained by the North Carolina Highway Patrol. They reported that African Americans were more likely than whites to receive tickets compared to their percentages among licensed drivers in North Carolina. In addition, African Americans were significantly more likely than whites to be searched; however, they were found to be slightly less likely in possession of contraband than whites. Other studies using survey data found that African American drivers reported less risky driving than whites (Wright et al., 2000) and were more likely to perceive that their driving behavior did not warrant the police stopping them (Lundman and Kaufman, 2003). If these findings could be proved through the collection of traffic stop data, it would indicate evidence of disproportionate police stops of African American drivers, thereby strongly indicating biased police actions. Smith and Petrocelli (2001), using the same baseline as Lamberth, discovered some degree of variation reported in his study. In their study of Richmond, Virginia, they found that, although African Americans were stopped at rates that exceeded their proportion in the driving-eligible population, they were no more likely to be searched than were whites and were less likely than whites to be either ticketed or arrested.

A number of criticisms were made about Lamberth's efforts to estimate the degree to which drivers violate the law. For example, Maryland state troopers objected to his definition of speeding by responding that "a couple of miles an hour over the speed limit" should not count as a violation since legal enforcement actions typically begin at a certain number of miles per hour over the speed limit, a figure which is usually not less than 10 miles an hour. Due to such concerns, other researchers have tried to improve upon Lamberth's methodology when collecting data. Smith et al. (2000) studied speeders in

North Carolina but changed the methodology used. In this study, the focus of the researchers was to establish a baseline of driver behavior by measuring driving speed and demographic characteristics. Groups of observers used stopwatches to measure the time that it took vehicles to pass the distance from the rear bumper to the front bumper of the observer's vehicle, which was traveling at a predetermined speed. Although this method systematically underestimated the speed of the passing vehicle, the researchers were able to correct for this underestimation so that estimated speeds corresponded to actual speeds. In addition to the speed of the passing vehicles, observers also recorded information about the vehicle and its occupants, such as the drivers' race, gender, approximate age of the driver, the state of license plate as well as the type and color of vehicle.

Other criticisms directed toward Lamberth's approach include the failure to take into account the actual risk of a speeding vehicle being stopped by the police. Motorists differ in what has been termed speeding savvy, that is, some motorists are better than others at speeding without being detected. This includes drivers who travel close to other speeding vehicles, near tractor trailers, have radar detectors, routinely slow down with traffic, etc. (Smith et al., 2000). Others question the use of employing roadway observers to gather base rate data despite the argument that this is potentially beneficial in those areas where residents and driving populations differ. Overall, researchers have pointed out a number of important limitations of this approach if it is going to be considered. First, this type of data collection is difficult and costly to implement (for example, training research assistants) as well as involving large amounts of time. Second, questions can be raised about the reliability and validity of the observers' perceptions of drivers' characteristics since they cannot be directly assessed. Third, direct observation of roadway use is not an appropriate base rate if violating behavior differs by drivers' characteristics.

Technological problems about Lamberth's approach have also been noted. First, observations of vehicular offenses other than speeding are hard to do using observations or video documentation. Second, the racial classification of drivers is imperfect and complex; for example, it has been pointed out by numerous researchers and commentators that it is difficult to accurately assess persons of Hispanic descent from

observing them while they are driving past an observer. Third, many vehicles now have tinted windows, making it difficult to gain a clear view of the driver and/or passengers. And, finally, it has been pointed out that the information gathered is limited to samples of specific parts of roadways – whether the same probabilities exist on other parts of the roadway(s) in question is unknown.

Other limitations include the fact that Lamberth did not collect the type of data necessary to rule out alternative and legitimate race-neutral explanations for disparity. As a result, a number of studies (e.g., Cordner et al., 2000; 2002; Eck et al., 2003) were undertaken by researchers, all of which were developed on the basis that it was possible that disparities between racial groups, in terms of police stops and other types of police activities, did not necessarily imply discrimination. These studies suggested that measuring alternative, race-neutral factors, including such differences as driving behavior and neighborhood characteristics, could potentially explain the racial disparity.

Cordner et al. (2000), in their first year report of their analysis of traffic stops, citations, searches/seizures, verbal and written warnings as well as arrests in San Diego, reported that African Americans and Hispanics were overrepresented in vehicle stops involving searches and arrests. They studied all police stops of vehicles through the introduction of a vehicle stop form that all officers were required to fill out every time they conducted a vehicle stop. For 2001, they reported that 121,013 stop forms were filed out by police officers, a 28 per cent decrease from the previous year. They also found African American drivers had approximately a 60 per cent greater likelihood of being stopped during these years than white drivers; the comparable figure for Hispanic drivers was about 37 per cent greater than for white drivers. Furthermore, comparisons of stops could be made for San Diego residents and nonresidents. When the researchers examined stops of city residents separately from nonresidents, they found African American drivers were overrepresented (11.3 per cent of all resident stops vs. 7.2 per cent of the driving age population).

During the second year of this project, the researchers developed an alternative benchmark of vehicle stop data that led to different conclusions than those of the previous year. This new benchmark was based on focus groups of the officers in an attempt to determine if racial profiling was the basis of police stops for moving violations. Approximately 25 per cent of the stops were pretext stops (e.g., crime, drug and/or gang related activity), although the officers stated that they usually observed and cited some traffic violation as the proximate reason for stopping the vehicle in question. This information was introduced into the benchmark for the second year of the study (i.e., that 75 per cent of the benchmark was established from the census and the remaining 25 per cent was based on the demography of criminal suspects). Since African Americans were more heavily represented among the criminal suspects than in the general population, changing the racial benchmark to reflect, in part, criminal suspects had the effect of increasing the relative proportion of minorities. When this alternative benchmark was compared to police stop data, the evidence of disproportionate stop rates disappeared. The researchers, however, pointed out that introducing criminal suspects into the benchmark "is controversial and open to discussion" (Cordner et al., 2002:4).

In terms searches of vehicles, data from these same reports reveal that there were more of these for minority drivers. African American drivers represented 10.4 per cent of all vehicle stops but 16.2 per cent of all vehicle searches. The corresponding figures for Hispanic drivers were 27.7 per cent of stops and 49.6 per cent of searches. Searches of minority operated vehicles were overrepresented for all types of searches. However, the researchers noted that for the most discretionary type of search possible (consent searches), both African American (16.1 per cent of all consent searches versus 10.4 per cent of all vehicle stops) and Hispanic drivers (32.5 per cent of all consent searches compared to 27.7 per cent of all vehicle stops) were over-represented. The researchers submit that there are different possible conclusions concerning these differences in consent searches. According to the researchers' interpretation, San Diego police officers are more likely to ask minority drivers than white drivers for permission to search (Cordner et al. 2002:3-4). Police officers are more likely to say that these differences in

consent search rates do not indicate any unfairness on their part after African American and Hispanic overrepresentation among the crime suspects is taken into consideration.

In Cincinnati, Eck et al. (2003) examined contact data collected during police stops between July 1 and December 31, 2001. During the selected time period, data on approximately 7,200 vehicle stops were made. For the benchmark in this study the researchers used a combination of adjusted census statistics and estimates from direct observations to develop an estimate of the miles driven by both African Americans and whites in each of Cincinnati's 52 neighborhoods. To obtain a breakdown of African American and white drivers the researchers studied traffic during rush hour, with students observing the traffic. They were located at 126 sites around Cincinnati four times during the year, to observe passing traffic and record the race of the drivers. The researchers also developed measures for the miles driven by African American and white drivers during the day, for each of the city's neighborhoods. After compiling estimates of the miles driven by African Americans and whites, they compared those figures to the number of stops that African Americans and white drivers submitted to in each neighborhood to come up with a disproportionate index for each neighborhood. The analysis indicated that the spatial pattern of police stops in Cincinnati correlated with driving patterns, crime patterns, drug calls, and overall demand for police services, suggesting that the disproportionate stops of African American drivers could be explained by workload factors instead of biased policing.

Perhaps the study (ultimately consisting of two parts) which developed the most systematic alternative methodological approach (i.e., potentially overcoming many of the issues noted above) examined traffic violating behavior in New Jersey (Lange et al., 2001; 2005). The study was the result of a consent decree signed between State of New Jersey Attorney General's Office and the United States Department of Justice regarding the monitoring of the State Police for discriminatory behavior. A contract was then signed with a nonprofit research organization to conduct a survey of drivers on the New Jersey Turnpike. The purpose of the survey was to establish a benchmark of the race/ethnicity of drivers with which to compare police stop rates; it was argued that

estimating the racial distribution of New Jersey Turnpike would produce a better standard of comparison than estimates based on local census figures.

This study (ultimately referred to as the Tollbooth Study) occurred during May, 2000, and it involved an interview survey of those drivers at Turnpike exits who agreed to participate. Of the 4,656 drivers who were contacted at the tollbooths, 4,035 (86.8 per cent) agreed to an interview. Individuals who did not agree to be interviewed were still included in the survey, as their demographic traits were estimated by the researchers. Race was determined by drivers self-reporting their race/ethnicity. Of the self-reporting drivers, 2,403 (59.6 per cent) indicated they were white, 652 drivers (16.2 per cent) stated they were African American, 605 (15 per cent) identified themselves as Hispanic, while the remaining 375 drivers (9.3 per cent) were classified as "other." Of the 621 refusals, it was estimated that 356 (57.3 per cent) were white, 104 (16.7 per cent) were Hispanic, 102 (16.4 per cent) were "others", and the remaining 59 drivers (9.5 per cent) were African American.

Upon the completion of this study, the State of New Jersey requested the same researchers to conduct a survey of speeders. This study was conducted as part of the Speed Violation Survey of the New Jersey Turnpike which took place between March 31 and June 30, 2001 (Lange et al., 2005). This study, referred to as the Turnpike Study, employed radar and high-speed photography at 14 different locations along the entire length of the 148-mile turnpike to identify the race, ethnicity, gender, and speeding behavior of drivers. Data were collected at each location for approximately 48 hours during the three-month period in 2001, which was varied by weekday and weekend. Speeding was defined as driving at least 15 miles over the posted speed limit. (The researchers ultimately reported that the vast majority of drivers were not speeding according to their definition, which suggests that their definition of speeding was probably too high). For the duration of the project, the randomly-triggered cameras produced 11,288 cases of speeding while the radar triggered cameras produced 15,046 cases. During this same time period, the New Jersey State Troopers recorded stopping 30,570 vehicles, of which 29,486 cases contained usable data. The analysis of police stop

data used only moving violations, reducing the number of usable cases to 27,691. This data did not differentiate among types of moving violations, for example, speeding (Lange et al., 2005).

The data were collected by a panel of three trained observers working independently to identify the drivers' race, ethnicity, gender and age from the photographs. Cases with at least two identical ratings were treated as conclusive while all of the others were considered to be unclassifiable. Out of the 38,745 photographs taken by the randomly triggered cameras, 21,536 were of nonspeeders while the remaining 17,209 were speeders. Of these, 15,046 and 11,288 cases of nonspeeders and speeders, respectively, produced usable and reliable race/ethnicity judgments. Two of the three coders agreed on the race/ethnicity of 26,334 drivers (68 per cent) of the photographs. It was concluded that of the drivers whose race/ethnicity was identified, African American drivers were 64 per cent more likely than white drivers of similar age and sex to exceed the 65 miles an hour by at least 15 miles an hour. When the posted speed limit was 55 miles an hour there were no statistically significant differences between African-American and white drivers. Hispanic and all other drivers classified as 'other' were less likely than whites to speed.

Overall, African American drivers were found to be overrepresented among speeders in the southern and central sections of the New Jersey Turnpike relative to nonspeeders. Most importantly, however, it was found that the police stop rates matched very closely the rates at which drivers exceed the speed limit by 15 miles an hour or more. According to the researchers, while their study does not prove that racial profiling is nonexistent, their results "suggest that during the period of data collection, New Jersey State Troopers assigned to the Turnpike stopped black drivers in approximate proportion to their representation among speeders." In terms of evaluating the appropriate baseline, the researchers stated that their results were a plausible alternative explanation relative to regional census counts. The most important conclusion taken from this research is that the usual method of assessing on the precinct or jurisdiction level is not adequate. In addition, the racial distribution in the population of driving nonviolators cannot be assumed to reflect the racial distribution in the driving population of driving violators,

and it is from this latter population that police stops should be drawn" (Lange et al., 2005:216).

One hypothesis tested by the researchers concerned the potential for racial disparity in speeding based on driving distances. That is, if due to the varying geographical distributions of racial groups along the New Jersey Turnpike, African American drivers would be more likely to be driving long distances then it could be possible that speeding behavior may vary according to racial group. As identified by the researchers, two assumptions are necessary for this question to become a logical explanation: (1) those traveling long distances will speed more than those using the Turnpike who travel only short distances; and (2) there are travel-distance disparities among racial/ethnic groups of drivers. The researchers were able to test the second assumption by using data from the Tollbooth data; however, they were unable to evaluate the first assumption. The Tollbooth data indicate that African American drivers were more than twice as likely to be traveling long distances in the southern and central sections of the New Jersey Turnpike as compared to white drivers. In comparison, African American drivers in the northern section of the Turnpike were less likely to be traveling to another section. The disparity found among the race of drivers in the central and southern segments of the Turnpike suggest that African American drivers may be more likely to speed because they are more likely to use those portions of the Turnpike for long-distance driving than are white drivers. However, the researchers were not able to test this hypothesis any further as the Turnpike study did not collect information on the basis of traveling distance (Lange et al. 2005).

The New Jersey Tollbooth and Turnpike Studies: Strengths and Weaknesses

Lange et al. (2005) designed their study with the same general aims as Lamberth's rolling survey of speed violators. The design of the New Jersey Tollbooth and Turnpike studies varied in their approaches to data collection method, making it "the first of its kind for this purpose" (Lange et al., 2005; 216). Some of the strengths and weaknesses of using their methodology are identified below.

Strengths

- The actual speed of each vehicle was captured. This allowed the researchers to examine results using different speed thresholds for the definition of speeder.

- By photographing vehicles, they were able to expose the pictures to a panel of raters to ensure reliable race and ethnicity ratings.

- Sophisticated radar equipment was used to obtain population counts of speeders and nonspeeders.

- Data were collected from locations throughout the New Jersey Turnpike, and through the proper weighting and analysis, they were able to make population estimates of speeders versus nonspeeders.

Weaknesses

- In the Tollbooth study, drivers who agreed to participate self-identified their race/ethnicity, whereas the race of drivers stopped by the police in the Turnpike study was based on the perception of the police officers making the stop, potentially limiting the comparability between the studies.

- Speeding was the only issue addressed by the study, but it is just one of the many legitimate reasons for a traffic stop. While it may be true that speeding is the most common reason why a police officer stops a vehicle, the data used in this study looked at all police stops, not just those for speeding. However, the police data only indicate that their stop was for a moving violation, not the exact type of violation. The approach taken in this study is not appropriate to the decision made in *State v. Kennedy* (1991), which stated that a comparison of the racial composition between speeding violations and citations for that

offense is an appropriate benchmark for measuring racial profiling. As a result, Lange et al. (2005; 218) note that their study "does not quite accommodate *State v. Kennedy* (1991) in that our police stop data contain stops for moving violations other than speeding."

- The data collected in both the New Jersey studies do not address police behavior other than traffic stops (e.g., vehicle consent searches, citations or arrests). Therefore, even if police officers legitimately stopped a higher proportion of African American drivers than are represented in the population, the data did not deal with the issue of whether or not vehicles driven by African Americans were disproportionately searched.

- There is a potential bias associated with the large number of photographs being excluded from the study for technical reasons.

This approach was first used on the New Jersey Turnpike in order to gather data on the racial distribution of drivers as well as in-state and out-of-state vehicle registration. Lamberth (1994) pioneered this methodological approach by randomly selecting the dates and times of 18 roadway observation sessions conducted during daylight hours over a two-week period in June, 1993.

Official Vehicle Accident Data

As a result of the limitations of the above studies, alternative approaches were developed by researchers studying police stop data in Metro-Dade County, Florida. Alpert et al. (2004) developed a different approach after reviewing previous research efforts in police-stop studies, all of which contained, in their opinion, significant limitations in their benchmarks or baselines. Although these researchers considered some of the benchmarks used in these studies to be better than the others, each of them contained weaknesses "that limit, or in some cases, obviate, their usefulness as comparison populations in racial profiling research" (Alpert et al., 2004:44). As an alternative, they suggested the use of

"an affordable, reliable, and generalizable estimate of the driving population against which most of the police traffic stops within a given jurisdiction can be compared" (Alpert et al., 2004: 49). The purpose behind using a benchmark is to have a reliable measure of drivers who are available to be stopped by the police. They go on to say that a "proper benchmark will estimate the demographic profile of individuals who will be stopped assuming that no bias exists in police stopping behavior" (Alpert et al., 2004:49). They decided to use "not-at-fault-driver demographic data from two vehicle crashes" in the hope of establishing a better benchmark. The specific benchmark they advocated was the Driving Population Estimation Measure (DPEM), noting that this benchmark has been used for decades by researchers in specific areas (such as actuarial statisticians and safety engineers) who study automotive accident data in order to examine the relative risks of accidents for particular demographic groups. Specifically, these individuals have studied the relative risks of causing a crash or being a crash victim that are associated with such things as driver characteristics, types of vehicles and roadway conditions. The exact type of method used in developing a Driving Population Estimation Measure is the quasi-induced method.

Alpert et al. believe that this benchmark overcomes many of the weaknesses found in the previous benchmarks used since this one will potentially assess better those people who drive more, who drive poorly, and drive to locations where there is a chance of being stopped by the police. As a result, these drivers are at a higher risk of being stopped by the police than those drivers who do not exhibit these characteristics and/or tendencies. In particular, they consider not-at-fault-accident victims involved in two car crashes to approximate the racial composition of drivers in those specific areas. In addition, they believe that those drivers who are officially determined to be not-at-fault would not exhibit any types of driving behavior that would put them at an increased risk for an accident.

This benchmark was included as part of a larger study of racial profiling in Miami-Dade County, Florida, during the fall and winter months of 2002. Traffic pattern data from 11 selected intersections were observed and later compared to not-at-fault crash data from

the same intersections. The intersections included in the study were selected specifically for their high traffic and crash volumes and racial makeup composition of the area. In addition, the intersections selected were located within predominately non African American, substantially African American and racially mixed areas. Observers were trained to identify and record the race and gender of each driver. Only those drivers who were easily identified as African American were recorded in that category; all others were categorized as non African American. Each intersection was observed by teams of three observers during the morning and evening for four hours each, for a total of eight hours, a procedure which continued for some five months (mid-August, 2001 to mid-February, 2002). The observers were able to determine the race or gender in all cases with the exception of 1,585 observations (1.7 per cent of the total). A combined total of 65,025 successful observations were made during this time period at all intersections. Of the drivers observed, 16,937 (26 per cent) were African American and 48,088 (74 per cent) were non African American.

The researchers discovered that African Americans drive in substantially African American areas, while non-African American drivers tend to drive through the predominately non-African American and racially mixed areas. The crash data showed that African American citizens are most commonly hit in the substantially African American areas, but rarely in the non-African American areas. Non-African Americans crash victims were hit predominately in non African American and mixed areas but rarely in African American areas. More specifically, in the substantially African American areas, 55.3 per cent of the victims were African American, while in the predominately non African American and mixed areas, African American drivers made up 5.8 per cent and 14.1 per cent of the victims, respectively. In addition, 54.6 per cent of the drivers observed in substantially African American areas were African American. Similar data was found for non African American drivers and victims in the racially mixed areas.

The researchers found that for nine of the 11 intersections the differences were small. However, in two of the intersections (which were located in substantially African American neighborhoods) the difference in the number of drivers and crash victims is

larger. For one of these two intersections, there was a higher proportion of non African American drivers, but a larger proportion of African American crash victims. For the other intersection, there was a higher proportion of African American drivers as well as a higher proportion of African American crash victims.

Based on the results using this benchmark, the researchers' main conclusion of their study was that "not-at-fault drivers in two-vehicle crashes represent a reasonably accurate estimate of the racial composition of drivers on the road at a sample of high traffic intersections …" (Alpert et al., 2004:63). They also concluded that researchers studying racial profiling "could compare the proportion of minorities stopped by the police to the proportion of minority traffic crash victims by neighborhood, depending upon the traffic volume in a specific area (such as a neighborhood)."

Strengths and Weaknesses of Official Vehicle Accident Data

Strengths

- The collection this type of data is less costly and a more comprehensive estimate of the driving population than traffic observation methods.

- These data are not susceptible to the daytime bias typically found in observation type studies.

- These types of data can be aggregated and disaggregated in a variety of ways to help facilitate comparisons to police traffic stop data.

- These data potentially provide more detailed and accurate information on race and ethnicity than can be gathered by traffic observers.

- These data can provide more accurate information in order that to better assess police traffic stop data and whether or not their actions constitute a bias against any minority group for which observer-based data is suspect.

Weaknesses

- These types of data could potentially introduce a biased measure, as at-fault drivers may not accurately reflect the driving population. For example, it is possible for different drivers to exhibit more or less aggressive driving behavior that place them at an increased risk for accidents.

- At-fault crash data does not provide information on the racial composition of traffic violators.

- The utility of this approach is based upon the availability of these types of data along with the ability to disaggregate the data into specific locations, times, and days of the week that can be matched directly with traffic stop data.

Several aspects of the above studies and research projects need to be emphasized. First, these studies and reports were often collected by the plaintiffs themselves. In these cases, it is important to note that most of the early studies were used in an attempt to prove racial profiling in court and are nothing more than internal documents. As such, they are not subject to traditional academic rigorous peer review.

Second, many of these studies have analyzed police officers' actions on interstate highways. In these cases, citizens are usually involved with only one activity – driving - while police officers are also engaged in essentially one activity – traffic enforcement. This makes it possible through direct observation to obtain much better (or even reliable) estimates of all (or almost all) drivers and law violators.

Third, interstate highway traffic enforcement may be a special case since (according to numerous civil rights experts) racial profiling is a product of the national War on Drugs.

Yet, there are claims that police in cities and municipalities are also involved in racial profiling. The context of policing in urban areas can be – and usually is – much different than interstate law enforcement. It needs to be mentioned that the state police in the United States represent only about 50 of the more than 17,000 state and local law enforcement agencies and only about eight per cent of all sworn law enforcement officers (Bureau of Justice Statistics, 1998). In municipal areas, police officers are involved with a wide variety of tasks and interact with a wide range of citizens on a daily basis. It is possible that these circumstances would make it extremely difficult to obtain systematic data on drivers and traffic violations by race. And even if a designated traffic unit were operating, the roadways are not as confined as interstate highways, with the result that numerous vehicles are constantly entering and exiting. Estimating an appropriate denominator would be difficult as there is no stable population from which to estimate the racial composition of drivers and observed law violators.

The San Jose Vehicle Stop Demographic Study

In 1999, the San Jose Police Department (SJPD) announced that it was going to collect data on traffic stops voluntarily. In the introduction to its first report, the SJPD police chief wrote (1999: 1-1) that “San Jose has not been immune to suggestions that the Police Department practises racial profiling” and that the department “prides itself upon being responsive to the needs and concerns of the community.”

The SJPD started its voluntary collection program in mid-1999. Prior to the start of this program, the SJPD revised its procedures for collecting traffic stop data with the intention of keeping the amount collected relatively simple (SJPD, 1999: 2-2). The process begins with an officer informing the communications centre that they are stopping a vehicle. The officer eventually records data on (a) the reason for the stop (which includes such categories as Violation of the California Vehicle Code, Violation of the California Penal

Code, Violation of a San Jose City Municipal Code, or the vehicle matches the description of a be-on-the-outlook, all-points-bulletin), (b) the race and /or ethnicity of the vehicle driver (the SJPD uses the official categories established by the U.S. federal government), (c) the disposition of the stop, (d) whether the driver is an adult or a minor, and (e) the number of stops. The SJPD does not provide data concerning the number of vehicles that are searched. Statistical data on all traffic stops are generated monthly. The Crime Analysis Unit receives these reports and then interprets the results department-wide and produces semiannual reports that are sent to the Police Chief.

The first VSDS report released by the SJPD covered three months (July 1 to September 30, 1999). During that time period, the SJPD reported 27,691 vehicle stops, of which 4,449 were excluded form the statistical analysis due to invalid disposition code entries, leaving 23, 462 stops in the statistical analysis.

In terms of race of the motor vehicle drivers, Hispanic represented 43 per cent of all those stopped, followed by 29 per cent for European Americans, 16 per cent for Asian Americans, 7 per cent for African Americans, 3 per cent for Middle Eastern, 1 per cent for Native Americans and 1 per cent for Other. Almost all (97 per cent) of the vehicles stopped were driven by adults, and the majority were males (72 per cent). Almost all (99 per cent) of the traffic stops were the result of Vehicle Code violations, while the largest number of stops resulted in a disposition of a traffic citation for hazardous driving (43 per cent). Criminal citations were issued in 6 per cent of all of the stops, while arrests were involved in less than 1 per cent.

The SJPD ultimately used three different types of analyses to try to determine whether or not the traffic stop data represent racial profiling. All involved comparing the traffic stop data with (a) the racial and ethnic population of the city of San Jose, (b) citizen calls for police service and departmental assignment patterns by police district, and (c) law enforcement data for the city by race and ethnicity.

When they considered the resident population data, the SJPD concluded that “some minorities are stopped at a higher rate than their corresponding percentage in the total population.” Hispanic drivers represented 31 per cent of the population but 43 per cent of all drivers stopped; while African Americans represent 4.5 per cent of the total city population and 7 per cent of all the drivers stopped.

The SJPD conducted two other analyses in order to explain the overrepresentation of both Hispanics and African Americans. The first focused upon the overrepresentation of minority groups in terms of the composition of SJPD police districts and officer assignment patterns. The SJPD uses 16 districts which vary considerably in terms of racial and ethnic composition, socioeconomic status, reported criminal activity, and calls for police service. Most officers are assigned to those districts with larger minority group populations due to more calls for service and reported crime in those areas. The SJPD argues that the greater assignment of its police officers to neighborhoods where there were more minority group members leads to a greater chance for being involved in a traffic stop and accounts for the disproportionate representation of minority group members among those individuals stopped. According to the SJPD report, it was found that, in the five districts with the highest concentration of Hispanic residents, “the percentage of Hispanics stopped in these districts appears to be proportional to their population within those Districts” (SJPD, 1999, 5-15).

The SJPD also compared traffic stop data with official crime data on the number of persons arrested, crime victims and criminal suspects. All of this information was taken from the crimes reported to the SJPD, their logic being that arrest data are valid indicators of the risk of being involved in a traffic stop or other type of enforcement intervention. With respect to arrests for Part I crimes, Hispanics were found to account for 51 per cent of all people arrested, compared to 25 per cent for European Americans, 7 per cent for Asian Americans and 6 per cent for all others. In terms of crime victims, Hispanics were found to be underrepresented and European Americans overrepresented in crime victims. African Americans were found to be equally represented in both the crime victim and crime data categories.

According to the SJPD, their data indicate that “the percentages of vehicles stops made on members of all 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 a suspect in a crime in San Jose” (SJPD, 1999: 5-8).

Critics of the SJPD’s interpretation argued that they “navigated” around a strict baseline estimate by claiming that racial minority drivers were more often “exposed” to stops and arrests because they were more likely to encounter police officers in their daily travels. According to the SJPD, neighborhoods with higher concentrations of minority citizens had more crime and more calls for service, requiring greater patrol activity. However, critics point out that “the fact of differential exposure to police surveillance does not explain differential stop rates, absent a valid count of race-specific vehicle code violations for speeding or broken equipment” (Fagan, 2002: 116).

The SJPD also stated that vehicles in poor neighborhoods were more likely to have violations since the population was less able to maintain their vehicles. Thus, the benchmark of census population was not used as a reference to assess selective enforcement. Rather, population correlates (e.g., crime, poverty, and poorly maintained vehicles) were used as indicators in order to increase police patrol and surveillance procedures. The SJPD also used crime rates, disaggregated by police district and decomposed by race, to estimate the relative risks of a traffic stop. As such, the race-specific vehicular stop rates were proportionate to race-specific crime rates. The SJPD offered no evidence to show a correlation between vehicle code violations and crime participation (Fagan, 2002:117).

Citizen Surveys

This approach to the study of racial profiling drivers by the police has taken two approaches: (1) surveys designed to study drivers' interactions with the police, (2) surveys designed to create benchmarks which examine roadway usage and travel patterns and (3) demographic information about drivers.

Citizen surveys following the first approach ask respondents about their prior contacts with the police rather than relying upon data already collected by the police). In this approach, surveys have to be administered to a random or stratified sample of citizens (e.g., U.S. Department of Justice, 2001) or to a sample of citizens who have received citations during recent traffic stops (e.g., Wright et al., 2000). As with police-stop data approaches described above, the information collected through these citizen surveys has to be compared to some type of benchmark measure.

In comparison, surveys examining roadway usage and travel patterns can be used to create benchmarks for comparison with traffic stop data. For example, citizen surveys of roadway usage include national surveys that question respondents' use of motor vehicles as well as other types of transportation. Data collected for the Federal Highway Administration (1995) can be used to estimate drivers' annual mileage to examine how often and when particular types of individuals are using the roadways.

Another option in this area is to gather demographic information from respondents as they leave tollbooths or other roadway areas. For example, the Public Services Institute conducted interviews with drivers in New Jersey along three different sections of the New Jersey Turnpike, which corresponded to the locations of the New Jersey State Police stations along the highway. The researchers randomly contacted 4,656 drivers as they exited the highway at various locations during a two and one-half week period in 2000. Data were collected in a way that varied by time of day and day of week. Eighty-seven percent of the drivers agreed to participate in the interviews and identified their own racial and/or ethnic categories. This survey of drivers discovered that the turnpike-driving

population was far from uniform, as differences were noted in terms of racial and ethnic composition of the drivers by day of week, time of day, geographical location, and even the direction of travel on the roadway (Farmer 2001).

Lundman and Kaufman (2003) used self-reporting in a citizen survey to study racial profiling. However, instead of collecting data themselves, their methodology involved a secondary analysis of preexisting data, in this case information collected in the United States by the National Crime Victimization Survey, an annual survey conducted by the U.S. Government. This is a nationally representative sample which includes information received from citizens (driver race/ethnicity and gender, among other variables) about the number of times they have been stopped while driving by the police and their subsequent experiences with the officers.

Of the 80,543 randomly selected subjects chosen for the survey in 1999, 7,034 (or 8.7 per cent of the sample) reported they were driving during the past year and stopped by the police. From their analysis of the data, Lundman and Kaufman (2003:210) concluded it was “clear” that the police are “significantly more likely to stop African-American male drivers” and that there “is a similar patterning of stops by race/ethnicity for both men and women.” Their data also indicate male African-American drivers report significantly more traffic stops than did male white drivers. All other race/ethnicity-gender variables were found to be negative and insignificant. However, all the other racial/ethnic group predictors (e.g., being a Hispanic male or African-American woman) included in this study were both negative and significant, thereby leading to the conclusion that they were stopped by the police less often than white males.

Lundman and Kaufman also studied whether or not the drivers felt the police had a legitimate reason for stopping them. When comparing the different minority racial groups, it was found that all such groups were significantly less likely to report that police had a legitimate reason for stopping them and significantly less likely to report that they had acted properly. It was also found that “beliefs in the legitimacy and propriety of police actions are framed by a polarity between blacks and whites” (Lundman and

Kaufman (2003:210). In terms of gender, it was found that African-American males are the least likely to consider the stop was legitimate, followed by Hispanics and then others. White males are most likely to perceive that the police had a legitimate reason to stop them. If these results are true, the evidence of disproportionate police stops of African American drivers would strongly indicate biased police behavior.

Yet, results from other studies that analyzed more detailed information in police files suggest the contrary. Cordner et al. (2002) found in their focus groups of San Diego police officers that roughly 25 per cent of the stops were pretext stops and had nothing to do with traffic violations. It was argued that 25 per cent of all police stops would be expected to match the demography of criminal suspects. Accordingly, the San Diego Police adjusted their census-based benchmark so that only 75 per cent of the estimates came from population demography, and 25 per cent was based on the demography of criminal suspects. Since African Americans were more heavily represented among criminal suspects than in the general population, basing the racial benchmark in part on criminal suspects increased the relative proportion of minorities. When this new benchmark was compared against police stop data, the evidence of disproportionate stops of African American disappeared.

Eck et al. (2003) examined contact data collected in Cincinnati during police stops to test the hypothesis of biased policing. Their analysis indicated that the spatial pattern of police stops in that city appeared to be correlated with driving patterns, crime patterns, drug calls and overall demand for police services. This suggested that the disproportionate stops of African American drivers may be explained by workload factors rater than biased policing. Their data also indicated that the duration of stops for African American drivers was significantly longer than for white drivers; however, this difference was accounted for in part by the fact that the vehicles driven by African Americans and stopped by police contained more occupants than those driven by whites. Also, although vehicles of African American drivers were searched at disproportionately higher rates, the probability of finding contraband was constant across race. As a result,

the researchers stated that if African American drivers were not stopped arbitrarily, the rates of finding contraband would be expected to be lower.

The Strengths and Weaknesses of Using Citizen Surveys

Strengths

- Individuals are able to self-select their racial and/or ethnic identity, whereas observational studies are less able to assess racial and/or ethnic group membership reliably.

- Traffic surveys concerning citizens' use of the roadways allow researchers to compare racial and ethnic disparities in traffic stops and police behavior by better approximating citizens' driving patterns and frequency.

Weaknesses

- Researchers may not get accurate measurements of traffic-violating behavior because relying on citizens to divulge their illegal driving behaviors may introduce socially undesirable responses. For example, Wright et al. (2000) reported that in their study 30 per cent of drivers did not accurately divulge that they had received a driving citation during the previous six months from the North Carolina Highway Patrol. In addition, they reported that the reliability of responses differed significantly by drivers' race: white speeding violators were more likely to indicate that they had received a citation compared to black speeding violators.

Internal Departmental Comparisons

As noted throughout this report, complainants who argue that they have been the victims of racial profiling have tended to collect data to document the existence of racial profiling and provide the basis for corrective action. But as Fridell et al. (2001) point out, data collection represents only one strategy to understanding and reforming the practice of racial profiling by law enforcement. Other alternatives include (1) exhortation, that is, formally prohibiting of discrimination through official policy and/or public statements by police executives; (2) improved recruitment, training and supervision of officers and (3) interpreting various appropriate legal statutes and principles (such as the Fourth Amendment in the United States) to prohibit the use of race as proxy for suspected criminality.

Some researchers disagree that the collection and analysis of data on police traffic stops and benchmark or baseline data is the best mechanism for controlling racial profiling. In this context, Walker (2001) proposed an administrative solution – more specifically "an analytic framework based on the new administrative tool of Early Warning (EW) systems …". He suggests that EW systems could be used to establish peer-based benchmarks for comparisons of police officers' rates of stops with the rates of stops of other police officers working the same beat(s) and shift(s). Walker (2001: 82-83) describes EW systems as "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." By using these systems, Walker believes that those police officers whose stop rates of minorities do not conform to their peers' could be identified and their behavior addressed through such decisions as proper training, reassignment, etc. While Walker (2001:87) acknowledges that EW systems are not effective for "cases where an entire agency is engaging in racial or ethnic discrimination," he feels these systems could be effective because they would enable police to establish effective benchmarks for determining racial profiling behavior for individual police officers. It should be noted that these types of systems are mostly

used by law enforcement agencies that are under court or legislative mandate to collect police–citizen contact data**.**

Walker (2001: 83) points out that the underlying assumption of EW systems is that "in any law enforcement agency a few officers have a disproportionate number of indicators of problematic performance (e.g., citizen complaints), as supported by substantial evidence." He cites the findings of the Christopher Commission which, after their investigation of the Los Angeles Police Department, reported that 44 such officers were "readily identifiable" through existing departmental records. A national evaluation of EW systems reported that those police officers selected by EW systems do, in fact, have more serious disciplinary records than other police officers hired in the same recruit class cohort (Walker, Alpert and Kenney, 2000). Walker also points out that EW systems are becoming an increasingly popular mechanism for achieving police accountability, citing endorsements by the U.S. Commission on Civil Rights (1981), the International Association of Chiefs of Police (1989), and the U.S. Department of Justice (1997). Early Warning systems have been included in the New Jersey Attorney General's response to the racial profiling issue (Verniero, 1999:94). It has also been suggested as an approach that police could take to combat racial profiling by the U.S. Department of Justice (Ramirez et al., 2000: 46-54).

One of the features discovered by some of the studies initiated by the complainants of racial profiling is that some police officers may be persistently engaged in racial profiling while their other fellow officers are not. There is some evidence in both the Maryland and Illinois cases that certain police officers stopped many more African American drivers than their colleagues (e.g., American Civil Liberties Union, 1999). One benefit of the EW approach is that it analyzes the traffic stops of particular offences relative to their peer officers, defined as officers working comparable assignments. That is, the data has to be analyzed in terms of all police officers working a particular area or precinct during the same shift. The working hypothesis is that in a professionally managed police department with close and consistent supervision, the activity levels of all police officers should be

roughly similar (taking into account specific incidents that produce short-term variations).

The following examples have been put forward by Walker (2001:84-85) concerning how the EW approach would operate in practice.

Example One

In the section of a metropolitan area that is in the centre of the local Hispanic community, it is reasonable to expect that the overall percentage of traffic stops of Hispanic drivers will be higher than in other parts of that metropolitan area. The EW approach analyzes the vehicle stop activity for all patrol officers assigned to this area in particular shifts and look for those patrol officers who make significantly more stops of Hispanic drivers than their colleagues. The mere fact that a patrol officer's vehicle 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 patrol 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 vehicle 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 vehicle stops than their colleagues working the same area during the same shift. A high rate of vehicle stops by one patrol officer is likely to be perceived as arising from bias although it may reflect an overemphasis on traffic enforcement per se. Whatever the motive, the impact on police-community relations is equally negative.

Example Three

Many allegations of racial profiling involve stops of African American drivers in all-white neighborhoods. The EW approach would attempt to determine whether particular patrol officers assigned to these neighborhoods are responsible repeatedly for such stops. The data may indicate, however, that all patrol officers assigned to these neighborhoods

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

According to Walker and Alpert (2000), there are numerous ways racial profiling can happen, and one benefit of an EW system is that it can distinguish between these different forms and point toward the appropriate remedial action in each case. The benefit of such a system is that it uses data as a starting point, and is not considered to be conclusive of racial profiling. No police officer is presumed to be 'guilty' of racial profiling just because their reports indicate that they have made a large number of traffic stops of minority group drivers. As Walker (2001:86) points out, "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 EW system stipulates that the police officer receive some form of counseling or training. This purpose of this action is to discuss with the officer their performance, determine the underlying cause(s) of the behavior in question, communicate the department's policies, priorities and performance expectations, and clearly indicate that further evidence of problematic behavior could result in formal discipline. And if counseling or training should fail, Walker recommends that the police department transfer the police officer in question to an assignment where potentially sensitive citizen contacts are less likely to occur, or not occur at all.

Benefits and Limitations of an Early Warning Approach

According to Walker and Alpert (2000) and Walker (2001), there are both direct and indirect benefits to police departments for using an EW system. In addition, a number of limitations have been identified.

Direct Benefits

- The Early Warning approach provides a framework for identifying and doing something about those police 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.

- It reduces the number of racially profiled stops for the police department as a whole, with a net improvement in the performance of the police department and the perception of that performance in the community.

- It communicates a message to other police officers about the police department's priorities with respect to race and ethnicity in particular and accountability in general (i.e., it will have a general deterrent effect).

- At some point, a record of consistent interventions begins to change the organizational climate of the police department.

Indirect Benefits

- The analysis of the relevant data may reveal that one police officer has a relatively high level of vehicle stops because no other police officers working a comparable assignment engage in police officer-initiated activity of any sort. These noted

officers can be referred to counseling or training. The data can serve as a general measure of police officer performance and serve as an accountability tool.

- Any inconsistencies discovered may be the product of supervisors with inappropriate priorities.

- The analysis of the data may also lead to the discovery of other problems and/or issues. It is possible that a small number of police officers have a large number of stops of certain types of drivers (e.g., young female drivers).

Limitations

- The major limitation is that EW is not an effective mechanism in those cases where an entire agency, district, shift, or beat assignment is engaging in racial or ethnic profiling. In such a case, the behavior of all police officers will be the same. As a result, it will be difficult to determine the validity of using police activity measures as the denominator, rather than the numerator, when examining racial disparities without having comparisons to some other criteria.

It is possible (but not a proven fact) that the introduction of an EW system will deter police offices from engaging in proactive police work. This is because EW systems require that individual police officers be identified on police-citizen contact data collection forms. As a result, internal comparisons are not considered to be feasible for most police agencies as researchers feel that the available data cannot establish police officer comparisons.

Citizen Perceptions

Race structures citizens' views of the police racial bias, as it does other aspects of policing. In all four models tested in this research, African Americans and Hispanics are more likely than whites to believe that police bias is a problem. African Americans,

however, are more likely to perceive such bias than Hispanics, net of other factors. This finding helps address one unanswered question in the literature on police-minority relations – whether African Americans and Hispanics share a minority-group perspective or whether perceptions take the form of a white-Hispanic racial hierarchy.

Weitzer (2000) explored the perceptions of the police held by the members of three Washington D.C. neighborhoods – a middle-class African American, middle class white and a working-class African American neighborhood. He found race was a significant predictor of how the members of both racial groups viewed the general actions of the police. He found that for whites, differential policing was the general result of African American criminality, while only a small number of African American residents of both communities agreed with this position. At a general level, then, whites view African American criminality as a justification for the police treating African Americans differently, while the African American (irrespective of social class standing) gave racism as their answer. However, when it came to issues related to one's own neighborhood, Weitzer found that the middle-class African Americans were close to the position taken by the middle-class whites in terms of community relations with the police. This research suggests that "class inequality, and not blanket racial discrimination, is now the decisive factor structuring blacks' experiences with social institutions and their worldviews" (Weitzer 2000: 152). This led Weitzer to suggest that more research needs to be undertaken at the neighborhood level (an issue that is commonly ignored by researchers looking at vehicle stops by the police).

In a more recent study on this issue, Weitzer and Tuch (2005) found that, consistent with the racial-hierarchy pattern, African Americans and Hispanics do differ significantly on the extent of racially-biased policing. Indeed, on some questions, Hispanics were found to be much less likely to perceive bias than are African Americans. For instance, African Americans are more likely to perceive police discrimination against Hispanics than Hispanics themselves are to hold this belief, and African Americans are more likely than Hispanics to say that Hispanic neighborhoods are discriminated against (as compared to white neighborhoods) and to believe that Hispanic drivers are racially profiled (compared

to white drivers). African Americans are thus more inclined to perceive racial bias against both minority groups.

Weitzer and Tuch report in their findings that minority perceptions are not monolithic: in terms of racially biased policing, Hispanics differ in some ways from African Americans. One reason that the two groups differ, at least with their regard to their personal experiences, may have to do with their visibility. For instance, African Americans may be more vulnerable than Hispanics to traffic stops by police because their skin color heightens their visibility. But they note that further research is needed at the neighborhood level to account more fully for African American-Hispanic differences in relations with police. For example, they suggest that African American and Hispanic views may be issue-specific: on some issues most Hispanics and African Americans may agree, while on other issues there may be less consensus.

Developing a Policy

Each of the benchmarks discussed above have strengths and weaknesses. The feasibility and accuracy of each of these approaches to collecting data about racial profiling can depend upon, for example, the type of police department and geographic location of the policing under study. One trend appears to be emerging today in the research on racial profiling, and that is the use of multiple measures to ensure direct comparisons between benchmarks and police-citizen contact data. The following is an attempt to outline conceptually and methodologically, an approach that would facilitate these types of measurements.

In the United States there have been a number of research efforts made by police departments and various government agencies to investigate racial profiling. One research effort involves the CNA Corporation working for the Office of Community Oriented Police Services (U.S. Department of Justice). They established a research partnership with two law enforcement agencies that differed substantially in terms of

characteristics of the surrounding communities and the data being collected. Despite these differences, they found that some of the lessons learned were the same for both police departments in the sense that similar patterns showed up in both data sets. Specifically, the researchers (McMahon and Kraus, 2005: 9) identify four findings that held across these disparate communities:

(1) Nonresident drivers affect outcomes.
(2) The race share of stops/citations varies significantly by time of the day.
(3) Race and gender interact with type of stop/citation.
(4) The race mix of stops/citations varies with the race mix of the population where the stop occurred.

These are some of the issues that have to be used to guide the conceptualization of a research program to study racial profiling within a particular police department in a specific geographic context.

Conceptual Issues

Defining Racial Profiling

So far much of the existing literature on racial profiling has been summarized with respect to both U.S. legal cases and empirical studies. In addition, problems have been identified dealing with the conceptualization of racial profiling. At this point, factors that should be considered in studying racial profiling research will be discussed, beginning with the process of conceptualization. It is difficult to overstate the need and importance of a clear conceptualization of racial profiling at the outset of the research process. A clear understanding of the meaning and parameters of key concepts is necessary for identifying valid and reliable measures and adequately operationalizing variables. A strong conceptual framework is also important for specifying causal relationships.

As has been noted in the research studies discussed previously in this report, the typical approach that was originally used to determine the presence of racial profiling was to compare the racial breakdown of vehicle stops to that of a particular jurisdiction's population (e.g., a city's population). Consider the following example about a hypothetical situation in a city where 33 per cent of the people who are stopped belong to a selected minority group (McMahon and Kraus, 2005). If the demographic data for the city show that the racial breakdown of the population is the same – 33 per cent minority group and 67 per cent non-minority group – a conclusion could be reached that there is no racial profiling occurring at all.

By using this approach, the researchers are effectively allowing the demographics of a city's total population to act as an estimate of the demographic mix of the observed violator population. Importantly, they are assuming that members of each racial group violated traffic laws at the same rates and that patrol officers observe members of each racial group committing these violations in the same proportions. According to McMahon and Kraus (2005: 2), whether or not the first assumption noted "holds has been a subject of much debate and is virtually impossible to prove or disprove. The second assumption is generally not expected to hold because it is well understood that deployed police officers, drivers of different races, and problem traffic areas are all dispersed unevenly across a city's geography."

Another way of perceiving the main conceptual problem with the hypothetical example above is that the city population data don't provide the correct comparison groups. McMahon and Kraus suggest that the "ideal approach" in determining whether members of a particular racial group are stopped more often than the members or other racial groups "would be to (a) compare the race breakdown of the total violator population, (b) to compare the race breakdown of the observed race violator population with that of the stopped population, and (c) to consider reasons why variations between the groups exist" (McMahon and Kraus, 2005: 3). One concern with this approach is that it is impossible to determine the racial make-up of either the total violator population or the observed violator observation. As a result, researchers have usually made comparisons between the

race breakdowns of the stopped and resident populations. The problem with this is that the resident population is "several steps removed" from both the violator populations and is potentially quite different for reasons that are independent of police activity as well as for reasons that are due to police policies and behavior.

The researchers point out that the racial composition of the available driving population of a city's population may differ from the racial composition of the city's actual population for two reasons. First, the city's own driving population may not have the same racial composition as the city's total population. This will be true if race breakdowns vary by driving age or car ownership. Second, if the non-resident driving population is sufficiently large, then differences between the racial compositions of non-resident drivers and the city's population will also cause the driving population to be racially different from the city's population. If the race composition of the driving population differs from that of the city's population for either of these reasons, then it is likely that all the populations that are "downstream" from the driving population will also be racially different from the city's population. Since these differences will occur independent of any action on the part of the police, they cannot be the result of racial profiling (McMahon and Kraus, 2005: 3).

McMahon and Kraus (2005: 4) also investigated the potential sources of differences between the racial composition of the driving population and the violator population. As they point out, the main difference with this issue is whether or not people of different races commit infractions at the same rates. If they do, then the race distributions of the two groups will match; if they don't, then the race distribution will not match. Once again, this difference will occur independent of police activity.

To ensure that the violator population is properly represented, McMahon and Kraus (2005: 4) suggest that "the observed violator population is the first place where police department polices can contribute to differences between the stopped population and the city population. Specifically, the racial make-up of the observed violator population may differ from that of the total violator population due to variations in police deployments

across geographic areas and times of the day. Such differences are legitimate if deployment patterns are determined without respect to race."

Differences can occur in the race breakdowns of the observed violator and stopped populations due to the interaction between racial differences in violation rates and police policies and procedures regarding which violations should be focused upon. If such policies are determined without respect to race, then McMahon and Kraus (2005: 4) believe that "differences between populations can be considered legitimate." What needs to be shown, they point out, are the reasons why police departments show existing deployment patterns and other operational decisions.

Another factor considered by McMahon and Kraus is the behavior of individual police officers. Since individual officers will use their own judgment and understanding of department policies to decide whom to stop, cite, search and arrest, it is important to note that any racial differences between the observed violators and stopped populations can possibly be the result of the behaviors of both the police officer and the stopped citizen.

Data Collection

According to most researchers, data should be collected from at least four general categories: citizen (motorist) characteristics (e.g., demographics); (2) stop information (e.g., time of day); (3) police officer characteristics (e.g., career and assignment) and (4) site information (e.g., traffic flow).

Type of Activity

The studies discussed above reveal that while racial profiling can occur during different types of situations (due in large part to police discretionary powers and the authority they hold over those individuals that they do stop), those broad discretionary powers are also called upon in part due to the fact of the large number of vehicles being operated in violation of law (e.g., Ramirez et al. 2000). Vehicle stops, most of which involve

suspected traffic or vehicle code violations, are also discretionary in the sense that they are more proactive than many other types of police - citizen encounters (Mastrofski et al., 1998; Walker 2001). Vehicle stops also differ from many other types of police-citizen encounters due to their situational characteristics, the absence of a victim and/or complainant and the potential outcomes (Worden 1989).

The Unit of Analysis

When conceptualizing racial profiling, it is important to consider the unit of analysis as well as the possibility of effects at different levels of aggregation. The most basic unit of analysis is the incident, i.e., the individual vehicle. For this unit of analysis, data must be collected on the characteristics of all vehicle stops that occur within a designated geographical area during a specific time period. Incident data are important since police officer decisions are affected by the characteristics of the incidents themselves. Officers have to make a decision about whether or not to stop a vehicle in a limited time frame, and with a limited amount of information. As a result, they rely on various aspects of the situation (e.g., driver behavior, seriousness of the violation, location of the stop, traffic conditions, and vehicle characteristics) (Worden, 1989). According to Worden, as much information as possible should be considered about the context in which the stop occurs.

While data should be collected first at the incident level, it is important to realize the possibility of effects across police officers, police districts and/or different police agencies. The risk of racial profiling occurring at the police officer level may vary due to differences in attitudes and beliefs about the relationship between race/ethnicity and criminality. Furthermore, Verniero (1999) suggests that police officer differences may result from differences in training and guidelines from supervisors which could be detected by controlling for the shift or the beat. District level effects are possible as well, as several factors related to the distribution of crime may vary across police districts. These variations may include the following: demographic characteristics of the residents, geographic characteristics (e.g., population density, and the number of police officers assigned to a specific area (Klinger 1997)). Finally, agency-level effects are possible as a

result of variation of goals, operating philosophies and organizational culture (Fridell et al. 2001).

Determining the Characteristics of the Incident

According to Fridell et al. (2000), anecdotal evidence suggests that the nature and quality of the encounter is a crucial aspect of racial profiling. Although discussions generally focus upon pretext stops, what actually happens during a stop can be just as important as the reason for it. Several factors have been identified as important characteristics of racial profiling incidents. These include length of the delay, searches, property damaged, information and demeanor, restraints and use of force, and disposition of the stop.

Length of Delay

Anecdotal evidence suggests that minorities are more likely to be detained by law enforcement officers for traffic violations and for longer periods of time (Ramirez et al., 2000; Fridell et al., 2001). It has been argued that although a non-minority driver may be detained while a ticket is being written up it will be for a relatively short period of time, whereas minorities are more likely to be detained longer as more extensive questioning, background checks, and/or searches are being conducted. Investigating the extent to which minorities are subjected to longer delays and the reason for them is an important aspect of racial profiling research.

Searches

It has been argued that searches are an important part of racial profiling. Several aspects of searches need to be closely examined, including racial/ethnic differences in the likelihood of being searched, the rationales behind the searches, and the nature of the search. It is important to establish exactly why minority motorists and their vehicles are more likely to be searched than are non-minority drivers. For example, in a study of police-public contacts, Langan et al. (2001) reported that African Americans and

Hispanic motorists were twice as likely as whites to be searched. They also reported that age was a factor in searches: younger motorists were searched more often than older drivers.

Property Damage

Allegations of property damage have frequently been made by minority motorists who claim that either their vehicle or personal belongings were damaged in the course of police offices or canine units conducting a search of their vehicle (Harris, 1999). Personal property might be damaged if belongings are carelessly looked through, thrown on the ground, etc. Property may also be damaged as a result of police dogs searching the exterior of a vehicle or upon entering the vehicle itself. Damaged property might be an indication of a lack of respect and therefore affects the qualitative nature of the police-public encounter.

Information and Demeanor

The extent to which a police officer provides or requests information may also be important in conceptualizing racial profiling. For example, there is evidence that police officers frequently do not give a reason for the stop, even when directly asked by the motorist. This may indicate a lack of professionalism, but Fridell et al. (2001) noted that minorities tend to attribute police officer discourtesy, rudeness, and unwillingness to provide the reason for the stop to racial bias. It should be noted, however, that Langen et al. (2001:15) found few racial differences in drivers who reported that no reason was given for the vehicle stop.

Restraints and Use of Force

Another aspect of the incident to consider is the use of restraints on the driver and/or the passengers. Restraints could include handcuffs, or being placed in the patrol vehicle. The use of restraints suggests that the police officer had reason to believe the person in

question was either dangerous or posed a threat to their safety. The more frequent use of restraints with minority group motorists may indicate that the decision to use them may be the result of racial bias on the part of the police officer. For example, in their study of police-public contact, Langen et al. (2001) reported that African Americans (6.4 per cent) and Hispanics (5 per cent) were more likely to be handcuffed during a stop than Whites (2.5 per cent). African Americans (2.5 per cent) and Hispanics (2 per cent) were also more likely than whites (less than 1 per cent) to have force or the threat of force used against them.

Disposition of a Stop

Racial profiling may be connected with racial/ethnic differences in the disposition or outcome of a traffic stop (e.g., a warning, ticket) (Fridell et al. 2001). Differences in incident dispositions may reflect the extent to which the stop was confined to an actual traffic violation as opposed to a traffic violation being the pretext for the stop. Ramirez et al. (2000) suggest that codes be made for the following disposition codes: oral warning, written warning, arrest made, arrest by warrant, criminal citation, traffic citation-hazardous, traffic citation-non-hazardous, courtesy service, citizen arrest, and no action taken.

Methodological Issues

Type of Activity

In this category, the data collected should relate to interactions that occur during police-initiated vehicle stops between police officers and motorists. The conceptualization of racial profiling has implications for both its application as a variable and for data collection. Ramirez et al. (2000) defined a stop as “any time an officer initiates contact with a vehicle resulting in the detention of an individual and/or vehicle.” Although the majority of stops will no doubt involve traffic law violations, other highly discretionary

vehicle stops (e.g., investigative stops) should also be included. For example, during Operation Valkyrie, the American Civil Liberties Union discovered that Illinois State Police assigned to drug interdiction units stopped Hispanic motorists two to three times more frequently than police officers in other units (Harris, 1999). However, as Fridell et al. (2001:123) point out, collecting data on every vehicle stop as opposed to traffic stops compounds the problem of identifying an appropriate baseline for comparison.

Data should be collected on all vehicle stops to avoid bias and to assess accurately the nature and extent of racial profiling, if any (Cleary 2000; Fridell et al., 2001, Smith and Alpert 2002). Data should be collected on the date, time, and location of the stop as well, in order to understand fully the context in which the stop occurred (Ramirez et al., 2000; Cordner et al., 2001).

Smith and Alpert (2002) recommend that there be documentation of all stops. They say that police agencies that require its officers to issue a citation or warning for every stop have better data. They also suggest that, for research or litigation purposes, new and/or additional data collection instruments may need to be developed. They recommend collecting, for example, the following information – the primary reason of the stop, the disposition of the stop, whether or not the stop was the result of an investigation, and whether there was prior information available on the vehicle and/or driver. As much information as possible should be collected about the driver stopped, including their race, ethnicity, age, gender, and residence. Other information, such as the time of day and location of the stop, should also be collected and recorded.

Level of Aggregation

Most racial profiling studies have examined department-level data (Cleary 2000) with the exception of legal research, such as Lamberth's study of the Maryland State Police. According to Cleary (2000), agency-level data are likely to uncover important information and it may be necessary to protect the anonymity and confidentiality of the police officers being studied, especially in small departments. Cleary (2000:28) points

out that police officers often perceive the collection of identification information as a serious threat, which can affect both their behavior and morale. While police officers' concerns must be addressed, simply working at the agency level may obscure differences among both police officers and districts. It is important to find out, if racial profiling does exist, how many officers engage in this practice, whether it includes all officers working a particular shift or in a particular district, or only a few officers. Research to date has found that the percentage of vehicle stops involving minorities can vary by officer (American Civil Liberties Union, 1996) and by district (Cordner et al., 2001). Therefore, whenever possible, data should be collected in a way that permits aggregation at the officer, district and agency level. At the same time, researchers should ensure both the confidentiality and anonymity of participants and realize how data collection might affect the behavior of officers (Ramirez et al., 2000). Researchers should also control for factors such as beat assignments, especially with data aggregated at the officer level, that may be related to the likelihood of encountering minority motorists.

Population of Interest

According to Ramirez et al. (2000), identifying the population of interest and establishing a baseline measure of this group is perhaps the most difficult aspect of studying racial profiling. Another researcher has stated that "there is typically no perfect baseline against which to gauge police stop practices" (Cleary 2000:24). As has been noted previously, using the racial/ethnic composition of a community is problematic, as is the racial/ethnic population of the driving population.

Researchers who attempt to gather baseline data on operators of motor vehicles in a city or county should develop a comprehensive plan to observe intersections that fairly represent the geographic area under study. Thus, the sample design of areas and times to be observed must be based on some logical and appropriate criteria. If the stops that generated complaints occurred within identifiable areas of a city, county or state, intersections should be chosen that represent these areas. If the complaint is that an entire law enforcement agency systematically engages in racial profiling, then baseline data

may be required for the entire geographic area served by the agency. When possible, random sampling of intersections should be used to control for possible demographic variations among drivers and intersections.

In addition to the need for geographic-specific data, the time of day during which to conduct observations may also be an important consideration. Observational times should closely match any temporal patterns in the stops that are the subject of the complaints. Because of reduced lighting, observing the driving public at night may be problematic, requiring researchers to examine daytime and nighttime populations using census estimates.

To capture baseline data on violators, each infraction under study must be carefully defined. For example, decisions must be made about how fast a driver must be going before they are counted as a violator as opposed to a nonviolator. The precise number of miles an hour over the speed limit (5-10 mph) is less important than applying the agreed upon criteria consistently. Likewise, researchers must define with precision what constitutes running a stop sign or a red light for the purpose of exclusion in the violation category. It may be necessary to demonstrate a variety of behaviors (accelerating through a yellow light, slowing but not stopping at a stop sign, and so forth) for the field observers and train them on what constitutes a violation for the purpose of a study to ensure the reliability and consistency of their reports.

Once researchers have decided on the types of violations to observe and have defined them operationally, they must develop a reliable methodology for observing them. Again, an appropriate strategy must be devised for sampling intersections within a city or county for the purpose of conducting observations. For speeding violations, radar guns should be used to measure speed while observers note the race of the persons driving. For violations at controlled intersections, observers must be situated where they can carefully observe the intersections under study without influencing the behavior of drivers. Only through such a systematic capture of baseline data on operators and violators is it possible for

researchers to produce meaningful analyses regarding the treatment of minority versus white motorists by the police.

Although the primary focus of this discussion is on racial profiling in the context of police traffic stops, a similar observational method can be used if pedestrian stops are the object of inquiry. Researchers from the Home Office used video cameras mounted in cars to record the faces of pedestrians and drivers in five districts in Great Britain (Miller et al., 2002). Observers then classified the persons recorded as black, white, Asian, or other. The purposes of this research were to determine whether the population in a given area differed from the census population and whether the police were stopping minorities disproportionately compared to their percentages in the population available to be stopped. The researchers found significant demographic differences between the census and their observational counts.

A strategy could be devised to observe pedestrians using video cameras or other observers who are employed in a manner that is similar to the driver observational strategy described earlier. If the purpose of such data gathering is to support a legal claim of racial profiling, the observations could be limited to the area or areas where the allegedly discriminatory stops occurred. Observers or cameras could be unobtrusively located in those areas, and the race of pedestrians frequenting them could be recorded. Such a strategy would be fairly easy to implement in an area where pedestrians are few but would be more difficult to accomplish in an area with a large number of pedestrians, such as in Toronto or Montreal or another large urban centre. For areas such as these, alternative comparison populations, such as census estimates of daytime populations, may be the only feasible benchmark.

Like field observations of traffic violators, observations of pedestrians could be used to determine whether persons of certain races engage disproportionately in illegal or disorderly conduct in public. Sherman and Weisburd (1995) used systematic field observation to record instances of crime and disorder at hot spots before and after various treatment levels of police presence. Among the activities that were recorded were fights,

drug sales, loud music or shouting, apparent solicitation of prostitution, drunkenness, urinating in public, and rummaging through garbage cans. Carefully defining the targeted types of conduct would be an important, but not insurmountable, methodological concern with this type of research.

Characteristics of the Incident

Research on racial profiling must also determine the extent to which racial disparities (if any) exist in the characteristics of stops. When looking at the characteristics of the incident, the focus is on what happens from the time the stop is initiated to when it is completed. To the extent that the data are available in police department records, collecting and coding data on several factors should be relatively straightforward. For example, Zingraff et al. (2000) measured the length of delay in minutes and then computed mean delay times by race.

Data should also be collected on whether a vehicle search was conducted. Nixon (2001) calculated search rates (i.e., the number of searches/number of stops) by race in his study. In addition, Verniero (1999) looked at search percentages by race. Data should also be collected on the reason(s) for the search. For example, Cordner et al. (2001) distinguished between nine types of searches in San Diego – inventory, incident to arrest, consent, Fourth Amendment waiver, other basis, odor of contraband, contraband visible, evidence oaf criminal activity, and canine alert. Information on the search outcome is also important. Zingraff et al. (2000) looked at the percentage by race of searches resulting in citations and warnings.

Conclusion

Although the amount of research on racial profiling has grown substantially, understanding those factors that influence the police and their behavior is still limited, largely due to two factors. These factors must be taken into account when reading the

above literature and making informed decisions about how to approach a study focusing upon racial profiling. First, researchers have not been very successful in determining the characteristics of drivers who are *not* stopped and/or searched by the police. Most of the literature is concerned with what happens after a police officer stops a citizen. Second, the statistical analyses of the outcomes of stops in the studies described above most commonly do not control for legal and extra legal factors that may explain racial factors. The lack of multivariate statistical techniques is particularly problematic in this concern, as much of the recent empirical research using an observational research methodology has concluded that citizens' race has no significant influence on police behavior, such as decision to search and/or arrest. However, those few studies that have used multivariate statistical techniques have found that at least some of the racial disparity detected at in other studies using different types of statistical techniques (e.g., bivariate analyses) can be explained by other factors.

Furthermore, most of the studies to date have not focused in depth on the type of activity that has led the police officer to become suspicious about a particular motorist or pedestrian. It is one thing to talk about crime in a generic sense (i.e., all criminal offences) as opposed to specific offences, such as weapons offences. Much of the research (using both bivariate and multivariate statistical techniques) has found that profiles are not likely to be very effective at all, but in some situations it might be necessary to engage in practices which, in essence, involve profiling. As George Kelling (in Herszenhorn, 2000:41) commented about police department policies concerning race-based stops for weapons searches and seizures in Newark, New Jersey, the issue of racial profiling can be contrasted with the idea of good departmental planning. In essence, he raised the following question: assuming the accuracy of the factual basis of the policy (i.e., that the members of a particular racial group are more likely to be in possession of an illegal item) should police use explicit race-based policies or not?

Much of the work conducted in racial profiling involves focusing upon numerators and denominators, as well as selecting the appropriate methodological and statistical techniques. A number of studies have used benchmark data as their denominator by

which to compare the number of traffic stops to the racial composition in the study jurisdiction. The types of benchmark data most commonly used include census data and motor vehicle data collected by the government. Some researchers suggest that a number of factors can influence negatively the results of studies using benchmark data, such as driving patterns, crime patterns, vehicle ownership etc. As an alternative, they suggest using baseline data. Such studies require data collected by observing motorists, a labor intensive and expensive approach.

Another difficulty with the data collected to date is that it has been collected without any theoretical framework. Indeed, researchers have simply counted things – for example, the number of traffic stops, vehicle searches and arrests of non-white and white individuals by the police. Instead, research should now become concerned with the larger theoretical context of explaining behavior. Problems facing the police are in large part the result of this lack of analyzing the empirical data from a theoretical perspective. To make this situation clearer, many of the criticisms made against the police in Canada today come from a self-defined human rights perspective, a perspective that is found with the theoretical basis of Structural Criminology (see Appendix B).

To counteract such critiques, the police can explore the following relevant areas concerning racial profiling from a theoretical perspective in order to identify key explanatory variables and test specific hypotheses. Until studies include this type of approach, it can be argued that very little policy can be taken from the research to date.

Clearer policy decisions will emerge in this area once theories are tested and the appropriate variables and hypotheses are examined. For example, studies can focus upon individual officers' decisions (which may have implications for recruitment and training as well as cultural sensitivity training). Another approach could examine organizational and management theories in order to assess the current departmental structure of rewarding police behavior as well as certain supervisory styles. Yet another approach could possibly study the interaction between police officers and the citizens they have stopped.

What alternatives are available to police executives when data suggest a racial profiling problem, particularly after a police organization has implemented training, enhanced supervision, and implemented a policy discouraging or prohibiting racial profiling? In this report, one of the areas reviewed was the use of an early warning system whereby the stops of all police officers are compared to identify those officers who stop a higher proportion of racial minorities. However, a number of weaknesses were identified with this approach unless proper steps are used to compare results of police officers that are matched across time and geographical space.

What, then, can the police executive do about the possibility of racial profiling? They could periodically conduct several small studies dispersed through a jurisdiction, especially in high traffic locations. The results of this type of study could serve as an early warning system for the organization. Second, benchmark data using crime and police operational information could be used.

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Appendices

Appendix A

Addressing Racially Based Policing

PURPOSE: This policy is intended to reaffirm this department's commitment to unbiased policing, to clarify the circumstances in which officers can consider race/ethnicity when making law enforcement decisions, and to reinforce procedures that serve to assure the public that we are providing service and enforcing laws in an equitable way.

Policy:

A) Policing Impartially

1. Investigative detentions, traffic stops, arrests, searches and property seizures by officers will be based on a standard of reasonable suspicion or probable cause in accordance with the Fourth Amendment of the U.S. Constitution. Officers must be able to articulate specific facts and circumstances that support reasonable suspicion or probable cause for investigative detentions, traffic stops, arrests, nonconsensual searches, and property seizures.

   Except as provided below, officers shall not consider race/ethnicity in establishing either reasonable suspicion or probable cause. Similarly, except as provided below, officers shall not consider race/ethnicity in deciding to initiate even those nonconsensual encounters that do not amount to legal detentions or to request consent to search.

   Officers may take into account the reported race or ethnicity of a specific suspect or suspects based on trustworthy, locally relevant information that links a person or persons of a specific race/ethnicity to a particular unlawful incident(s).

Race/ethnicity can never be as the sole basis for probable cause or reasonable suspicion.

2. Except as provided above, race/ethnicity shall not be motivating factors in making law enforcement decisions.

B) Preventing Perceptions of Biased Policing

In an effort to prevent inappropriate perceptions of biased law enforcement, each officer shall do the following when conducting pedestrian and vehicle stops.

Be courteous and professional.

Introduce him- or herself to the citizen (providing name and agency affiliation), and state the reason for the stop as soon as practical, unless providing this information will compromise officer or public safety. In vehicle stops, the officer shall provide this information before asking the driver for his or her license and registration.

Ensure that the detention is no longer than necessary to take appropriate action for the known or suspected offense, and that the citizen understands the purpose of reasonable delays.

Answer any questions the citizen may have, including explaining options for traffic citation disposition, if relevant.

Provide his or her name and badge number when requested, in writing or on a business card.

Apologize and/or explain if he or she determines that the reasonable suspicion was unfounded (e.g., after an investigatory stop).

Compliance:

Violations of this policy shall result in disciplinary action as set forth in the department's rules and regulations.

Supervision and Accountability:

Supervisors shall ensure that all personnel in their command are familiar with the content of this policy and are operating in compliance with it.

Source: Fridell et al., 2001, pp. 52-53.

Appendix B

Locating Criticisms of the Police in Canada

A Critical – Structural Criminology Critique of Policing

Introduction: Case Study

Not all writings about oppression come from the work of critical criminologists. For example, a recent article by Mastrofski et al. (2002, 540) explored whether the police "distribute disrespect to those in society's lower strata, at the cultural periphery …". If this were the case, the police "would seem to reinforce larger patterns of structural inequality and contribute to the socially divisive consequences of their work. This would validate accusations of prejudicial treatment, such as racial discrimination. Or is disrespect merely a function of the transitory aspects of the situation, how citizens behave at the moment." Mastrofski et al. (2002), in their study of two American cities (Indianapolis, Indiana and St, Petersburg, Florida) stated in their discussion of results that "even controlling for various types of suspect behavior, these police do appear to replicate several larger societal tendencies to distribute disrespect disproportionately to those of low or peripheral status." According to a critical criminologist, this statement indicates that oppressive language is embedded in the police-citizen encounter and that the disrespectful treatment of the poor and powerless by the police is a reflection of gender, race, and class biases found within society.

What a critical criminologist may ignore is the following (taken from the same discussion, a page prior to the above comment): "… those showing the expected significant effects were suspects who initiated disrespect, were male, younger, and low income. Of these, whether the suspect initiated disrespect was by far the most influential factor." Suspects who resisted police, had strong evidence against them, and were not in conflict with others with whom they were close had no significantly greater risk of police disrespect." The authors went on to state that their data showed that the "citizen's race proved significant, … albeit in the direction contrary to expectation. Regardless of the degree of disadvantage in the neighborhood where the citizen encountered the police,

white suspects were more likely to receive disrespect than were minority suspects." What Mastrofski et al. found to be the most powerful predictor of police disrespect was how the suspect behaved during the police-citizen encounter. "(A)s hypothesized, most of the explanatory power … is accounted for by how the suspect behaves. Police moralism, as displayed in disrespectful words and gestures, appears to be driven most powerfully by what suspects do, suggesting that even in a time when rules, regulations and the influence of law on American police are probably greater than they have ever been, suspects still exert considerable influence over how they will be treated, a finding of some value for those who search for ways to reduce police incivility in public encounters."

Do the Police Engage in Racially Biased Policing?
A Structural Criminology Perspective: An Introduction

In general, this approach stipulates that crime is to be defined in terms of oppression. Some groups are particularly vulnerable to this oppression, such as members of the working class, the underclass, women (particularly those who are single mothers and/or are poor), ethnic and racial minority groups (especially those who are immigrants and who come from non-English speaking countries) and Aboriginal peoples (i.e., those who are suffered from the processes and practices of colonization and institutional disadvantage). All of these groups are likely to suffer from oppressive social relations on the basis of where they are located in the social class system, racism, etc.

The focus of analysis of the Structural Criminology approach is twofold, (1) crimes of the powerful and (2) crimes of the less powerful. To analyze the crimes of the powerful, attention is placed toward issues relating to ideology (e.g., the nature of 'law and order' politics), institutions (such as the political economy and the social impacts of the privatization movement), as well as the state (e.g., managerial style administration of the courts). The structural context of crime in relation to capitalist development and institutions is a central aspect of any explanation of analysis of crimes of the powerful. The focus of analysis when studying the crimes of the less powerful examines the point of view from the specific experiences of the particular sections of the population.

Different forms of criminal activity are found among members of the less powerful groups mentioned above. In these analyses, there is an emphasis upon the specificity of crime and criminal involvement (such as specific types of activity) as well as upon the generalist features that unite these various groups together (such as their shared social, economic and political experiences).

Crime is seen to be associated with broad processes of political economy that affect the powerful and the less powerful in quite different ways. For the powerful, there are pressures associated with securing the maintenance of state power and specific sectional interests in the global context of international and transnational activities. For the less powerful, the cause of crime is seen to lie in the interplay between marginalization (i.e., the separation of people from the mainstream institutions) and criminalization (i.e., intervention by the state authorities). There is also an emphasis upon the racialization of crime, in which certain communities are targeted by the police in the 'war against crime' and 'public disorder.' Most of the work by done to date by scholars who work within the Structural Criminology theoretical framework has looked at gender and class. It has only be during the past five years or so that they have started to analyze the minorities, in particular the disparate treatment of racial and ethnic groups within the various aspects criminal justice system, and document the inequities they experience.

What this means is that offending behavior is linked to a social context that is structurally determined by the general allocation of societal resources and by the specific nature of police intervention in people's lives. There is referred to as the process of homogenization, in which the least powerful and most vulnerable in society – the poor, the unemployed etc. – are processed through the system until they constitute a disproportionate number of repeat offenders.

The growing number of disparities between the rich and the poor, and the expansion of the number of the poor, constitute a legitimation crisis for the system as a whole. One response is to develop a 'law-and-order' politics approach that entrenches and exacerbates the homogenizing process of identifying and punishing offences. An area of

concern is the repressive nature of the state in relation to particular layers of the working class and in regard to particular communities.

For structural criminology, the response to crime must be built upon a strategy of social empowerment. This means involving people directly in decisions about their future through direct participatory democracy and processes. It also requires a redistribution of social resources to communities on the basis of social need and equity.

To counter crimes committed by the powerful, there must be open and public accountability of all state officials. Further, as a part of wealth distribution, there has to be a transfer of wealth from private hands to public ownership under community control.

Crime prevention measures include anti-racist and anti-sexist campaigns (including the re-education and training of state officials such as the police). Strong emphasis is given to extending and protecting basic human rights and institutionalizing these by means of watchdog agencies, such as Human Rights Commissions and developmental policies.

Finally, the criminal justice system should be based upon a model of restorative justice rather than one that focuses upon retribution and punishment. The state should not be repressive, although coercion may be required as part of the redistribution of wealth. In addition, the criminal justice system should operate openly, publicly, and with full community accountability. As far as possible, its functions should reflect self-determination at the community level, within the boundaries of human rights.

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Appendix C

Definitions: Disparity and Discrimination

A disparity refers to a difference, but one that does not necessarily involve discrimination. In fact, a disparity can be explained by legitimate factors. To explain differences in the outcomes in the criminal justice system as well as its various major institutions (e.g., policing) the words ‘legal’ and ‘extra-legal’ are oftentimes used to explain any or all differences found. Legal factors include, for example, the seriousness of the offence or an offender’s prior criminal record. Both of these are considered to be legitimate bases for decisions made by criminal justice practitioners because they are based on an individual’s criminal behavior. Extra-legal factors include race, ethnicity, gender, social class etc. – since they are not legitimate bases for decisions because they involve group membership and are unrelated to a person’s criminal behavior.

Discrimination is a difference based on differential treatment of groups without reference to an individual’s behavior or qualifications. A number of different definitions of discrimination are used – for example, systemic discrimination (sometimes referred to as total discrimination) refers to discrimination existing at all stages of the criminal justice system, in all places and at all times. Institutionalized discrimination involves racial disparities in the outcomes that result from established (i.e., institutional) policies. In this approach, the key issue is the result, not the intent. In addition, when institutionalized discrimination is found in a particular practice, the term ‘race effect’ is sometimes employed to signify that this type of discrimination has been found to exist. Contextual discrimination refers to discrimination in particular contexts or circumstances. One example of this type of discrimination is when the victim-offender relationship is examined in a criminal offence – if the offender is African American and the victim is white, longer sentences may be handed out to the convicted offender. Finally, individual discrimination may result from the actions of particular individuals, but it is not characteristic of any one criminal justice agency or the criminal justice system in its entirety.

Relevance to Racial Profiling: As noted above, there are numerous definitions of racial profiling, most notably the narrow and the general definitions of racial profiling. These definitions differ in terms of the extent to which the police may properly use race and ethnicity as an appropriate reason for stopping and/or searching a citizen. Without a common agreement as to what constitutes unlawful racial profiling it is difficult to interpret potential disparities that may exist between the demographics of those who are stopped and/or searched and those who are not. For example, the existence of a racial disparity may not constitute racial profiling under a narrow definition but could be defined as inappropriate under a more broadly focused definition.

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