



# Assessing Racial Profiling More Credibly

## A Case Study of Oakland, California

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For many individuals, traffic stops are the most frequent interaction they have with police. Since the I-95 “turnpike” studies of the mid-1990s, which were primarily motivated by the widespread use of drug-courier profiles in highway enforcement along trafficking corridors, public concern has grown that urban traffic stops may also be plagued by racial profiling. Given this concern, more than 400 police agencies compile race data on stopped motorists, some voluntarily and some by order of the Justice Department.

At the heart of this effort is the belief that if stop data are collected, it should be easy to assess racial bias in traffic stops. But while a spate of studies have used collected data to show whether racial profiling does in fact occur, these studies suffer from a lack of rigor that calls their findings into question. At issue is what to compare or “benchmark” the stop data against. Studies have used census data, traffic surveys, and data on traffic-stop outcomes, but all these benchmarks suffer from problems, such as not accounting for driving behavior or exposure to police.

Working with the City of Oakland, RAND Corporation researchers explored a more credible method to assess racial bias in the decision to stop and racial bias in post-stop activities—in particular, the decision to cite, the decision to search, and the length of the stop. The study analyzed data on 7,607 recorded vehicle stops between June and December 2003.

### No Evidence of Racial Profiling in Stop Decisions

To assess racial bias in the decision to stop, we relied on a “veil of darkness” approach to determine whether an officer’s ability to identify a driver’s race in advance influences whom they stop. An officer’s ability to identify a driver’s race in advance degrades as daylight transitions to darkness. Thus, we compared the distribution of the driver’s race in stops made in daylight with that of stops made

### Abstract

Numerous studies have used data collected by law enforcement agencies to show whether or not racial profiling is occurring in urban traffic stops. But such studies use flawed methods that call their findings into question. Working with data from Oakland, California, we demonstrate the effectiveness of more credible methods for assessing racial profiling—looking at both the decision to stop motorists and at post-stop activities—and how naive comparisons that do not use such methods can either overstate or understate the magnitude of the problem.

after dark. More specifically, because the race distribution may change during the day, we compared only those stops occurring one hour before sunset and one hour after sunset, an interval during which the driving population cannot quickly change. We also focused solely on stops for moving violations, because the likelihood of an officer recognizing a mechanical or registration violation changes from daylight to darkness (e.g., headlight violations occur only at night and may be more largely associated with drivers of a particular race).

We found that black drivers composed 54 percent of the stops at night and 50 percent of stops during the day. The difference is not statistically significant and runs counter to racial profiling concerns, because black drivers are at slightly less risk of being stopped when race is more easily identifiable.

Refining this analysis for “clock time”—e.g., comparing the fraction of black drivers stopped when 6:30 p.m. is during daylight versus when it is during darkness—essentially shows the same result.

### Disparity May Exist in Citation Rates

Analyzing post-stop activity is less complicated than analyzing stop decisions because a proper

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benchmark—the vehicles already stopped—is found more easily. Still, we cannot naively compare post-stop activities across race groups, because such activities can vary according to neighborhood, time of day, age, and the reason for the stop.

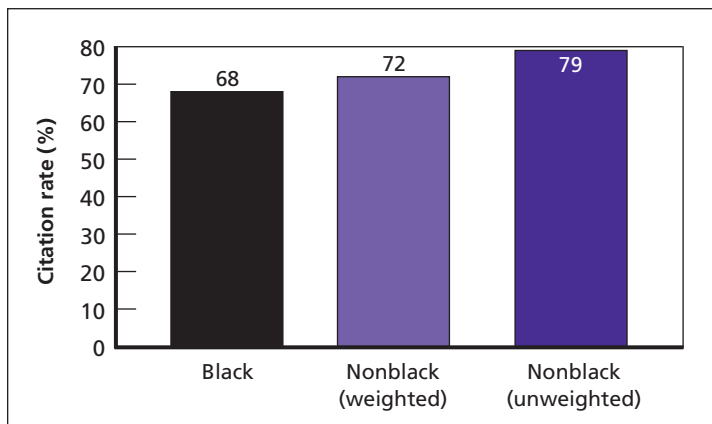
We address these concerns by using propensity score analysis to create a comparison group of nonblack drivers that matches the stop features of black drivers. The figure shows that the citation rate for black drivers is 4 percent less than that for comparable nonblack drivers, implying either that police are slightly more hesitant to cite black drivers or that some stops involving black drivers were not severe enough to warrant issuing a citation. We also see that naive, unadjusted comparisons overstate the extent of the problem, making the disparity 11 percent rather than 4 percent.

### Frequency of Pat Searches Is Greater Among Black Drivers Than Among White Drivers

Although black drivers receive 75 percent of all searches, nearly 85 percent of those searches are low-discretion ones (e.g., search of an arrested driver) in which race is not a factor. We focus our analysis on the other 15 percent—the high-discretion searches (e.g., pat and consent searches)—where race may be a factor.

Here, we compare black drivers against matched nonblack and matched white drivers. For consent searches, we find that the search rates are similar for all three groups (2.2, 1.6, and 1.7 percent, respectively). But for pat searches, we find that although rates were similar among the matched white and matched nonblack drivers (2.7 and 2.6 percent of stops, respectively), the rate was far less for white drivers—0.4 percent. Once again, we see the danger of naive comparisons. For consent searches, the rates for the unmatched white and nonblack groups were 0.4 and 0.9 percent, respectively, compared with 1.6 and 1.7 when weighted, thus showing a disparity that is largely the result of factors other than race.

### Variation in Citation Rates



### Black Drivers More Likely to Have Longer Stops

Even if two drivers have the same outcome at a stop, a race bias may still present itself in the actions and words exchanged during the stop. Although the data contain no information on what took place during a stop, we can measure the length of the stop. While some variation will occur naturally, we would expect the duration of the stop to be similar, unless there is race bias.

Having adjusted for factors such as location and time of the stop and important stop outcomes (such as whether a search occurred), we find that black drivers were more likely to have stops of greater duration than similarly situated nonblack and white drivers. Specifically, the analysis shows that 47 percent of black drivers had stops that lasted less than ten minutes, whereas 53 percent of nonblack drivers with similar characteristics had stops lasting less than ten minutes. Finally, as in the other post-stop activity analyses, naive comparisons lead to different conclusions. Had we failed to adjust for the stop features, we would have concluded that 19 to 27 percent of the stops of black drivers last too long, considerably overstating the problem.

### Implications

One of the clear implications of the analysis is that race bias can reveal itself at every stage of the vehicle-stop process. While the analysis shows that Oakland police are not involved in bias-based stop decisions as a department-wide practice, there are indications that racial disparities occur during post-stop activities, including disparities in stop duration and frequency of pat searches, which need to be considered and addressed. Of the potential problems the department may have, disparities in post-stop activities are preferable, because they may be addressed with training and policy changes, which the department has already begun doing. Biases in the decision to stop are much more difficult to address.

The issue of racial profiling is highly charged and involves numerous stakeholders. Efforts to collect data on stop and post-stop activities will continue to increase at the local and state levels. In addition, the End of Racial Profiling Act, which Congress is now considering, would mandate data collection for all law enforcement agencies that receive federal funds. Thus, the collected data must be complete and accurate if the analyses they support are to be effective in determining whether racial profiling exists. But even if the data are complete and accurate, it is equally important that the analyses using those data are conducted by objective parties who do not have a stake in the outcome and that the methods used are credible enough that they do not inflame stakeholder and public opinion. It is clear from this study how easy it is to make naive comparisons and that such comparisons can both overstate and understate the problem of racial profiling. ■

This research brief describes work done for RAND Public Safety and Justice and documented in *Promoting Cooperative Strategies to Reduce Racial Profiling: A Technical Guide*, Chapter 9, "Analysis of Oakland Stop and Search Data," Oakland Police Department, April 2004. The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. RAND® is a registered trademark.



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