Pedestrian and Motor Vehicle Post-Stop Data Analysis Report

Prepared for:

City of Los Angeles

Prepared by:

Analysis Group, Inc.

Geoffrey P. Alpert, Ph.D.
Elizabeth Becker, Ph.D.
Mark A. Gustafson, M.P.P.
Alan P. Meister, Ph.D.
Michael R. Smith, Ph.D., J.D.
Bruce A. Strombom, Ph.D.

July 2006

This report was prepared for the City of Los Angeles by Analysis Group, Inc., 601 South Figueroa Street, Suite 1300, Los Angeles, California 90017.

Published 2006 by Analysis Group, Inc.

Table of Contents

ABOUT ANALYSIS GROUP, INC.

Analysis Group, Inc. provides economic, financial, and business strategy consulting to law firms, corporations, and government agencies. Our staff is experienced in all areas of economics, including employment, securities, intellectual property, antitrust, health care, energy, and commercial damages. We often work in partnership with professors from leading universities to develop state-of-the-art analyses and create a bridge between current academic thinking and real world problems.

We have experience assessing claims of race discrimination in a variety of contexts, including law enforcement activity, employment, and fair lending. Our project team members have conducted a number of analyses to determine whether racially biased policing exists in law enforcement agencies. These include studies of the New York Police Department (New York), Miami-Dade Police Department (Florida), Washington State Patrol (Washington), Spokane Police Department (Washington), and Richmond Police Department (Virginia). The academics working on this project bring special expertise to the subject of race discrimination in the context of law enforcement. Our academics have researched and published extensively in the area of racially biased policing, as well as other law enforcement issues. Their work has appeared in numerous peer-reviewed publications. They have developed innovative approaches for assessing claims of racially biased policing.

Analysis Group has also investigated race discrimination in employment practices such as compensation, recruitment, hiring, promotion, placement, testing, termination, and enforcement of disciplinary actions. These studies have addressed alleged discrimination on the basis of age, race, gender, and national origin.

With regard to fair lending, we have assessed potential racial disparities in credit markets. Our experience includes developing economic and statistical models to assess whether loans are being extended to minority applicants under terms that are comparable and fair relative to non-minority applicants.

For our investigation into whether racially biased policing exists in Los Angeles, the Analysis Group project team consists of in-house and academic experts, including:

- Geoffrey P. Alpert, Ph.D., Department of Criminal Justice at the University of South Carolina;
- Elizabeth Becker, Ph.D., Managing Principal at Analysis Group;
- Mark A. Gustafson, M.P.P., Manager at Analysis Group;
- Alan P. Meister, Ph.D., Manager at Analysis Group;

- Michael R. Smith, Ph.D., J.D., Department of Criminal Justice at the University of South Carolina; and
- Bruce A. Strombom, Ph.D., Managing Principal at Analysis Group.

Biographies for these project members are presented in Appendix J.

Analysis Group also retained Dr. Lorie Fridell to conduct a peer review of this report. Dr. Fridell is currently an Associate Professor in the Department of Criminology at the University of South Florida. Previous to joining the faculty at the University of South Florida, she was the Director of Research at the Police Executive Research Forum (PERF).[1]

[1] PERF is a national organization of police executives from the largest city, county, and state law enforcement agencies that conducts and promotes criminal justice research. Chief William Bratton of the Los Angeles Police Department is President of the Board of Directors of PERF.

EXECUTIVE SUMMARY

Over the past several years, there has been a growing perception that law enforcement actions, nationally and within some communities in the City of Los Angeles, are based on racial stereotypes or racial profiling. Thus, the Los Angeles Police Department embarked upon a project of systematically collecting data on pedestrian and motor vehicle stops in order to establish a basis for better understanding police contacts and reviewing concerns and perceptions about potential racial profiling. The City engaged Analysis Group, Inc. to analyze these data to determine whether they provide evidence of racially biased policing, and to assist in promoting effective and respectful policing. Of the several proposed methodologies suggested, the City decided to implement a detailed study of enforcement activities by LAPD officers after stops were made. It is important to understand that officers are the only ones who know if race was used as a reason, or the reason, to take action. As we are unable to look into the minds of the officers, we are therefore left only with statistical information to look for patterns of racial disparities in officers' actions after a stop has been made. This report provides a summary of the findings of this post-stop analysis. Our results must be considered in light of the fact that some relevant information was not available for inclusion in our analysis.

Several post-stop outcomes were evaluated – arrests, citations, officer requests to suspects to exit the vehicle, pat-downs/frisks, higher discretion searches,[2] no action taken, and officer requests to suspects for consent to search. A cursory review of the raw post-stop data suggests there may be large racial disparities in these post-stop outcomes. However, these raw data do not reflect the circumstances of the encounter that may legitimately explain the rationale for the treatment of the persons stopped. Therefore, statistical models were developed to account for these contextual factors.

The factors considered were encounter characteristics (such as day, time, and reason for the stop), geographic characteristics (such as crime rates in the area of the stop), officer characteristics (such as length of service and type of assignment), and suspect characteristics (such as age and gender of the suspect). The effect of the race of the suspect on the post-stop outcomes was evaluated after having accounted for the influence of these factors. Outcomes for officers with gang assignments were evaluated separately from those without gang assignments. Analyses were conducted by LAPD

[2] The level of officer discretion indicates the degree to which an officer is able to exercise subjective judgment regarding post-stop enforcement activities. Lower discretion indicates little or no opportunity for officers to make personal judgments (e.g., searches incident to arrest, impound searches, DUI arrests, and violent crime arrests), while higher discretion indicates a greater degree of personal judgment relative to lower discretion activities. The level of officer discretion in any given situation is dictated by police department policy and procedures, as well as the nature of a particular situation.

division for non-gang officers and by LAPD bureau for gang officers. Separate effects were measured for Hispanics, blacks, and other racial groups, including Asians and American Indians.

These statistical analyses revealed a number of key results:

- Generally, the inclusion of the variables measuring encounter, geographic, officer, and suspect characteristics substantially reduces the estimated racial disparities in post-stop outcomes relative to the disparities evident in the raw post-stop data.
- Although some divisions/bureaus have statistically significant racial disparities for some outcomes and some races, when evaluated across all outcomes, there is no consistent pattern of race effects across divisions or races. These mixed results are found particularly in analyses of arrests, citations, no action taken, and consent search requests.
- The most prevalent racial disparities are observed for non-gang officer requests to exit the vehicle, pat-downs/frisks, and higher discretion searches. Hispanics and blacks were significantly more likely to be asked to exit the vehicle and patted-down/frisked by non-gang officers in most divisions. Blacks were also more likely to be subjected to higher discretion searches.
- These particular racial disparities in requests to exit the vehicle, pat-downs/frisks, and higher discretion searches are not consistently observed among gang officers.
- Racial disparities are generally lower when stops with lower discretion are removed from the analysis, with the exception of non-gang officer requests to exit the vehicle.

These results indicate that while controlling for characteristics of the stop generally reduces the racial disparity in post-stop outcomes, significant disparities remain for non-gang officers for some outcomes. Specifically, unexplained racial differences occur most frequently for non-gang officer requests to exit the vehicle, pat-downs/frisks, and higher discretion searches.

However, aside from racially biased policing, there are other possible explanations for the racial disparities found in the results of our post-stop analyses, including the following.

- Racial disparities could be the result of omitted variables – some key factors that were not available or quantifiable for inclusion in our analysis might explain the disparities in the outcomes. Potentially important information that was not available or quantifiable include:
  - the rates at which different racial groups commit crimes;
  - suspect attitude or demeanor;

  - for motor vehicle suspects, vehicle condition (e.g., tinted windows, broken windows, popped open trunk, and damaged vehicle);
  - differences in driving behavior;
  - the presence of bystanders; and
  - when there was a victim, whether the victim wanted the police to make an arrest.

- Racial disparities could result from perceived threats – police frisk suspects and order them out of vehicles when they believe that their own safety may be in jeopardy. Such perceived threats could be attributable to the unique history of gang activity and gang violence in Los Angeles, most of which is associated with Hispanic and black gangs.

Because not all potentially relevant variables were available for inclusion in our analysis, we cannot draw definitive conclusions about the existence or non-existence of racial profiling by the LAPD. The racial disparities and potential areas of concern identified in our results must be considered in light of all available information, including the potentially relevant information that could not be included in our statistical models.

CHAPTER 1: INTRODUCTION

Over the past several years, there has been a growing national perception that law enforcement actions are too often based on racial stereotypes or "racial profiling." This practice of racial profiling by law enforcement is also commonly referred to as racially biased policing.[3] According to a 1999 Gallup poll, more than half of Americans believed that police engage in racial profiling.[4] This poll also showed a distinct difference between how whites and minorities view the issue. It found that 77 percent of blacks, compared to only 56 percent of whites, felt that racial profiling in law enforcement was pervasive. Other studies have found similar differences across races. For example, blacks and Hispanics who have been stopped are more likely than whites to report being ticketed, arrested, handcuffed, searched, or threatened by police.[5] A Washington Post survey found that 52 percent of African-American men believed they have been victims of racially biased policing.[6]

Within some communities in the City of Los Angeles (City), there has been a growing concern that some Los Angeles Police Department (LAPD) officers may engage in racially biased policing. Historically, perceptions of racially biased policing have been largely based upon personal accounts and other anecdotal evidence. In late 2001, in accordance with the consent decree entered into by the City and the U.S. Department of Justice (DOJ), the LAPD embarked upon a project of systematically collecting data on pedestrian and motor vehicle stops in order to establish a basis for better understanding police contacts and reviewing concerns and perceptions about potential racial profiling.[7] This information is recorded by officers at the time of the stop on Field Data Reports (FDRs).

As a result of this data collection effort, the LAPD now has a substantial amount of raw data on police stops, including detailed information on post-stop actions. Due to the complex array of factors that may legitimately influence police activity, these data must be interpreted carefully. In order to investigate whether racially biased policing exists in the City and to promote effective and respectful policing, including compliance with nondiscrimination policies, Analysis Group, Inc. was engaged in April 2004 by the City to develop and implement a fair and unbiased analysis of the data collected by the LAPD.

In January 2005, we completed the Proposed Pedestrian and Motor Vehicle Stop Data Analyses Report ("Proposed Methodology Report"), which set forth our proposed methodologies for analyzing

[3] The phrases *racial profiling by law enforcement* and *racially biased policing* are used interchangeably in this report. The latter is the phrase commonly used in research on the subject.
[4] The Gallup Organization (1999).
[5] Weitzer (2002).
[6] McMahon, et al. (2002).
[7] *United States v. City of Los Angeles*, No. 00-11769 GAF, consent decree at III.H.¶ 102 (C.D. Cal. June 15, 2001).

the LAPD stop data. In developing the proposed analysis methodologies, Analysis Group reviewed the academic literature on racial bias in policing, court decisions related to racial profiling, and previous analyses of stop data collected by law enforcement agencies in other jurisdictions. In addition, Analysis Group representatives participated in ride-alongs with LAPD officers to gather data about the context in which stop and post-stop activity occurs. Information regarding the LAPD, its officers, policing activities, and crime within the City, as well as demographic, economic, and socioeconomic data, were also reviewed.

Based upon these reviews, we proposed three different analyses for evaluating the LAPD data. The first was designed to analyze data on stop activity of LAPD officers. The second was designed to analyze enforcement activities by LAPD officers after stops were made ("post-stop analysis"). The third was an analysis of individual officers. Upon further review and in consideration of public comments on the Proposed Methodology Report, the City decided to implement the second proposed analysis. This determination was set forth in the Final Pedestrian and Motor Vehicle Stop Data Analyses Report ("Final Methodology Report") released to the public in November 2005.

This current report ("Post-Stop Data Analysis Report") sets forth the results of that second proposed analysis. The report is organized into two sections (Chapters 2 and 3). Chapter 2 provides the details of the post-stop analysis methodology. This includes the type of analysis used, the time period of the analysis, the types of post-stop outcomes analyzed, and variables controlled for in the analysis. The technical details of the statistical analysis are presented in Appendix A, while details pertaining to the data used in the analysis are set forth in Appendix B. Chapter 3 presents the results of the post-stop analysis, along with a discussion of our findings. The results are reviewed by post-stop outcome (e.g., arrest, citation, and search) and officer type (i.e., non-gang officers versus gang officers). General conclusions based upon these results are also included in Chapter 3. Tables summarizing the results of our analyses are set forth in Appendices D and E.

CHAPTER 2: DATA ANALYSIS METHODOLOGY

2.1 Introduction

In the Final Methodology Report, the City set forth Analysis Group's methodology for analyzing the LAPD post-stop data. The methodology was further refined based on data diagnostic and sensitivity tests performed on the available data. This chapter presents the data analysis methodology implemented in the post-stop activity analysis, as well as a brief overview of the data used in the analysis.

2.2 Time Period of Post-Stop Analysis

The time period for the LAPD post-stop data analysis was July 1, 2003 through June 30, 2004. This one-year time period provided a sufficient amount of data to yield reliable results and overcome any seasonal effects that may have existed in overall stop activity. It also reflects the most complete and accurate LAPD stop data available at the beginning of this project. Furthermore, this period coincided with the City's fiscal year (fiscal year 2004), the time period for which some City data were reported (e.g., economic data).

2.3 Post-Stop Activity Study

The post-stop analysis provides an evaluation of specified outcomes after pedestrian and motor vehicle stops occurred. The post-stop study was designed to address the following question: Are minorities subject to disproportionate sanctions or other burdens following a stop, after controlling for available non-racial factors that may influence police decision-making? A post-stop analysis is particularly useful in understanding whether law enforcement activities are effective, respectful, and compliant with the Department's nondiscrimination policy. Key data used in the post-stop analysis include the officer's determination of the race of the suspect stopped and the outcome of the stop. The seven outcomes analyzed in this report are arrests, citations, officer requests to suspects to exit the vehicle, pat-downs/frisks, higher discretion searches, no action taken, and officer requests to suspects for consent to search.

The statistical technique used in the analysis of post-stop activity was logistic regression, which is appropriate for the study of categorical data.[8] Logistic regression is a multivariate technique that allows an analyst to evaluate the impact of race on discrete, bivariate outcomes (i.e., two outcomes), such as a yes/no response to a question (e.g., "Was the driver asked to exit the vehicle?"), after

[8] For a more detailed discussion of the statistical methods used by Analysis Group, see Appendix A.

controlling for other likely influences on the outcome.[9] Therefore, logistic regression is well suited for assessing whether there are racial differences in the occurrence of a particular outcome.

The Final Methodology Report suggested that separate models would be estimated for pedestrian and motor vehicle stops, stops resulting from calls for service, and stops by different types of officers (patrol, traffic, and gang). However, it also contemplated the possibility of analyzing the stops together. Initially, the reason for considering pedestrian and motor vehicle stops separately was the belief that motor vehicle stops were more likely than pedestrian stops to be pretextual (*see* Section 2.3.6.1, Pedestrian v. Motor Vehicle Stop Data, of the Proposed Methodology Report). As a result, the two types of stops might show different patterns of post-stop outcomes by suspect race. It was contemplated that calls for service would be analyzed separately because the level of officer discretion (i.e., the degree to which an officer is able to exercise subjective judgment regarding post-stop enforcement activities; where lower discretion indicates little or no personal judgment by an officer and higher discretion indicates a greater degree of personal judgment relative to lower discretion activities)[10] associated with calls for service-related stops is typically lower than with officer-initiated stops. The split by officer type was suggested as a possibility because of the substantially different responsibilities between patrol, traffic, and gang officers. In addition, the separate analysis of gang officers was also motivated by the unique enforcement strategies of gang officers and the ethnic and racial composition of the City's gangs.

Upon review of the data, it was determined that with the exception of gang officers,[11] estimating different models for pedestrian and motor vehicle stops, calls for service-related stops, and stops by officer type would be inferior to analyzing the effects of each of these dimensions on post-stop outcomes in a single model (one model per outcome) using indicator variables to identify each dimension. This decision was based on two considerations. First, if the models were run separately it would not be possible to conduct formal statistical tests between different dimensions. For example, one would not be able to quantitatively test if policing by patrol officers differed from policing by traffic officers. Second, by splitting the models, the number of observations used to estimate the

[9] The Final Methodology Report discussed the possibility of employing Chi-square analysis as well as logistic regression. Chi-square analyses are used to examine the relationship between two variables, such as race and the decision to search, and may be used to evaluate whether the distributions of various outcomes differ in a statistical meaningful way by race. A limitation of Chi-square analysis is that factors other than race that may affect the distributions cannot be controlled. As a multivariate analytic technique, logistic regression does not have this limitation and was deemed the more appropriate statistical method to use in the post-stop analysis.

[10] The level of officer discretion in any given situation is dictated by police department policy and procedures, as well as the nature of a particular situation.

[11] Analysis of gang units should be conducted separately from regular patrol officers when possible. See Spitzer (1999) and Smith, et al. (2003).

models would be reduced. As the number of observations falls, the precision with which the models are estimated also falls. Therefore, by including all the data in a single model per outcome and accounting for differences between observations using indicator variables, the parameter estimates are more precise. The decision to collapse the models and account for differences between motor vehicle/pedestrian stops and calls for service is consistent with the Final Methodology Report.

2.3.1 Search Analysis

Separate logistic regressions were conducted for pat-downs/frisks, higher discretion searches, and consent search requests to determine whether, holding other relevant variables constant, race influenced the likelihood of each of these outcomes. Overall, the question addressed by the search analyses was whether LAPD officers were more likely to search minorities than whites after accounting for non-racial factors that may have influenced the search decision. Regression analysis enabled Analysis Group to control for explanatory variables that may have legitimately influenced officers' decisions to search.

The FDRs generated information on a variety of search outcomes. Thus, the analysis of these outcomes relied heavily on the data gathered from the FDRs. The FDR form that has been in use since July 1, 2003 records a number of possible search activities once a stop has occurred. Some of these actions are contingent upon earlier actions having been taken by the officers. Given a stop, the possible post-stop search actions, along with associated contingencies, are:

- Was a pat-down, search, or frisk conducted?
- Was the detainee asked to submit to a warrantless search?
  - If yes, did the detainee grant the request?
- Was a search conducted?
  - If a search was conducted, what was the authority for the search?
    - consent
    - odor of contraband
    - incident to arrest
    - parole or probation
    - impound authority
    - visible contraband
    - incident to pat-down or frisk
    - other
  - If a search was conducted, what was searched?

        - person
        - container
        - vehicle
        - other
- If a search was conducted, was anything discovered or seized?
    - If something was discovered or seized, what was it?
        - alcohol
        - drugs
        - money
        - other contraband
        - other evidence of crime
        - other property
        - weapons
        - vehicle

Although the search data captured on the FDR allow for many different combinations of analyses, three were analyzed to identify the existence of possible disparities in search outcomes. The three discrete, search-related regression analyses that were performed were: (1) whether a pat-down/frisk was conducted, (2) whether a higher discretion search was conducted, and (3) whether a consent search was requested.

Pat-downs/frisks are limited searches of a suspect's outer clothing conducted when officers have reasonable suspicion to believe that a person may be armed and dangerous (*Terry v. Ohio*, 1968). Pat-downs/frisks are highly discretionary because the evidentiary standard of reasonable suspicion is quite low and subjective judgment is used to determine whether the standard has been met in the field. Thus, pat-downs/frisks are appropriate for assessing racial differences.

A regression analysis of the influence of race on higher discretion searches (independent of pat-downs/frisks) was also conducted. Higher discretion searches are those where officers have the greatest degree of freedom in choosing whether to search. For the purposes of analysis, higher discretion searches were those for which the authority for the search was odor of contraband, parolee/probationer searches, and searches incident to pat-downs/frisks. These categories were selected for inclusion as higher discretion searches after consultation with the City. Odor of contraband was included because odors are often fleeting, difficult to describe, and reflect subjective judgment. Parolee/probationer searches were considered higher discretion because an officer may

search parolees and probationers for any reason. Searches incident to pat-downs/frisks indicate that officers conducted a pat-down/frisk, felt an object that appeared to be a weapon or other contraband, and, therefore, reached inside the suspect's clothing to retrieve the item. In order to take a conservative approach in the search analysis, this type of search was included as a higher discretion search, recognizing that officers will typically err on the side of caution and will reach inside a suspect's clothing to investigate any object that could be used against them as a weapon. Lower discretion searches, which were not analyzed, include searches incident to arrest, impound searches, and searches based on visible contraband. In these cases, officers have little or no choice but to conduct a search, and, therefore, any racial differences that may exist in these searches are not likely to be the result of bias.

Consent search requests, which are captured on FDRs, occur when officers ask suspects to voluntarily submit to searches. The decision to request consent is highly discretionary and is therefore appropriate for assessing racial differences. In fact, the decision to seek consent provides for a more straightforward analysis than whether a consent search was actually conducted, which is also captured on the FDR. Consent searches indicate that officers conducted a search after they sought and gained permission from suspects to search. However, as *outcomes*, consent searches measure suspect acquiescence to a police request, and acquiescence may itself vary by race. Therefore, it is better for the purposes of this study to explore racial differences in the initial decision to seek consent rather than in the consent search outcome itself.

Because the FDR records the race of the person stopped, pat-downs/frisks, higher discretion searches, and consent search requests, each may be analyzed statistically for evidence of racial disparities. Each of the search analyses have dichotomous (yes/no) outcomes and, therefore, logistic regression is an appropriate statistical procedure. By conducting these regressions, a variety of factors related to the encounter, the geographic area in which the stop occurred, and characteristics of the suspect and officer were controlled for as discussed below (*see* Section 2.3.3, Variables Included in the Analyses).

2.3.2 Other Post-Stop Outcome Analyses

In addition to searches, the FDR also captures information on other stop outcomes. Those outcomes include:

- Did the officer ask the driver to exit the vehicle?
- What action was taken?
  - field interview completed

- warning
- none
- arrest
- citation
- release from custody

By linking the FDR data for each stop to other data sources, a more complete account of what occurred after a stop was developed. For example, for stops that resulted in a citation, the FDR data were linked to citation data to determine the nature of the citation. This allowed a determination, not only whether minorities were more likely than whites to receive citations (after controlling for other factors), but it also allowed for the identification of lower discretion citations by grouping together certain types of infractions. Similarly, FDR and arrest data were linked to analyze whether minorities were more or less likely than whites to be arrested and whether those probabilities differed depending on the nature of the offense.

Regression analyses were conducted on the following outcomes: (1) whether an arrest occurred, (2) whether a citation was issued, (3) whether no action was taken, and (4) whether the driver was asked to exit the vehicle. Separate analyses were conducted for each of the four outcomes. Arrests, citations, and requests to exit the vehicle were analyzed in a series of sub-models that accounted for lower discretion outcomes. For example, an arrest model was first estimated using all arrests. Then lower discretion arrests, namely warrant arrests and arrests for violent crimes and DUIs, were removed and the model was re-estimated. Warrant arrests were considered to involve little or no discretion because officers are typically required by law and policy to take persons into custody who have warrants for their arrest. Violent crimes and DUI arrests were considered lower discretion because of the severity of the offense and the danger that violent crime and DUI suspects pose to the general public if they are not arrested. Removing the lower discretion arrests from our base arrest model allowed us to evaluate the impact of race on the likelihood of truly discretionary arrests.[12]

Citations and requests to exit the vehicle were also analyzed using a series of sub-models. The base citation model included all citations. The next iteration excluded citations for driving with a suspended license and the final iteration excluded citations for both driving with a suspended license and other lower discretion citations. Lower discretion citations include citations for driving without a license, hit and run incidents involving property such as vehicles, no injury hit and run, and unlawful

[12] The Final Methodology Report hypothesized accounting for varying levels of discretion using indicator variables. The implemented method was determined to be superior to this method because it allowed for unbiased estimates of the effects of varying levels of discretion on arrest outcomes.

presentation of false registration. These types of citations were considered lower discretion because officers have little or no choice but to issue a citation when the offenses associated with these citations are committed. For requests to exit the vehicle, the base model included all requests. Requests to exit the vehicle associated with a violent arrest were then excluded. Similar to arrests, by running these models separately, Analysis Group was able to determine if lower discretion citations and requests to exit a vehicle differed by race according to the level of officer discretion.

Besides the differences highlighted above, the analyses for enforcement and other post-stop outcomes were similar to those for searches and employed logistic regression techniques to explore whether race influenced the probabilities of the various outcomes.

2.3.3 Variables Included in the Analyses

After reviewing the available data, and considering the quality and completeness of the data, Analysis Group included in the models of post-stop outcomes a number of variables, including the variable of interest in our analysis, race, as well as various control variables. These variables are summarized below. Further information regarding these data, including the sources of the data, how they were collected, their format, the number of observations, and any inherent limitations, is detailed in Appendix B. Summary statistics for each variable included in our analyses are set forth in Appendix C. Background on the data considered but not ultimately used in the post-stop analysis is included in Appendix B.

2.3.3.1 Variable of Interest

The key variable of interest in an analysis of racially biased policing is suspect race (i.e., the race of the person stopped and subjected to post-stop actions by LAPD officers). The purpose of the post-stop analysis was to determine whether race predicts the occurrence of the post-stop outcomes (pat-downs/frisks, higher discretion searches, officer requests for consent to search, arrests, citations, no action taken, and officer requests of drivers to exit the vehicle.). Therefore, suspect race is included along with all significant control variables in the post-stop models.

2.3.3.2 Control Variables

As with other regression techniques, the logistic regression approach provides for the control of legitimate influences on the post-stop outcome in an effort to isolate only unexplained racial disparities. However, the analyses cannot typically control for all legitimate factors that may influence stop

activities. For example, some factors are not readily observable or quantifiable. Furthermore, even when observable and quantifiable, the data for other factors may have constraints or limitations.

For each control variable, the logistic regression models provide an estimate of the increase in the odds of the post-stop outcomes occurring, along with measures of the statistical significance of those effects. As a result, the multivariate analyses will help determine the nature and extent of the influence that suspect race has on post-stop decision-making after holding other variables constant. Raw disparities that may be identified through simple descriptive analyses may no longer exist after the inclusion of other relevant factors in a multivariate model.

The control factors included in the post-stop analyses are broadly classified as:

- encounter characteristics;
- geographic characteristics;
- officer characteristics; and
- suspect characteristics.

2.3.3.2.1 Encounter Characteristics

The first set of control variables included in the post-stop analyses relate to the encounter.

- Day and time of the stop – Indicates when a stop and associated post-stop activities took place. It accounts for differences in post-stop outcomes for different days of the week (e.g., weekdays versus weekends) and times of the day (e.g., day versus night).
- Initial reason for a stop – Identifies the reason an officer initiated a stop in the first place and indicates the nature and severity of the potential offense, as well as the degree of officer discretion. For instance, officers have much less discretion in arresting someone suspected of committing a violent crime.
- Number of suspects in a stop – Indicates the number of persons whom the police interacted with during an incident (i.e., the size of the party stopped).
- Type of suspect – Indicates whether the person stopped was a driver of a motor vehicle, a passenger in a motor vehicle, or a pedestrian.

2.3.3.2.2 Geographic Characteristics

The second set of control factors relates to the geographic area in which the post-stop actions occurred. With the exception of the geographic area in which a stop was made, which was analyzed at

the division level,[13] the values of these variables were specific to the Reporting District (RD) in which the stop occurred.

- Geographic area in which a stop was made – Represents the location of a stop and associated post-stop activities. It may indicate differences in post-stop outcomes across different parts of the City. Each of the LAPD's 18 geographic divisions were coded separately and analyzed within a comprehensive model that allowed for comparisons across divisions.
- Population demographics – These variables account for differences in the demographic characteristics of residents in the RD where the stop was made. The key population variables in the models include: percentage of population age 24 and under; percentage of the population that is black; percentage of the population that is Hispanic; percentage of persons who are divorced; percentage of single-parent households; percentage of persons below the poverty line; percentage of housing units occupied by homeowners; percentage of persons unemployed; and population density.
- Calls for service – Indicates the number of calls by the public to the LAPD for assistance. Calls for service indicate demand for police services and, therefore, influence the level of law enforcement activity in different areas of the City. Separate variables were computed for calls relating to violence and those relating to incivility or social disorder.
- Crime – Crime variables control for the crime rates in the geographic area where a stop and associated post-stop outcomes occurred. Two crime rate variables are included in the models of post-stop outcomes: violent crime rate (murder and non-negligent manslaughter, rape, robbery, and aggravated assault) and property crime rate (burglary, larceny-theft, and motor vehicle theft).
- Gang crime – Accounts for the possible effects of gang activity and gang-related crime on post-stop outcomes. Because the city does not have reliable data on reported gang offenses, the number of stops made by gang officers was used as a proxy measure for gang crime.
- Vacant/abandoned buildings – Represents the number of properties that were vacant or abandoned and later boarded up by the City. This variable serves as a proxy indicator for the level of social disorder and physical decay.
- Business tax registration certificates – There are two variables for the number of tax registration certificates: the total number of certificates and the number of retail certificates

[13] Divisions are sometimes referred to as "areas" by the LAPD.

only. These variables were created to measure economic activity across geographic areas and possibly identify commercial and residential areas.

- Shootings at officers – Identifies incidents in which a firearm was discharged at an LAPD officer. These data may be used as a proxy for crime in an area and may also indicate areas where officers are likely to feel more threatened.

With the exception of the geographic area in which a stop was made and certain population demographics (as noted above), geographic characteristics were measured for all races in the aggregate (i.e., not broken out by race). For instance, we included crime rates across all races, not by racial group. Geographic characteristics were aggregated across races because only limited information was available by race.

2.3.3.2.3 Officer Characteristics

The third set of control factors used in the post-stop analysis included variables relating to officer characteristics.

- Officer age, gender, and race – These demographic variables indicate the age, gender, and race of the officer at the time of the stop and any associated post-stop outcomes.
- Officer's length of service – Represents the amount of time that an officer has been with the LAPD, as measured in months of service.
- Officer assignment – Indicates the assignment of the officer at the time of the stop and any associated post-stop outcomes. For the most part, there are three types of assignments for officers that conduct stops and post-stop actions: patrol, traffic, and gang.[14] The responsibilities of these assignments vary widely. Patrol officers are generally responsible for patrolling the City, investigating crimes, responding to calls for service, and enforcing traffic laws. Traffic officers are primarily responsible for enforcing traffic laws and investigating accidents. The primary responsibilities of gang officers include controlling gang activity and gang-related crime.
- Complaints – Indicates the number of complaints against an officer in the previous twelve months. This variable acts as a police behavioral indicator.

[14] A small proportion of officers included in the post-stop analysis were not assigned to traffic, patrol, or gang details, but other specialized units (e.g., detective support, financial crimes, burglary/auto theft, juvenile, narcotics, and air support). However, only a small number of post-stop activities were conducted by these officers. Therefore, they have been included with traffic and patrol officers as "non-gang" officers.

- Commendations – Accounts for the number of major commendations (e.g., medals for extraordinary acts) received by the officer conducting the stop and post-stop actions. Commendations may indicate the demeanor and experience of officers.

2.3.3.2.4 Suspect Characteristics

In addition to accounting for the contextual factors that may influence post-stop decision-making, the models accounted for suspect characteristics that may influence post-stop actions.

- Suspect age – Controls for the age of the person stopped and subjected to post-stop actions by LAPD officers.
- Suspect gender – Identifies the gender of the person stopped and subjected to post-stop actions by LAPD officers. This variable will indicate whether gender plays a role in the likelihood of being subject to a post-stop outcome.

2.3.3.3 Variables that Were Unavailable or Unquantifiable

Data considered but not ultimately used in the post-stop analysis include: parolees and probationers; police deployment; use of force; and traffic volume. For more detail on each of these sets of data, see Appendix B.

Key pieces of information that were not available or quantifiable for use in our post-stop analyses included:

- the rates at which different racial groups commit crimes;
- suspect attitude or demeanor;
- for motor vehicle suspects, vehicle condition (e.g., tinted windows, broken windows, popped open trunk, and damaged vehicle);
- differences in driving behavior;
- the presence of bystanders; and
- when there was a victim, whether the victim wanted the police to make an arrest.

For more information on these variables that were unavailable or unquantifiable, see Section 3.6.

2.4 Qualitative Analysis

The regression models of post-stop outcomes will help explain whether, and to what degree, race plays a role in officer decision-making after a stop. The models, however, do not explain all of the variance in the stop outcomes. Therefore, the results of the post-stop analysis must be evaluated within the context of: 1) the factors that were controlled for in the regression analysis; 2) the constraints of the

data used for the factors controlled for in the analysis; 3) qualitative review of those factors that could not be quantitatively controlled for; and 4) issues that could not be qualitatively or quantitatively addressed.

In a perfect world, where all relevant variables were available for inclusion in a multivariate model, no amount of variance in the outcome would be left unexplained. In the racial profiling context, this would mean that racial bias by police could be identified as the only source of an observed disparity. However, not all of the variables needed for such an analysis were available or are even known. Therefore, while the unexplained variation in the model may be the result of racial or other bias in policing, it could also be the result of factors that could not be accounted for. To investigate potential explanations other than racial profiling for the observed racial disparities, a qualitative analysis of the results was also conducted. The qualitative analysis involved evaluation of the disparities that remained after controlling for factors included in the model.

CHAPTER 3: RESULTS OF POST-STOP DATA ANALYSIS

3.1 Introduction

In this chapter, we present the results from the analyses of post-stop outcomes. Results vary considerably by the type of outcome analyzed, by geographic area (i.e., division or bureau), and by race. However, the general findings are:

- Although some divisions/bureaus have statistically significant racial disparities for some outcomes, when evaluated across all outcomes, there is no consistent, pervasive pattern of race effects across divisions or races;
- Generally, the inclusion of the control variables measuring encounter, geographic, officer, and suspect characteristics substantially reduces the estimated racial disparities in post-stop outcomes relative to measured raw disparities (i.e., disparities observed without the inclusion of control variables);[15]
- Observed disparities are generally lower when stops with lower discretion are removed from the analysis, with the exception of requests to exit the vehicle;
- Outcomes vary particularly by race with respect to citations, requests to exit the vehicle, pat-downs/frisks, and higher discretion searches; and
- Outcomes for gang officers differ considerably from those for non-gang officers.

A detailed review of the analysis of each outcome is reported below. To aid in the interpretation of the findings, a series of tables that summarize the results are contained in Appendices D and E. The tables in Appendices D and E show differences in post-stop outcomes by suspect race after accounting for various control variables in the regression models.[16] Section 3.2 reviews Appendix D, which contains the post-stop analyses for non-gang officers (i.e., traffic, patrol, and other officers) at the division level. Section 3.3 reviews Appendix E, which contains the post-stop analyses for gang officers at the bureau level.

In addition to analyzing the post-stop outcomes set forth in Chapter 2, we also discuss overall patterns in the results. In addition, we present a qualitative analysis that provides possible explanations, aside from racial profiling, for some of the remaining unexplained disparities among races.

[15] In terms of control variables, "suspect characteristics" includes suspect age and gender. Race is not considered a "control" variable as it is the variable of interest in our analysis.
[16] The tables summarizing the results are derived from regression outputs, which can be found in Appendices F, G, and H.

3.2 How to Interpret the Results

In Appendices D and E, we present the probabilities, or "likelihood" of each outcome within each division (or bureau) for each race after accounting for control variables.[17] For example, Table D1 in Appendix D shows that the likelihood of being arrested in the Central Division (Division 1) is 9.5 percent for whites, 10.1 percent for Hispanics, 12.7 percent for blacks, and 6.4 percent for Asians, American Indians, and other races combined.[18]

In order to determine whether minorities (i.e., Hispanics, blacks, and others) are more or less likely than whites to be subject to post-stop outcomes, we compared the likelihood for each minority race to that of whites. For example, using Table D1 again, we can see that Hispanics are more likely to be arrested than whites in Central Division (the likelihood for whites is 9.5 percent compared 10.1 percent for Hispanics), but are less likely to be arrested than whites in Rampart Division (the likelihood for whites is 11.6 percent compared to 10.5 percent for Hispanics).

However, regardless of the magnitude (i.e., size) of the difference in the likelihood of an outcome between whites and minority races, the difference may not be statistically significant (i.e., there is not enough evidence to determine that the difference is not merely the result of chance). As noted in Appendix A, we applied a statistical test to determine which of the differences between minority races and whites were statistically significant. Statistically significant differences are denoted by the phrase "more likely" or "less likely" in the tables reporting the results in Appendices D and E (*see* the column "Likelihood Relative to White"). Additionally, statistical significance is indicated at two levels using asterisks (one asterisk indicates the difference is significant at the 0.05 significance level and two asterisks indicate the difference is significant at the 0.01 significance level).[19] Differences found to be statistically significant at either level are considered to be areas for potential concern. Thus, we only discuss the statistically significant differences in this chapter. Differences that are not statistically significant cannot be differentiated from zero (i.e., no difference from whites) on a statistical basis and, therefore, do not indicate potential areas of concern.

Following the presentation of the results for the statistical models of post-stop outcomes for non-gang officers and gang officers, we provide a qualitative analysis to investigate the other potential explanations, aside from racial profiling, for statistically significant disparities among races.

[17] The probabilities presented in these appendices are the probabilities calculated using the results of the outcome models. See Appendix Section A.3.5.
[18] Other races refer to races not otherwise accounted for in the analysis (i.e., races other than white, Hispanic, black, Asian, and American Indian). *See* Section B.2.1, FDR Data, for details.
[19] *See* Appendix A for more details on the levels of statistical significance.

3.3 Analysis of Non-Gang Officers

This section reviews the results of the post-stop analysis for non-gang officers (*see* Appendix D for summary tables). Analyses were conducted at the division level, with exception of the RD that included the Los Angeles International Airport (LAX). This RD was analyzed separately from the division in which it is located (Pacific Division, division number 14) because of the disproportionately large number of stops made in that reporting district. A map depicting the 18 divisions within the City is presented in Appendix I.

3.3.1 Arrests

Tables D1 and D2 present the results for the models of arrest as an outcome. Table D1 shows the results from the baseline arrest model, which included all arrests in the analysis. The results reported in this table indicate that Hispanics were more likely to be arrested than whites, after accounting for all measured influences on the outcome, in all but one of the divisions, and in the LAX RD. These differences were statistically significant in 11 of the divisions. The remaining seven divisions did not yield statistically significant results. The greatest disparity occurred in the Southeast division, where Hispanics were 65 percent more likely to be arrested than whites after controlling for legitimate influences on this post-stop outcome.[20]

Blacks were significantly more likely to be arrested than whites, after accounting for all measured influences on the outcome, in seven of 18 the divisions. Again, the Southeast division showed the largest difference between the arrest probabilities.[21]

Although these patterns show a relatively strong positive relationship between being Hispanic or black and the likelihood of being arrested, the magnitude of this relationship and its level of statistical significance are substantially reduced across nearly all divisions by controlling for the variables discussed in Chapter 2. The importance of these other variables indicates that the context of stops must be understood before conclusions regarding racial disparities can be drawn.

For Asians, American Indians, and other races, a different arrest pattern was found in comparison to whites. According to the results, these other races were less likely than whites to be arrested in seven of the eight divisions with statistically significant results. Only Van Nuys showed a statistically significant greater likelihood of other races being arrested relative to whites.

[20] As shown in Table D1, the likelihood of arrest was 4.8 percent for whites and 7.9 percent for Hispanics. Thus, the likelihood of arrest for Hispanics relative to whites is 65 percent (calculated as [7.9% - 4.8%]/4.8%).
[21] As shown in Table D1, the likelihood of arrest was 4.8 percent for whites and 8.3 percent for blacks. Thus, the likelihood of arrest for blacks relative to whites is 73 percent (calculated as [8.3% - 4.8%]/4.8%).

As discussed in Chapter 2, we estimated a second arrest model that removed categories of lower discretion arrests (first warrants, then violent crimes, and finally DUIs). The purpose of this model was to determine whether observed statistically significant disparities diminished or disappeared after lower discretion arrests were eliminated from the analysis. Table D2 shows the results from the model in which arrests based on warrants, violent crimes, and DUIs were removed from the analysis.[22] Once these lower discretion arrests were eliminated from the data, some of the arrest disparities between whites and Hispanics decreased and others disappeared entirely. In this model, four of the 11 divisions that had a statistically significant positive disparity between Hispanics and whites in the unrestricted arrest model were no longer statistically significant, leaving only seven of the 18 divisions with statistically significant disparities. In addition, differences in five of the seven divisions that remained statistically significant were reduced in magnitude. Overall, these findings suggest that some of the arrest disparities between Hispanics and whites may be accounted for by differences in Hispanic and white arrest rates for certain lower discretion offenses.

For blacks, once lower discretion arrests were removed from the analysis, four of the seven divisions that previously had a statistically significant positive disparity in the unrestricted arrest model were no longer statistically significant. This left only three of 18 divisions with statistically significant disparities. Meanwhile, one division without a statistically significant disparity became significant (Hollywood Division). Of the 18 divisions and the LAX RD, seven outcomes indicated lower arrest rates for blacks than whites, though these differences were not statistically significant. Therefore, after removing lower discretion arrests, the results of this analysis for blacks are mixed. This provides a very different picture from the apparently pervasive pattern found in the raw arrest statistics.

These somewhat mixed results are consistent with the findings of the racially biased policing study conducted in Columbus, Ohio.[23] The Columbus Police Department study found that more black and Hispanic drivers were arrested (9.0 percent and 14.5 percent, respectively) compared to white drivers (3.6 percent). However, the study also noted that precincts with higher rates of minority arrests also tended to have high crime rates and more officers assigned to the precinct.

Finally, for Asians, American Indians, and other races, three of the eight divisions that previously had a statistically significant positive disparity in the unrestricted arrest model were no longer statistically significant. Furthermore, one of the five remaining statistically significant divisions

[22] The intermediate models only took out some of the lower discretion arrests.
[23] Ohio State University (2003).

decreased in magnitude. Meanwhile, one non-statistically significant division became significant (North Hollywood Division).

3.3.2 Citations

Like arrests, the baseline citation model included all data. As shown in Table D3, the results show strikingly different patterns of disparities for Hispanics, blacks, and Asians, American Indians, and other races. The results indicate that Hispanics were more likely to be cited than whites in all 10 of the divisions with statistically significant results. As with arrests, the disparity in citations was greatest between whites and Hispanics in the Southeast Division. For blacks, however, an opposite pattern emerged in the analyses which controlled for contextual factors. Blacks were less likely than whites to receive a citation in all 10 divisions with statistically significant differences and in the LAX RD. On the other hand, citation disparities for Asians, American Indians, and other races were similar to those for Hispanics, but were even more extreme. Asians, American Indians, and other races were more likely to be cited than whites in all 16 of the divisions with statistically significant results. In nearly every case, the magnitude of the disparity was even greater for Asians, American Indians, and other race suspects than for Hispanics. Only the LAX RD had a statistically significant difference where other races were less likely to be cited than whites.

These results are in sharp contrast with the raw disparities that existed prior to accounting for the variables discussed in Chapter 2, which showed statistically significantly lower rates of citation for both Hispanics and blacks. Thus, encounter, geographic, officer, and suspect characteristics clearly have a different influence on the outcome for different races.

Once lower discretion citations were removed from the analysis, as shown in Table D4, the general citation patterns remained: Asians, American Indians, and other races and, to a lesser extent, Hispanics were still more likely to receive a citation under the model than whites in the majority of the divisions, while blacks were less likely than whites to be cited. For Hispanics, five of the eight statistically significant differences showed that Hispanics were more likely to be cited than whites, while three of the divisions showed that Hispanics were less likely to be cited than whites. In addition, five of the 10 divisions that had a statistically significant positive disparity relative to whites in the unrestricted arrest model were no longer statistically significant. Further, all of the five divisions that remained statistically significant were reduced in magnitude. Three divisions that were not originally statistically significant for Hispanics became statistically significant with a negative disparity in this model without lower discretion citations. Thus, overall, outcomes were mixed for Hispanics when lower discretion citations were removed from the analysis.

For blacks, all of the 11 divisions that had a statistically significant disparity relative to whites in the unrestricted citation model remained statistically significant. All of the differences also increased in magnitude (i.e., became a larger negative value). In addition, the five divisions that were not originally statistically significant for blacks became statistically significant in this model.

For Asians, American Indians, and other races, one of the 17 divisions that had a statistically significant disparity relative to whites in the unrestricted citation model was no longer statistically significant. In addition, all of the divisions that remained statistically significant increased in magnitude. Only the LAX RD decreased in magnitude.

Other jurisdictional studies had mixed results regarding citations. In the study of the Denver Police Department, Hispanics and blacks were less likely to receive a traffic or criminal citation than whites. In the study of the Columbus Police Department, Hispanics and blacks were more likely to be cited for misdemeanors than whites, but less likely to be cited for traffic violations than whites.

3.3.3 Requests to Exit the Vehicle

We estimated two models for whether a driver was asked to exit the vehicle. The first model shown in Table D5 included all such requests, while the second model shown in Table D6 eliminated requests that were associated with an arrest for a violent crime. This second model was estimated on the theory that in most arrest situations involving violent offenses, officers would necessarily order a driver to exit the vehicle as part of a felony stop. As a result, these requests are lower discretion requests. Contrary to the effect of removing lower discretion outcomes from other analyses, both models provided almost identical results.

For black and Hispanic drivers, the results from both models, which included control variables discussed in Chapter 2, showed large disparities relative to whites. Although these disparities tended to be considerably smaller than the raw disparities that existed prior to accounting for the control variables, they remained highly statistically significant in most divisions. In every division, Hispanic drivers were far more likely than white drivers to be asked to exit their vehicles. Many of these disparities were on an order of magnitude that was two to three times greater than for whites and all differences were statistically significant. The pattern of disparity for black drivers was similar to that of Hispanics, although the differences in two divisions (Hollenbeck and Devonshire) were not statistically significant. For Asians, American Indians, and other races, they were less likely to be asked to exit their vehicles than whites in all 10 divisions that were statistically significant. However, these negative differences were of a lesser magnitude than the positive differences recorded for blacks and Hispanics.

These results are consistent with results from the study of the Sacramento Police Department, which also found that Hispanic and black drivers were more likely to be asked to exit the vehicle than white drivers. Twenty-eight percent of Hispanic drivers and 30 percent of black drivers were asked to exit their vehicles. However, only 14 percent of white drivers were asked to exit their vehicles. Thus, Hispanics and blacks were about twice as likely to be asked to exit their vehicles as whites.

3.3.4 Pat-Downs/Frisks

The results for pat-downs/frisks are similar to those for officer requests for drivers to exit a vehicle, but with differences of smaller magnitudes. As shown in Table D7, Hispanics and blacks had a higher probability than whites of being patted-down/frisked in nearly all divisions. The measured effects were only negative in the LAX RD, although not statistically significant. Hispanics were more likely to be patted-down/frisked than whites in all 16 divisions in which the differences were statistically significant. For blacks, 15 divisions showed statistically significant positive disparities compared to whites. Again, Asians, American Indians, and other races were less likely than whites to be subjected to pat-downs/frisks. All 10 of the statistically significant results indicated that other races had a lower probability than whites of being patted-down/frisked.

Although these estimated effects are pervasive across the divisions for Hispanics and blacks, the magnitude of the racial disparities are far smaller than the raw disparities that existed prior to accounting for the control variables discussed in Chapter 2. Even when these factors do not fully explain the racial differences in outcomes, their inclusion is critical for understanding the magnitude of the disparities.

3.3.5 Higher Discretion Searches

In Table D8, we present the results of the model for higher discretion searches, which were defined in Chapter 2 as searches resulting from the odor of contraband, searches incident to a pat-down/frisk, or searches of parolees or probationers. These results should be viewed with caution, however, as only a small number of stops resulted in higher discretion searches for any racial group. For Hispanics, the disparities in the likelihood of a higher discretion search were inconsistent when compared to whites. In six of the nine divisions with statistically significant differences, Hispanics were more likely than whites to be subjected to higher discretion searches. However, in the three other divisions with statistically significant results, the model indicated lower search rates for Hispanics than for whites.

The higher discretion search pattern for blacks was quite different than that for Hispanics. In all 14 of the divisions that were statistically significant, blacks were more likely to be searched than whites. The magnitudes of the differences were also quite large in some divisions. These estimates, while generally statistically significant, are considerably smaller than the raw disparities that existed prior to accounting for the variables discussed in Chapter 2. As with requests to exit the vehicle and pat-downs/frisks, Asians, American Indians, and other races were less likely than whites to be subjected to higher discretion searches. In all nine divisions that showed statistically significant results, the differences from whites were negative.

Other jurisdictional studies of police officer search behavior have generally found that Hispanics and blacks were more likely to be searched than whites. These jurisdictional studies include the Sacramento Police Department,[24] San Diego Police Department,[25] Charlotte-Mecklenburg Police Department,[26] the Miami-Dade Police Department,[27] and the ACLU study of the San Francisco Police Department.[28] However, the studies that considered factors that may explain the search or excluded lower discretion searches generally concluded that those factors may play at least a partial role in explaining their results. In the study of the San Diego Police Department, although there was evidence of disproportionate impact on black and Hispanic drivers, other explanations besides racial bias, such as whether a search was a consent search or inventory search, were found to be the reasons for the disparate impact. The study of the Charlotte-Mecklenburg Police Department found that pedestrian and motor vehicle consent searches were largely accounted for by success in finding contraband, not suspect characteristics. In the study of the Miami-Dade Police Department, it was found that the strongest predictor of a search was custody arrests, regardless of suspect race. On the other hand, the ACLU study of San Francisco found that the observed disparities were not explained by evidence of differences in the success rate of finding contraband.

3.3.6 No Action Taken

Stops with no action taken were not very common. As shown in Table D9, there was no strong pattern of racial differences in outcomes as there were only a few statistically significant differences between minorities and whites. In those divisions where the differences were statistically significant, most indicated that stops of minorities were more likely to result in no action taken than stops of

[24] Greenwald (2004).
[25] Cordner, et al. (2002).
[26] Smith, et al. (2004).
[27] Alpert Group (2004).
[28] Schlosberg (2002).

whites. For Hispanics, the two statistically significant divisions, West Los Angeles and 77th Street, showed positive disparities relative to whites. For blacks, four of the five statistically significant divisions indicated that blacks were more likely than whites to have no action taken following a stop. For other races, all three statistically significant divisions showed positive disparities compared to whites.

Controlling for the characteristics of the stop yields a very different picture of this particular outcome than a review of the raw disparities without accounting for the variables discussed in Chapter 2. Although there is little evidence of a pattern once the other factors are accounted for, the raw disparities showed statistically significant effects for both Hispanics and blacks for nearly all divisions. This is a perfect example of why it is inappropriate to draw conclusions from the raw disparities.

3.3.7 Consent Search Requests

Table D10 shows the results of the model that analyzed whether an officer asked for consent to search following a stop. For Hispanics, results in 10 divisions and the LAX RD were statistically significant. Six of these 10 divisions, along with the LAX RD, showed that Hispanics were more likely than whites to be asked for consent to search, while the other four statistically significant divisions showed Hispanics were less likely than whites to be asked for consent to search. The magnitude of these differences for Hispanics varied widely. For example, in the Southwest Division, Hispanics were much more likely than whites to be asked for consent to a search following a stop (133 percent).[29] However, the Southeast Division showed the opposite pattern. Hispanics were less likely to be asked for consent to a search than whites (-33.0 percent).[30] The results for black suspects showed a somewhat more consistent, but still mixed, pattern. In eight of the 11 divisions with statistically significance results, blacks were more likely than whites to be asked for consent to search following a stop. The other three divisions indicated blacks were less likely to be asked for consent. For Asians, American Indians, and other races, the familiar pattern emerged – all 11 divisions with statistically significant results showed a lower probability than whites for requests for consent to search.

This somewhat mixed result is not consistent with the ACLU analysis of consent searches in San Francisco.[31] The ACLU found that blacks were twice as likely as whites to be asked to submit to a search.

[29] As shown in Table D10, the likelihood of arrest was 1.2 percent for whites and 2.8 percent for Hispanics. Thus, the likelihood of arrest for Hispanics relative to whites is 133 percent (calculated as [2.8% - 1.2%]/1.2%).
[30] As shown in Table D10, the likelihood of arrest was 9.2 percent for whites and 6.2 percent for Hispanics. Thus, the likelihood of arrest for Hispanics relative to whites is -33 percent (calculated as [6.2% - 9.2%]/9.2%).
[31] Schlosberg (2002).

3.4 Analysis of Gang Officers

This section reviews the findings for gang officers (*see* Appendix E for summary tables). Stops by gang officers were analyzed separately from stops by non-gang officers because the nature of gang involvement in Los Angeles is largely divided along racial lines. According to the LAPD, the vast majority of gangs in the City are comprised of minority suspects (*see* Section B.2.3). Because the number of stops made by gang officers was substantially smaller than the number made by non-gang officers, the gang officer stops could not be adequately analyzed at the division level. In order to provide a sufficient number of stops within a geographic region to ensure a robust analysis, gang stops were analyzed at the bureau level, where each bureau consists of several divisions. A map depicting the four bureaus within the City is set forth in Appendix I.

3.4.1 Arrests

The results of the baseline arrest model presented in Table E1, which included all arrests, reveal only two statistically significant findings. First, Hispanic suspects were approximately 44 percent more likely to be arrested than whites in the Central Bureau.[32] Second, Asians, American Indians, and other races were less likely than whites to be arrested in the West Bureau by 43 percent.[33] Other differences for Hispanics, blacks, and other races varied in sign and magnitude but were not significant.

When warrant-based, violent, and DUI arrests were removed from the data, as reflected in the results set forth in Table E2, the difference between Hispanics and whites in the Central Bureau remained (albeit at a reduced level), as did the difference between other races and whites in the West Bureau (at a somewhat higher level). In addition, two differences between black and white arrest rates emerged, although they were in opposite directions. In the Valley Bureau, blacks were less likely to be arrested than whites. In the West Bureau, blacks were more likely to be arrested.

3.4.2 Citations

Table E3 sets forth the results of the baseline citation model, which included all citations. For Hispanics, two of the four bureaus yielded statistically significant results. However, they were in opposite directions. Hispanics were more likely than whites to receive citations in the Valley but less likely to receive citations than whites in the West Bureau. For blacks, only one bureau had a statistically significant difference. In the West Bureau, blacks had a lower probability of being cited

[32] As shown in Table E1, the likelihood of arrest was 15.0 percent for whites and 21.6 percent for Hispanics. Thus, the likelihood of arrest for Hispanics relative to whites is 44 percent (calculated as [21.6% - 15.0%]/15.0%).
[33] As shown in Table E1, the likelihood of arrest was 11.9 percent for whites and 6.8 percent for other races. Thus, the likelihood of arrest for other races relative to whites is -43 percent (calculated as [6.8% - 11.9%]/11.9%).

than whites. For Asians, American Indians, and other races, only one bureau had statistically significant results. In the Valley Bureau, they were substantially more likely (106 percent) to receive citations than whites.[34]

These results are in sharp contrast to results that did not control for the characteristics of the stops, where lower citation rates existed for Hispanics and blacks in all bureaus. Once again this finding indicates that the context of the stop clearly influences the outcome in different ways for different races.

Once lower discretion citations were removed from the data, Table E4 shows that the Central Bureau emerged as statistically significant for both Hispanics and blacks relative to whites. In each case, Hispanics and blacks were less likely to receive citations than whites. Both statistically significant differences in the West Bureau and the statistically significant difference between whites and other races in the Valley Bureau remained in this model, and, in fact, increased in absolute magnitude. In addition, one statistically significant difference in the baseline citation model was no longer significant (Hispanics in the Valley Bureau).

3.4.3 Requests to Exit Vehicle

As shown in Table E5, gang officers were considerably more likely to request Hispanic and black drivers to exit their vehicles than white drivers in the Central and West Bureaus. For the other races, none of the differences from whites were statistically significant. When violent arrests were removed from the data and this model was re-estimated, as shown in Table E6, the results remained virtually the same as the baseline model.

3.4.4 Pat-Downs or Frisks

Table E7 presents the results for the model of pat-downs/frisks for gang officers. On the whole, it shows that when the results were statistically significant, Hispanics and blacks were more likely than whites to be subjected to pat-downs. This was the case in three of the four bureaus for Hispanics (Central, Valley, and West Bureaus), but only in two of the four bureaus for blacks (Central and West Bureaus). For other races, there were no statistically significant results.

3.4.5 Higher Discretion Searches

Table E8 presents the results of the model of higher discretion searches by gang officers. For Hispanics, the difference in the probability of higher discretion searches relative to whites was only

[34] As shown in Table E3, the likelihood of arrest was 9.7 percent for whites and 20.0 percent other races. Thus, the likelihood of arrest for other races relative to whites is 106 percent (calculated as [20.0% - 9.7%]/9.7%).

statistically significant in one of the four bureaus. In the Valley Bureau, Hispanics were 23 percent less likely to be the subject of a higher discretion search than whites.[35] For blacks, three of the four bureaus (Central, South, and West) yielded statistically significant results, all of which showed a greater probability of a higher discretion search than for whites (37 percent to 55 percent higher than whites).[36] Asians, American Indians, and other races followed the pattern of Hispanics. The only statistically significant result was in the Valley Bureau. This result indicated that Asians, American Indians and other races were less likely than whites to be the subject of higher discretion searches.

3.4.6 No Action Taken

As shown in Table E9, only two racial differences for the model of no action taken were statistically significant. One was for blacks in the South Bureau, who were approximately 43 percent less likely than whites to be released with no action taken.[37] The other difference was for the other races in the Central Bureau, who were approximately 82 percent less likely than whites to have no action taken after a stop.[38]

3.4.7 Consent Search Requests

The results for consent search requests by gang officers, which are set forth in Table E10, show that Hispanics and blacks in the Central and West Bureaus were more likely than whites to be the subject of consent search requests. Asians, Native Americans and other races had the opposite effect in only one bureau, the Valley Bureau.

3.5 Summary of the Results of the Post-Stop Analysis

After controlling for a large number of encounter, geographic, officer, and suspect characteristics, some racial disparities remained for each post-stop outcome. These disparities were identified as statistically significant in our analyses. However, the results for non-gang officers provided somewhat different insights than the gang officer results.

[35] As shown in Table E8, the likelihood of arrest was 22.4 percent for whites and 17.3 percent for Hispanics. Thus, the likelihood of arrest for Hispanics relative to whites is -23 percent (calculated as [17.3% - 22.4%]/22.4%).
[36] As shown in Table E8, the likelihood of arrest was 18.5 percent for whites and 25.4 percent for blacks in the South Bureau. Thus, the likelihood of arrest for blacks relative to whites was 37 percent (calculated as [25.4% - 18.5%]/18.5%). For the Central Bureau, the likelihood of arrest was 15.7 percent for whites and 24.3 percent for blacks in the South Bureau. Thus, the likelihood of arrest for blacks relative to whites is 55 percent (calculated as [24.3% - 15.7%]/15.7%).
[37] As shown in Table E9, the likelihood of arrest was 2.8 percent for whites and 1.6 percent for blacks. Thus, the likelihood of arrest for blacks relative to whites is -43 percent (calculated as [1.6% - 2.8%]/2.8).
[38] As shown in Table E9, the likelihood of arrest was 3.3 percent for whites and 0.6 percent for other races. Thus, the likelihood of arrest for other races relative to whites is -82 percent (calculated as [0.6% - 3.3%]/3.3%).

3.5.1 Non-Gang Officers

For non-gang officers, the particular areas of concern vary greatly across racial groups. The post-stop outcomes in which Hispanics experienced the greatest disparities from whites were: requests to exit the vehicle, regardless the extent of discretion in the request; and pat-downs/frisks. Hispanics also showed elevated probabilities of arrest, although the magnitude and significance of the disparities were considerably smaller and much more sensitive to the level of discretion the officers could exercise. Outcomes relating to citations, higher discretion searches, no action taken, and consent to search were far more mixed across divisions.

Similarly, the post-stop outcomes in which blacks experienced the greatest disparities from whites were: requests to exit the vehicle, regardless of the extent of discretion in the request; and pat-downs/frisks. They also were consistently more likely to be subject to higher discretion searches. Although they tended to be more likely than whites to be arrested, this result was highly sensitive to the exclusion of lower discretion arrests. On the other hand, blacks were consistently less likely to receive a citation, regardless the level of discretion. Outcomes relating to no action taken and consent to search were more mixed.

In contrast, Asians, American Indians, and other races tended to be less likely than whites to experience most post-stop outcomes, including requests to exit the vehicle and pat-downs/frisks. However, they were generally more likely to receive a citation, regardless of the level of officer discretion associated with the citation.

Despite the presence of some strong patterns of statistically significant disparities for some outcomes within racial groups, there was no discernible pattern within divisions across all races and all outcomes. Furthermore, while every division and the LAX RD had statistically significant differences for at least one minority group in one post-stop outcome, no division had statistically significant disparities for all minority groups or for every post-stop outcome.

3.5.2 Gang Officers

Interestingly, more consistent evidence of the disparate treatment of minorities emerged from the non-gang officer results (*see* Section 3.5.1 for discussion) than from the gang officer results. Although a greater proportion of stops made by gang officers involved blacks and Hispanics than those made by non-gang officers (approximately 93 percent of stops by gang officers are of Hispanics and blacks), gang officers exhibited a less discernible pattern of disparate treatment of these suspects once the stops occurred. Moreover, given that gangs in Los Angeles are predominately Hispanic and black,

it is not surprising that gang officers stopped a higher proportion of these racial minorities than did other officers.

Overall, the statistically significant disparities, where they were observed, tended to be positive for Hispanics and blacks, meaning that these races were more likely than whites to be subjected to post-stop outcomes. The clear exception to this finding was for citations, where Hispanics and blacks were less likely than whites to receive a citation. On the other hand, Asians, American Indians, and other races tended to be less likely than whites to experience post-stop outcomes. Again, the exception was citations, where other races were more likely than whites to be subjected to post-stop outcomes.

Although there were some patterns of statistically significant disparities within racial groups, as was the case for non-gang officers, there was no discernible pattern within bureaus across all races and all outcomes. While every bureau had statistically significant results for at least one racial group in one post-stop outcome, no bureau had statistically significant disparities for all minority groups or every post-stop outcome.

3.6 Qualitative Analysis of the Results of the Post-Stop Analysis

Besides racial profiling, there are other possible explanations for the racial disparities found in the results of our post-stop analyses. First, the disparities could be the result of variables that separately or together might explain the disparities in the outcomes, but are still unaccounted for in our analyses. The risk that these omitted variables may result in flawed inferences regarding potential racial bias is well understood in the statistics literature as "omitted variables" bias. For example, race may be positively correlated with factors not accounted for in our regression analyses. Some of these factors can be expected to exhibit a negative correlation with the post-stop outcomes studied. Because of the correlation between race and important omitted variables that can explain post-stop outcomes, the estimated race disparity may be biased toward showing that minority suspects are treated disparately by the police officers when, in fact, they are not.

When relevant variables are omitted from an analysis, we attribute their adverse effect on outcomes to the general effect of race rather than separating it in two components – the effect attributable purely to these omitted variables and the effect attributable to race. It is possible that excluding important explanatory factors from the regression analysis can lead to a conclusion that there exist disparities in the likelihood of a specific outcome across races, when there are none in reality. The relationship between race and post-stop outcomes is always dependent on other explanatory variables in the equation; therefore, it is possible that statistical significance is observed for the race variable in this model because important explanatory factors have been omitted from the model.

Almost all regression models in the social and behavior sciences exhibit some degree of misspecification - that is, they fail to capture all relevant influences on the probability of an outcome occurring. Absent an experimental design or a controlled laboratory setting, even the best and most complete regression analyses will be unable to control for all factors that exert influence over the outcome variables. In our post-stop analysis, important variables that were not available or quantifiable included:

- the rates at which different racial groups commit crimes;
- suspect attitude or demeanor;
- for motor vehicle suspects, vehicle condition (e.g., tinted windows, broken windows, popped open trunk, and damaged vehicle);
- differences in driving behavior;
- the presence of bystanders; and
- when there was a victim, whether the victim wanted the police to make an arrest.

For example, if certain minority groups commit more crime on a per capita basis than whites, then ideally we would like to capture that variation in our models. Unfortunately, the best measure of the perceived race of an offender comes from victimization surveys, which are unavailable at the municipal level.[39] Furthermore, the use of arrests as a proxy measure for the propensity to commit crimes is problematic (and thus was not used) because the arrest data themselves may be racially biased. As a result, our models do not include a variable for the rates at which the various racial groups in Los Angeles commit crimes. This is an important limitation to the analysis because differences in rates at which different racial groups commit crimes might explain why blacks and Hispanics were in some cases subjected to higher rates of post-stop outcomes than whites. Likewise, suspect demeanor,[40] vehicle condition, and differences in driving behavior [41] have been linked with an increased probability for arrest, citation, or other sanction. If antagonism or disrespect toward police varies by race of the suspect, then such a variable might help explain our findings. Other variables, including the presence of bystanders and whether a victim wanted the police to make an arrest, have been shown to influence

[39] The National Crime Victimization Survey, which is conducted by the Bureau of Justice Statistics at the U.S. DOJ, reports victim perceptions of the race of offenders, but only at the national level. These data cannot be disaggregated to provide estimates of crime rates by race at the local level. While some suspect race information is available in the LAPD crime data, concerns regarding its adequacy, completeness and relevance for these purposes precluded its use.
[40] *See* Sections 2.3.2.4 and 4.5.3 of the Proposed Methodology Report for discussions of the academic literature and the results of our ride-along study.
[41] *See* Alpert Group (2004).

the probability of an arrest in previous research.[42] We were unable to include variables in our models to account for these influences on the probabilities of each post-stop outcome.

There are several reasons to believe that the remaining disparities, particularly when they are small in magnitude or have a lower level of statistical significance, may be explained by other factors. As shown in our analyses (in Appendices D and E), the inclusion of the variables that were observable had a marked effect on the estimated racial disparities (as compared to the raw racial disparities before including these variables). A comparison of the raw disparities with those remaining after having accounted for encounter, geographic, officer, and suspect characteristics generally showed substantially reduced racial disparities in post-stop outcomes. Moreover, as noted above, the academic literature on racially biased policing and the results of our ride-along study reported in the Proposed Methodology Report indicate that officer behavior is sensitive to less readily observable indicators, such as suspect demeanor, than we have been able to incorporate in our quantitative models. If the less readily observable, but nonetheless relevant, attributes could also be included in the models, they would likely have the same effect as those factors that are measured.

Reference to such excluded or omitted variables would likely be most relevant in those cases in which results are mixed across divisions or when the magnitudes of the estimated differences are not substantial. The notable exceptions are the systematic patterns found for Hispanics and blacks being asked to exit the vehicle and patted-down/frisked at rates substantially higher than whites and for blacks being subject to higher discretion searches at higher rates than whites. These differences may require an additional type of inquiry beyond consideration of omitted variables.

The second possible explanation for the racial disparities found in the results of the post-stop analysis is that differences in the probabilities of some outcomes by race could be the result of beliefs by officers that certain racial groups pose a greater threat than others. This consideration is particularly relevant where we noted that the clearest patterns of disparity (i.e., in the request to exit the vehicle, pat-downs/frisks, and higher discretion search models for non-gang officers). These actions were the only outcomes for which the racial disparities were largely invariant to officer discretion among non-gang officers. Furthermore, these outcomes were the ones with the greatest difference between non-gang officers and gang officers.

These police actions may be a reflection of perceived threat – police frisk suspects and order them out of vehicles on traffic stops when they believe that the suspects may be armed and that their safety may be in jeopardy. Los Angeles has a unique history of gang activity and gang violence, most

[42] *See* Brooks (2005).

of which is associated with Hispanic and black gangs. The LAPD is surely aware of that history, and it is reasonable to believe that police officers' beliefs and behavior are affected by it. Ironically, gang officers, who interact with gang members closely and on a daily basis, may be less likely than non-gang officers to treat minority suspects differently than white suspects because of this perceived threat. If their more regular interaction with gang members allows them to develop a refined sense of actual threat, then they may be less likely to perceive such a threat where it does not exist. If true, this observation would help explain why stops by gang officers show a less discernible pattern of disparity than stops by non-gang officers.

It is interesting to note that the likelihood of receiving a citation is inconsistent across racial groups. While other racial profiling research (e.g., Miami-Dade Police Department)[43] has documented a decreased probability of citations for blacks, which is similar to what we find in the City of Los Angeles, Hispanics, and persons of other races were *more likely* than whites to receive a citation in most divisions. A possible explanation given for why minorities would be less likely to receive a citation than whites is that police may be stopping them for insubstantial reasons that will not support the issuance of a citation. However, if this explanation were true in the City of Los Angeles, it only seems to apply to blacks. On the other hand, the citation differences could reflect actual differences in driving behavior among racial groups (i.e., Hispanics and other minority races may commit proportionately more traffic violations in Los Angeles than whites or blacks). In the study of the Miami-Dade Police Department, the rates at which drivers were observed to have committed some traffic violations (e.g., speeding, illegal turns, and controlled intersection violations) differed by race.[44]

3.7 Conclusions

There is no single common conclusion to be drawn across all post-stop outcomes. Furthermore, there is no consistent or pervasive pattern of outcomes adverse to minorities across all outcomes or in all areas of the City. In fact, the results vary considerably by outcome. The three outcomes that were observed to have the most consistent patterns were the Hispanic and black disparities relative to whites for officer requests to exit the vehicle and pat-downs/frisks and the black disparities relative to whites for higher discretion searches. Hispanics and blacks were statistically more likely to be asked to exit the vehicle and to be subject to a pat-down/frisk in nearly every division. In addition, blacks were also statistically more likely to be subjected to higher discretion searches in most divisions. Our results also vary considerably by race. Asian, American Indian, and other races frequently had outcomes very

[43] Alpert Group (2004).
[44] Alpert Group (2004).

different from Hispanics and blacks. Hispanics and blacks experienced similar outcomes in most cases, but did differ significantly for citations.

These mixed findings are not inconsistent with the results of previous studies in other jurisdictions. Racial disparities have been found for some post-stop outcomes in some jurisdictions, but not for all jurisdictions or for all outcomes. For instance, racial disparities were found for:

- arrests in Columbus, Ohio;
- citations in Denver, Colorado (minorities less likely to be cited) and Columbus, Ohio (minorities more likely to be cited); and
- searches in Charlotte-Mecklenburg, North Carolina, and Sacramento, San Diego, and San Francisco, California.

A second general conclusion of the post-stop analysis is that appropriate inferences can only come from an evaluation of the data after accounting for, at the least, the encounter, geographic, officer, and suspect characteristics. In the vast majority of our analyses, controlling for these attributes had substantial effects on the conclusions. Even in cases where statistically significant results remained after accounting for these factors, the racial disparities were generally substantially mitigated by the inclusion of control variables in our models.

The third general conclusion is that consideration must be given to the level of officer discretion in post-stop outcomes. Racial disparities were generally lower when lower discretion outcomes were removed from the analysis. This suggests that at least some part of an observed disparity may be attributable to factors outside the control of the officer. Thus, any possible explanation for these portions of the deviations cannot include officer bias. The notable exception is officer requests for stopped persons to exit the vehicle. The observed racial disparities are largely invariant to the level of discretion.

The fourth general conclusion is that no broad inferences may be drawn for all races, all types of stops, or all areas of the City. Outcomes vary by race, particularly with respect to arrests, citations, requests to exit the vehicle, pat-downs/frisks, and higher discretion searches. Outcomes that appear to be adverse for Hispanics may not be so for blacks (e.g., citations). Asians, American Indians, and other races, as a whole, experienced very different outcomes than Hispanics and blacks. Moreover, outcomes for gang officers differed considerably from those for non-gang officers. Our results indicate that police activities involving higher discretion searches, pat-downs/frisks, and officer requests to exit the vehicle are areas of concern.

However, because not all potentially relevant information was available for inclusion in our analysis, we cannot draw definitive conclusions about the existence or non-existence of racial profiling by the LAPD. The relevant information that was unavailable or unquantifiable included: the rates at which different racial groups commit crimes; suspect attitude or demeanor; for motor vehicle suspects, vehicle condition (e.g., tinted windows, broken windows, popped open trunk, and damaged vehicle); differences in driving behavior; the presence of bystanders; and when there was a victim, whether the victim wanted the police to make an arrest. Thus, our results must be considered in light of all available information, including the relevant information that could not be included in our statistical models.

LIST OF LITERATURE AND REPORTS REVIEWED

Alpert, Geoffrey, Elizabeth Becker, Alan Meister, Michael Smith, and Bruce Strombom (Analysis Group). "Proposed Pedestrian and Motor Vehicle Stop Data Analyses." January 2005.

The Alpert Group. "Miami-Dade Police Department Racial Profiling Study." November 2004.

Brooks, L.W. "Police Discretionary Behavior: A Study of Style." In Dunham, R.G. and Geoffrey Alpert. *Critical Issues in Policing* (5th edition). Prospect Heights, IL: Waveland Press. 2004.

City of Los Angeles. *City Charter*. July 1, 2000.

City of Los Angeles. "Final Pedestrian and Motor Vehicle Stop Data Analyses Report." November 2005.

Cordner, Gary, Brian Williams, and Alfredo Velasco. "Vehicle Stops in San Diego: 2001." November 2002.

The Gallup Organization. Gallup Poll. December 9, 1999. A summary of the poll results is accessible via the Internet (http://poll.gallup.com/content/default.aspx?ci=3421).

Greenwald, Howard. "Police Vehicle Stops in Sacramento, California: Third of Three Reports." April 19, 2004.

Griffin, M.L .and G.S. Armstrong. "The Effect of Local Life Circumstances on Female Probationers' Offending." *Justice Quarterly* 20(2) (2003): 213-239.

Litwin, K.J. "A Multilevel Multivariate Analysis of Factors Affecting Homicide Clearances." *Journal of Research in Crime and Delinquency* 41(4) (2004): 327-351.

Los Angeles Police Commission, Office of the Inspector General. "Review of the Department's Audit of Gang Related Crime Reporting Statistics Procedures." May 14, 2004.

Los Angeles Police Department, Audit Division. "LAPD Motor Vehicle and Pedestrian Stop Data Collection Audit, Fourth Quarter – Fiscal Year 2003/2004."

Los Angeles Police Department, Audit Division. "Audit of Special Enforcement Unit, Gang Related Crime Reporting Statistics Procedures, Deployment Period No. 4, 2003." January 29, 2004.

Los Angeles Police Department. "Citywide Gang Crime Summary." LAPD website (www.lapdonline.org under General Information). August 2004.

McMahon, Joyce, Joel Garner, Ronald Davis, and Amanda Kraus. "How to Correctly Collect and Analyze Racial Profiling Data." Department of Justice-sponsored publication. 2002.

Ohio State University. "Analysis of Traffic Stop Data." Report for City of Columbus Department of Public Safety. 2003.

Pampel, Fred. *Logistic Regression: A Primer.* Thousand Oaks, CA: Sage. 2000.

Raudenbush, Stephen and Anthony Bryk. *Hierarchical Linear Models: Applications and Data Analysis Methods*. 2nd edition. Thousand Oaks: Sage, CA. 2002.

Romano, E., R.E. Tremblay, B. Boulerice, and R. Swisher. "Multilevel Correlates of Childhood Physical Aggression and Prosocial Behavior." *Journal of Abnormal Child Psychology* 33(5) (2005): 565-578.

Schlosberg, Mark. American Civil Liberties Union. "A Department in Denial: The San Francisco Police Department's Failure to Address Racial Profiling." October 2002.

Smith, William, Elizabeth Davison, Matthew Zingraff, Kennon Rice, and Denise Bissler. "An Empirical Investigation of the Possible Presence and Extent of Arbitrary Profiling in the Charlotte-Mecklenburg Police Department." 2004.

Smith, William, Donald Tomaskovic-Devey, and Matthew Zingraff. "The North Carolina Highway Traffic Study." July 2003.

Spitzer, Eliot. "The New York City Police Department's 'Stop & Frisk' Practices: A Report to the People of the State of New York from the Office of the Attorney General." December 1999.

United States v. City of Los Angeles, No. 00-11769 GAF, consent decree at III.H.¶ 102 (C.D. Cal. June 15, 2001).

Weitzer, Ronald. "Perceptions of Racial Profiling: Race, Class, and Personal Experience." 2002.

APPENDIX A: DATA ANALYSIS METHODOLOGY (TECHNICAL APPENDIX)

A.1 Introduction

This appendix details the statistical methodology employed in the post-stop analysis presented in Chapter 2. The appendix is not intended to be a stand alone document and should be read in concert with Chapter 2.

The purpose of the post-stop analysis was to investigate whether, after controlling for available legitimate factors that may affect policing, different demographic groups were subjected to disproportionate sanctions or other burdens following stops. The intent was to look beyond simply comparing the proportion of people from different demographic groups who were subjected to citations, searches, arrests, or other sanctions. By controlling for factors that may influence an officer's decision to apply a particular sanctions, a more accurate determination of the impact of demographics on policing decisions can be made.

In order to achieve this goal, a statistical technique known as logistic regression analysis was used. Through regression analysis, a mathematical relationship is identified between different variables that allows one to asses the impact of each variable on the outcome variable being analyzed. For each variable, two pieces of information are calculated. The first is the parameter estimate or coefficient. This value measures the impact of the predictor variable on the outcome variable. The second piece of information is the standard error, which is an estimate of how accurately the parameter is estimated. One can think of the standard error as a variable that indicates the degree to which one can trust the parameter estimate. The standard error is used to develop the p-value, which indicates the percentage of the time one would expect to see the coefficient value observed if the true coefficient value is actually zero. When people talk about statistical significance, they are usually referring to a variable with a p-value of 0.05 or less. This means that no more than five percent of the time the coefficient value observed is the result of random chance and the real value is zero.

Logistic regression analysis is a type of regression analysis for the analysis of dichotomous outcomes. In basic regression analysis, the variable that is the focus of the analysis, the outcome variable, is assumed to be continuous. However, in the post-stop analysis, the outcome variables are dichotomous, which means that they take the value of either one or zero. A one indicates that a particular sanction or burden occurred and a zero indicates that it did not. For example, in the arrest model the records for people who were arrested are flagged with a one and the records for those that were not arrested are flagged with a zero. Dichotomous outcome variables are common in social

science and other applications. To deal with the dichotomous natures of the outcome variable, the model is transformed using a logistic transformation.[45]

One of the assumptions of regression analysis is that the observations in the data are uncorrelated with one another. Therefore, each observation contributes the same amount of information to the analysis. This assumption is not valid in all situations. In the case of the post-stop analysis, the assumption is not valid because of the nested structure of the data. The stop data contains stops by individual officers within reporting districts. One might expect officers to exhibit the same policing behavior in all of their stops. If this is true, then the amount of information contributed by ten stops from the same officer is not as great as one stop from ten different officers. In the same way, if the characteristics of the neighborhood in which a stop occurs affect policing decisions, then one would expect that all stops at the same location would be affected in a similar manner.

The violation of the independence assumption means that, in the basic regression analysis, the standard errors for the variables are too small, which results in p-values that are also too small. This would lead one to place greater confidence in the results than they would if the standard errors were unbiased. The reason the standard errors are not accurate is that each observation in the data does not contribute an independent piece of information. Therefore, in aggregate, less information is available than assumed in the model.

Problems such as the nested structure of the stop data are not uncommon in statistical modeling. As a result, statisticians have developed methods to account for these problems, thus allowing for more accurate estimates of the standard error terms. There are three commonly used methods to account for nested data: sandwich estimators, fixed effects models, and hierarchical linear models. Each method will be reviewed in the context of the post-stop analysis.

Sandwich estimators, also known as White or Huber-White estimators, correct for the problems in the standard errors caused by non-independence. However, the method does not allow one to investigate the degree to which officer decision-making varies across levels of the model. In addition, simply making the correction for the standard errors without correcting the model means that one is fitting a model which is known to be incorrect.

In fixed effects models, it is assumed that the differences between officers' behavior is constant for all stops by the same officer. Individual officers may react differently, but a single officer is consistent across all stops. This method requires that a separate indicator variable be included in the

[45] A more detailed review of logistic regression is beyond the scope of this report. For an introduction to logistic regression *see* Pampel (2000).

model for every officer. Thus, a parameter estimate and standard error is estimated for each officer. With over 6,000 officers in the LAPD, this method would be cumbersome. In addition, inferences cannot be made beyond the officers in the analysis because the nature of the estimation.

Hierarchical linear models (HLM) are the third method for accounting for the nested nature of the stop data.[46] In basic regression analysis, it is assumed that the data are sampled from the population of all possible stops. In HLM, there are two levels of sampling. One is for officers and the second is for stops. Unlike fixed effects models, HLM allows the officer effect to vary randomly by officer. Therefore, there is a residual term for each observation as well as a residual term for the officer.[47] The officer residual term is considered fixed for all observations of the same officer.

Given the advantages of HLM, it was employed in the post-stop data analyses. As a further precaution, sandwich estimators were also used to ensure that the standard errors were robust to potential specification problems, such as omitted variable bias.

A.2 Examples of Hierarchical Linear Models (HLM)

Nested data structures are common in behavioral and social data in which there are often repeated observations within individuals who belong to a higher level organizational unit. For example, early applications of HLM were in the education field where students were observed within classrooms within schools. The effect of the school would be common across classrooms in the same school and the classroom effect would be common between all students in the same class. HLM is increasingly being applied to a wider range of disciplines, including criminology. There have been a number of criminology studies that have employed HLM.[48]

A.3 Summary of Post-Stop Outcome Models

This section presents specifics about the models employed in the post-stop outcome analyses. The section begins with a review of the outcomes investigated, followed by a summary of the other relevant dimensions accounted for in the models. Next, we review the model structure (i.e., the levels of the models) and then present the procedure for identifying the variables included in the final models for each outcome. Lastly, this section closes with a discussion of how the results of the models are presented.

[46] Hierarchical linear models have been called a variety of names including multilevel linear models, mixed-effects models, random-effects models, random-coefficient regression models, and covariance components models. For more on HLM, *see* Raudenbush and Bryk (2002).
[47] The residual term is equal to the difference between the actual value of the outcome variable and the value of the outcome variable predicted by the model. There is a separate residual term for each observation.
[48] Griffin and Armstrong (2003); Litwin (2004); Romano, Tremblay, Boulerice, and Swisher (2005).

A.3.1 Post-Stop Outcomes

As discussed in Chapters 2, seven post-stop outcomes were investigated: (1) pat-downs/frisks, (2) higher discretion searches, (3) requests to perform a consent search, (4) arrests, (5) citations, (6) requests to exit the vehicle, and (7) no action taken.

However, for some outcomes, the analysis was conducted in stages in order to eliminate observations with little or no officer discretion:

- Arrests – First, all arrests were analyzed. Then, warrant arrests were excluded on the assumption that officers have no discretion when it comes to arresting individuals with outstanding warrants. Next, violent arrests were excluded in addition to warrant arrests. Finally, warrants, violent arrests, and driving under the influence (DUI) arrests were all excluded.
- Citations – First, all citations were included. Then, citations for driving with a suspended license were excluded. Lastly, driving with a suspended license and other lower discretion citations (unlicensed drivers, hit and run incidents involving property such as vehicles, no injury hit and run, reckless driving, and unlawful presentation of false registration) were excluded.
- Requests to exit the vehicle – First, all requests were included. Then, requests associated with violent arrests were excluded.

Given the outcomes that were analyzed in stages, there were a total of 13 outcomes that were investigated:

1) pat-downs/frisks;
2) higher discretion searches;
3) requests to perform a consent search;
4) arrests;
5) arrests excluding those for outstanding warrants;
6) arrests excluding those for outstanding warrants or violent crimes;
7) arrests excluding those for outstanding warrants, violent crimes, or DUI;
8) citations;
9) citations excluding those for driving with a suspended license;
10) citations excluding those for driving with a suspended license or other lower discretion citations;
11) requests to exit the vehicle;

12) requests to exit the vehicle excluding those associated with violent crimes; and

13) no action taken.

A.3.2 Other Dimensions

For each outcome, the analysis accounted for variation across numerous other dimensions. These included the type of stop, type of officer, and geographic area. The Final Methodology Report hypothesized conducting separate analyses for many of these dimensions. However, upon review of the data, it was determined that this approach would be inferior to analyzing the affect of each dimension within one model using indicator variables to identify each dimension. This decision was based on two considerations. First, if the models were run separately it would not be possible to conduct formal statistical tests between different dimensions. For example, if separate models were run for each police division, it would not be possible to test if a policing pattern within one division differed from the policing pattern in another division. A simple comparison of the model results would not provide a valid statistical assessment of the similarities and differences between the divisions. Second, by splitting the models, the number of observations used to estimate the models would be reduced. As the number of observations falls, the precision with which the models are estimated also falls. Therefore, by including all the data in the model and accounting for differences between observations using indicator variables, the parameters estimates are more precise. Each dimension will be reviewed in turn.

A.3.2.1 Type of Stop

There are two indicator variables for the stop type. The first indicated if the stop was a motor vehicle stop or a pedestrian stop. The second indicated if the stop resulting from a call for service or was officer-initiated.

A.3.2.2 Officer Type

There are three types of officers identified in the stop data: patrol, traffic, and gang.[49] Due to their focus on gangs, the discretionary decisions made by gang officers are likely to differ significantly from the decisions made by patrol or traffic officers. In addition, given the racial makeup of gangs in Los Angeles, stops by gang officers are likely to be highly concentrated among certain races. Including stops by gang officers with other officers could influence the results obtained from the analyses of these other officers. Therefore, the stops by gang officers were analyzed separately from

[49] There were a limited number of records for which the officer type classification could not be identified. These records were included in the model with patrol and traffic officers and accounted for with an indicator variable.

stops by patrol and traffic officers. Within the non-gang officer model, patrol and traffic officers were identified with an indicator variable.

A.3.2.3 Geographic Area

The LAPD has three levels of aggregation for geography. The lowest level is the reporting district, or RD level. RDs vary significantly in size, but the most cover approximately a ten block area. In more sparsely populated or less urban areas, RDs may be much larger. The next higher level of aggregation is the division. There are 18 divisions within the LAPD. The highest level of aggregation within the department is the bureau, of which there are four.

The intent was to perform the analysis at the lowest geographic level possible given the available data. A review of the number of observations by RD and suspect race indicated that there were a significant number of RD/race combinations with too few observations to reliably estimate a model.[50] Therefore, the division, which was the next higher level of aggregation, was used for non-gang officers. Each division in the model was identified with an indicator variable.

There was one exception to this method. RD 1494, which contains LAX, was excluded from the division in which it was located (Pacific Division, division number 14) and analyzed separately. This was done because the number and nature of the stops at LAX were fundamentally different than stops in other RDs. For example, the total number of stops in RD 1494 was 46,239. The RD with the next highest number of stops had only 6,305 stops.

There are fewer gang officers than non-gang officers and thus fewer records for gang officers relative to non-gang officers. To ensure that there were enough observations to accurately estimate the gang officer models, the analysis had to be performed at the bureau level. Each bureau was identified with an indicator variable.

A.3.3 Levels of the Model

As discussed above, the stop data are in a nested data structure. Stops are nested within officers, which are nested within RDs. This is potentially a three-level model.[51] Estimation of a three-level model of this nature is unrealistic given the computational burden of the calculation. Therefore, several methods to simplify the model without compromising the results were investigated.

[50] For example, there were no observations for black suspects in RDs 109, 405, and 599.

[51] There are cases in which officers make stops in more than one RD such that the data structure is not strictly hierarchical. However, in terms of modeling the data, this is not problematic because the RD code for the stop also switches when an officer moves to another RD. This type of data structure is sometimes referred to as cross-classified at level two (Officer within RD). For ease of exposition, however, we continue to refer to officers as nested within RDs.

The method employed was to eliminate the RD level of the analysis by including in the models numerous RD level covariates that explain the variation seen at the RD level. For example, one would expect that the level of crime in an RD may affect policing decisions in that RD. To quantify this affect, variables to account for the level of violent and property crime were considered in the models.

A series of analyses were performed to assess if this approach would explain an acceptable amount of RD level variation. The analyses, which included a series of weighted least squares regressions,[52] indicated that RD level covariates explain between approximately 40 to 70 percent of the RD level variation depending on the post-stop outcome. Thus, it was determined that the RD level covariates would capture a sufficient amount of the RD level variation, especially given the use of sandwich estimators to ensure that the standard errors were robust.

Therefore, the final model estimated was a three-level hierarchical linear model in which the level two officer effect was allowed to vary randomly by officer and the RD level variation was considered fixed and modeled using covariates that described the condition of the RD. Variation between divisions was accounted for using division indicator variables. The following set of equations identifies more precisely the model estimated in the post-stop analysis.

Level 1 Equation – Stops

$$\text{Logit}(\text{Stop}_{ij}) = \beta_{0j} + \beta_{1j}(\text{Driver Race Indicators}) + \beta_{2j}(\text{Pedestrian/Motor Vehicle Indicator}) + \beta_{3j}(\text{Call for Service Indicator}) + \beta_{nj}(\text{Stop Covariates}) + r_{ij}$$

Level 2 and 3 Equations – Officers and RDs

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(\text{Division Indicators}) + \gamma_{02}(\text{Officer Race Indicators}) + \gamma_{03}(\text{Traffic/Patrol Indicator}) + \gamma_{0m}(\text{Officer Covariates}) + \gamma_{0p}(\text{RD Covariates}) + u_{0j}$$
$$\beta_{1j} = \gamma_{10} + \gamma_{11}(\text{Division Indicators}) + \gamma_{12}(\text{Officer Race Indicators})$$
$$\beta_{2j} = \gamma_{20}$$
$$\beta_{3j} = \gamma_{30}$$
$$\beta_{nj} = \gamma_{n0}$$

[52] Weighted least squares regression is a type of regression analysis that places different weights or reliance on each observation. In this context, the unit of observation for the analysis was the RD. Therefore, the number of observations in the RD was used to weight the observation. The idea is that RDs with more observations are less likely to be affected by outlier observations, and thus should be considered more accurate relative to RDs with fewer observations.

Reduced Form Equation

$$\text{Logit}(\text{Stop}_{ijk}) = \gamma_{00} + \gamma_{10}(\text{Driver Race Indicators}) + \gamma_{01}(\text{Division Indicators}) + \gamma_{11}(\text{Division Indicators})(\text{Driver Race Indicators}) + \gamma_{02}(\text{Officer Race Indicators}) + \gamma_{03}(\text{Traffic/Patrol Indicator}) + \gamma_{12}(\text{Officer Race Indicators})(\text{Driver Race Indicators}) + \gamma_{n0}(\text{Stop Covariates}) + \gamma_{0m}(\text{Officer Covariates}) + \gamma_{0p}(\text{RD Covariates}) + \gamma_{20}(\text{Pedestrian/Motor Vehicle Indicator}) + \gamma_{30}(\text{Call for Service Indicator}) + u_{0j} + r_{ij}$$

A.3.4 Identification of Final Models

As discussed in Chapter 2 and Appendix B, a wide variety of variables were considered in the regression analysis. One would not expect that all of the variables would be significant in any model, let alone significant in all models. To determine which variables to include in each model, each model was estimated including all available variables. All statistically insignificant variables were then omitted from the analysis and the model was re-estimated.[53] This process was continued until all statistically insignificant variables were omitted.

For the arrest, citations, and requested to exit the vehicle outcomes, if a variable was significant in any of the sub-models within the post-stop outcome, the variable was retained. For example, the weekend indicator was not significant in the base arrest model, but it was significant in the model where warrant arrests were omitted.[54] Therefore, it was included in all arrest models.

A.3.5 Presentation of Results

As discussed above, models were estimated for non-gang officers at the division level, except for the RD including LAX which was analyzed separately, and for gang officers at the bureau level. For each of these groups, models were estimated for the seven stop outcomes. Where appropriate, the effect of stop type, officer type, and calls for service were accounted for using indicator variables. The final model for each outcome and the results of the models are presented in Appendices F, G, and H. Appendix F contains the results for non-gang officers, Appendix G contains the results for gang officers, and Appendix H contains the regression results for the RD including LAX.

In addition to the results of the regression models, Appendices D and E include comparisons of the percentage of people subjected to each sanction or burden by race within each division/bureau for the typical stop. Appendix D contains the results for non-gang officers and Appendix E contains the results for gang officers. The intent of the regression analysis was to control for all factors that may influence the probability of a particular burden or sanction being applied. By holding the values for

[53] The threshold used to determine statistical significance was five percent.
[54] The weekend indicator identifies if the stop occurred on the weekend.

covariates other than race constant at the average values for each division, the variability caused by those variables is eliminated. Thus, in the tables in Appendices D and E, the differences between the columns are the differences associated with race identified by the models. For example, Table D1 summarizes the percentage of people of each race arrested out of all people of that race who are stopped in each division controlling for all factors other than race.

To determine the typical stop, the mean for each variable within each division, for non-gang officers, or bureau, for non-gang officers, was used. For categorical variables such as officer race, the proportion observed in the stop data for each division was used. For example, if stops were evenly distributed between American Indian, Asian, black, Hispanic, and white officers, then the values used for officer race for the average officer would be 0.2 for each of those five officer race types. The values of all categorical values were required to sum to one.

Within a division, the percentages for each race other than white were compared to the percentage for whites to determine if there was a statistically significant difference between the two groups. Differences that were significant at the five percent level are identified with one asterisk and differences that were significant at the one percent level are identified with two asterisks. Due to the interactive terms between suspect race and officer race as well as suspect race and division, it was not possible to simply look at the p-value for the suspect race coefficient. In order to accurately test the differences between each race, a linear combination of three coefficients was created. The coefficients were the suspect race, the suspect race/officer race interaction, and the suspect race/division interaction. For the suspect race/officer race interaction, the proportion of stops by each officer race type within the division was used for each suspect race test. The values for suspect race and division were set to one when that suspect race or division was being tested or zero otherwise.[55]

[55] As the comparison group, the values for the white coefficients were set to negative values.

APPENDIX B: DATA (TECHNICAL APPENDIX)

B.1 Introduction

This appendix reviews the data that were considered in the post-stop analysis presented in Chapter 2 and Appendix A of this report. For each set of data, we discuss their potential usefulness in the analysis, how they were collected, their format, the number of observations, and any inherent limitations. These aspects of the data were determined through discussions with City of Los Angeles/LAPD, review of documentation related to the data, evaluation of the data themselves, and various diagnostic tests of the data.

There are several categories of data that are potentially relevant for analyzing pedestrian and motor vehicle stops in the City of Los Angeles:

- law enforcement data; and
- demographic, economic, and socioeconomic data.

As noted in Chapter 2, the time period for the post-stop analysis was July 1, 2003 through June 30, 2004. Thus, all summary statistics (e.g., number of observations and any error rates) for the data below are for this period unless otherwise noted.[56] Appendix C contains summary statistics by geographic area for each variable used in the post-stop analysis.

B.2 Law Enforcement Data

Law enforcement data consist of information about the LAPD, its officers, their policing activities, and crime in the City of Los Angeles. These data are gathered and maintained by the LAPD as a normal part of its activities, unless otherwise noted.

B.2.1 FDR Data

In analyses of racially biased policing, the data of primary interest are stop data. These data, which include information regarding stop and post-stop activities of officers, are collected by LAPD officers on FDRs when they conduct pedestrian and motor vehicle stops.[57] Data collected by officers include:

[56] Many of the summary statistics included in this appendix differ from those presented in the Chapter 5 of the Proposed Pedestrian and Motor Vehicle Stop Data Analyses Methodology Report (January 2005) and Chapter 3 of the Final Pedestrian and Motor Vehicle Stop Data Analyses Methodology Report (November 2005). The statistics presented in those chapters covered a longer time period than that ultimately used in the analyses presented in this report.

[57] When the LAPD began collecting stop data, the officers completed paper FDR forms, which were then optically scanned to create an electronic database. In 2004, patrol and traffic officers began completing electronic FDRs on handheld devices, thus reducing the need for scanning of paper FDR forms. Currently, paper forms are only used by officers who make infrequent stops, do not have a handheld electronic device, or have a handheld electronic device that becomes inoperable.

- officer identification number;
- the area to which the officer is assigned (i.e., officer division number);
- date and time of the stop;
- RD where the stop occurred;
- type of stop (i.e., driver, passenger, or pedestrian);
- driver's, passenger's, or pedestrian's apparent descent, age, and gender;
- initial reason for the stop;
- whether the driver was requested to exit the vehicle;
- post-stop action taken (e.g., pat-down, search, citation, warning, and arrest);
- whether a search was consensual;
- authority for the search;
- action taken by the officer;
- citation number, if a citation was issued; and
- booking number, if an arrest was made.

The stop database contains information on 814,492 stops from July 1, 2003 through June 30, 2004. Pedestrian stops accounted for 28 percent of all stops during this time period, while motor vehicle stops accounted for 72 percent of all stops. Among all motor vehicle stops, approximately 95 percent of FDRs were completed on drivers and five percent on passengers.

To determine the reliability of the stop data, Analysis Group utilized information from several different sources. First, we reviewed an internal LAPD audit for fiscal year 2003-2004, which covers the time period of analysis.[58] In order to evaluate whether FDRs were completed when required, the audit compared a sample of FDRs with daily field activity reports, which document significant activities during officers' shifts. According to the audit, the officer compliance rate for completing FDRs when required was 94 percent for fiscal year 2003-2004. In order to assess the completeness of data, the audit reviewed FDRs to see if all required information was filled in by officers. The audit found the completeness rate of FDRs to be 85 percent for fiscal year 2003-2004. To evaluate the accuracy of the stop data, the audit compared information entered into FDRs to supporting documentation, including daily field activity reports, to determine if they were consistent.[59] According

[58] Los Angeles Police Department, "LAPD Motor Vehicle and Pedestrian Stop Data Collection Audit, Fourth Quarter – Fiscal Year 2003/2004."
[59] Excluded inconsistencies in age, gender, and descent categories since these capture officers' perceptions.

to the LAPD audit, the accuracy rate of FDRs was 86 percent for fiscal year 2003-2004. For the field in which the RD was entered, the error rate of 23 percent.[60]

The second source used to determine the reliability of stop data was the results of an internal logic check within the LAPD stop data system. This automated check identifies fields that must be filled in for all stops or as a result of other information recorded (e.g., if the data indicate that a search was conducted, then an officer must also indicate what was searched). For the time period from July 1, 2003 through June 30, 2004, the LAPD internal logic check found that less than 0.1 percent of the stops were missing information that should have been recorded.

The third source for determining the reliability of stop data was an audit conducted by the Independent Monitor, which is responsible for ensuring that reforms set forth in the consent decree between the City of Los Angeles and DOJ, including the collection of stop data, are implemented in an effective and timely manner. Based on a comparison of a sample of FDRs to daily field activity reports from April to June 2004, the Independent Monitor found that the officer compliance rate for completing FDRs when required was 96 percent and the accuracy/completion rate was 97 percent.

The final source for assessing the reliability of stop data was Analysis Group's own independent audit. We audited the stop data in order to determine whether the data would be suitable for conducting data analysis. Analysis Group's auditing procedures consisted of identifying stops for which critical information was missing, such as suspect race, RD where a stop was made, or whether a stop was a pedestrian or motor vehicle stop. Our audit found that:

- two percent of the stops listed an invalid RD;[61]
- 0.003 percent of the stops did not list the RD in which the stop took place;
- 0.002 percent of the stops did not have information for the race of the driver, passenger, or pedestrian; and
- 0.001 percent of the stops did not identify whether the stop was of a pedestrian or motor vehicle.

To the extent that one of these specific data elements is needed for a particular analysis, records missing these data were excluded from the analysis. Missing data can reduce the power of statistical tests by reducing the number of observations available for analysis. But given the large number of observation in the stop database, the reduction in sample size due to missing stop data does not significantly affect the results of the our analyses. Problems affecting the accuracy of data have the

[60] Potential explanations for these errors include transposition errors, confusion over the RD in which the stop took place, and typographical/data entry errors.
[61] We define an invalid RD as one that does not exist. See footnote 60 for potential explanations for these errors.

potential to pose more serious problems, particularly if errors are correlated with another variable of interest. The only complete remedy for inaccurate data is to ensure that they are properly collected in the future. Based on the fact that the accuracy rate is relatively high, we believe that the stop data are reasonably reliable for the purposes of implementing our analysis.

A number of variables used in our post-stop analyses were derived from the stop database. First, the stop data provided the key variable of interest in an analysis of racially biased policing – the suspect's race.

- Suspect race – Apparent suspect race was recorded by officers as one of the following six categories: Asian, black, Hispanic, American Indian, white, and other. These six suspect races were combined into four race categories: black, Hispanic, white, and other, where other includes Asian, American Indian, and other. These three categories were grouped together in order to yield a sufficient number of observations for analysis. The four suspect race categories were coded as three dummy variables (i.e., variable with only two possible outcomes, either yes or no, and which are typically coded with either a 1 or 0) (white suspect race was set as the baseline),[62] where 1 indicates that the suspect was of that particular race and 0 indicates the suspect was not.

The stop data were also used to create variables representing the seven post-stop outcomes that were being analyzed, as noted in Chapter 2:

- citations (66 percent of all stops);
- pat-downs/frisks (26 percent of all stops);
- arrests (13 percent of all stops);
- officer requests to exit the vehicle (11 percent of all stops);
- officer search requests (11 percent of all stops);
- higher discretion searches (7 percent of all stops);[63] and
- no action taken by the officer (2 percent of all stops).

Each of the seven post-stop outcomes was coded as a dummy variable, where 1 denoted that the post-stop outcome of interest occurred and 0 denoted that it did not occur.

A number of control variables were also derived from stop data. These included characteristics of the encounter, officer, and suspect characteristics (other than suspect race):

[62] Per standard statistical techniques, one of the possible choice outcomes must serve as the baseline in a regression model. Thus, the number of dummy variables included in a regression model is equal to the total number of outcomes minus one.
[63] Higher discretion searches are defined as searches: made incident to a pat-down/frisk (4 percent of all stops); due to odor of a contraband (0.3 percent of all stops); and of suspects on parole or probation (3 percent of all stops).

- Geographic area in which a stop was made – As shown on the maps in Appendix I, the City of Los Angeles is divided into 18 divisions within 4 bureaus. For the post-stop analyses of non-gang officers (i.e., patrol and traffic officers), we use Divisions as the geographic unit of measurement. Due to the high number of stops in and around LAX, which is within the LAPD's jurisdiction, and the unique nature of these stops in comparison to stops elsewhere in the City of Los Angeles, the RD including LAX was analyzed separately from the division in which it was located. Thus, there were 19 geographic areas analyzed in the non-gang officer analyses. The LAX RD was analyzed in a separate model from the divisions. So the model covering the divisions, there were 17 dummy variables for 18 geographic areas (Division 7 was set as the baseline). For the post-stop analyses of gang officers, we used bureaus as the geographic unit of measurement. For analyses of gang officers, there were four geographic areas and they were coded as three dummy variables (Bureau 1 was set as the baseline). For all geographic area variables, 1 indicates that it was the geographic area in which the stop was made and 0 indicates it was not.
- Initial reason for a stop – As noted on the FDR, there are 11 possible reasons for a stop: call for service, department briefing, health and safety code violation, moving vehicle code violation, pedestrian vehicle code violation, equipment and registration vehicle code violation, municipal code violation, penal code violation, suspect flight, consensual stop, and any other reason. These 11 reasons were coded as 10 dummy variables (moving vehicle violations was set as the baseline), where 1 indicates that it was the reason for the stop and 0 indicates it was not.
- Day of the week – The day of the week was classified as either a weekday (i.e., Monday through Thursday) or part of the weekend (i.e., Friday through Sunday). The day of the week was coded as a dummy variable, where 1 equals a weekend and 0 equals the weekday.
- Time of day – The time of day was identified as either day or night, where day was defined as 7:00 AM through 6:59 PM and night was defined as 7:00 PM through 6:59 AM. The time of day was coded as a dummy variable, where 1 equals night and 0 equals day.
- Officer assignment – On all FDRs, officers record their division number, which indicates an officer's assignment. Officer assignments that can be identified in the stop database are traffic, patrol, and other officers.
- Suspect age – Apparent suspect age was categorized into one of the following age ranges: 1–17, 18–25, 26–35, 36–45, 46–55, and 56 or above. These six age ranges were coded as

five dummy variables (age range 26–35 was set as the baseline), where 1 indicates that the suspect was within that particular age range and 0 indicates the suspect was not.

- Suspect gender – Suspect gender was identified as male and female. It was coded as a dummy variable, where 1 equals male and 0 equals female.
- Number of suspects in a stop who interacted with the officer – The number of suspects in a stop who interacted with the officer included all individuals for whom an FDR was completed. This was measured as the number of FDRs completed at the same time, on the same date, and in the same RD.
- Type of suspect – Type of suspect was defined on the FDR as either driver, passenger, or pedestrian. These three types were coded as two dummy variables (driver was set as the baseline), where 1 indicates that the person stopped was that type of suspect and 0 indicates that the person was not.

B.2.2 Crime

The crime data include crimes reported to the LAPD. Officers collect these data by completing crime reports when a crime is reported. Crime data are a direct measure of the amount of crime in an area and were used to form a control variable in various analyses.

The crime database contains information about each reported crime, including:

- date and time;
- RD in which the crime occurred;
- type, class, and reporting category of the crime; and
- information about the involved parties, including their role in the incident (e.g., suspect, arrestee, victim, witness, or reporting party), race, age, gender, and zip code of their residence.

The crime data from July 1, 2003 through June 30, 2004 included 288,632 crimes involving 608,641 parties (e.g., suspects, victims, and witnesses), 149,445 of which were suspects. There are often multiple parties, including suspects, for a crime because each party is recorded as a separate record in the database.

In the crime database, 2,312 crimes (approximately 1 percent of all crimes) list an invalid RD and are therefore unusable.[64] The remaining 99 percent of the database is used to develop a control variable for crime.

[64] *See* footnote 61.

In developing this control variable, we used more serious and frequent property and violent crimes. In particular, we used types of property and violent crimes that are Part I crimes in the Uniform Crime Reporting (UCR) Program by the Federal Bureau of Investigation (FBI).[65] Crimes were calculated as the number of property crimes and violent crimes per 10,000 people in a given RD. In total, there were 32,989 Part I violent crimes and 132,459 Part I property crimes during the relevant time period.

B.2.3 Gangs

Given the high level of gang activity in the City of Los Angeles, it is important to account for gang-related law enforcement activities in our post-stop analyses, especially given that gangs in Los Angeles have tended to proliferate among young, male minorities.[66]

Initially, during the development of the methodology for data analysis, Analysis Group identified three types of information available on gangs: summary statistics, maps, and gang crime data. However, all three types have been deemed to be unusable in the post-stop analysis. The summary statistics and maps were not available in a readily usable format for data analysis. Furthermore, they only provided counts of gangs or gang members,[67] not the level of gang activity in an area.

Gang crime data, which included the number of crimes committed by gang members, appeared to more appropriately represent the level of gang activity in an area. Analysis Group was provided a database that identified which crimes in the crime database the LAPD considered to be gang-related. The database provided to Analysis Group identified 25,582 crimes as gang-related from January 1, 2002 through March 31, 2004. It is our understanding that the gang crime database was populated when officers indicated on a crime report that the crime was gang-related. However, upon further

[65] The FBI categorizes the following crimes as Part I property crimes: burglary, attempted burglary, burglary from vehicle, theft from vehicle-over $400, attempted burglary from vehicle, theft from vehicle-under $400, theft from vehicle attempted, property missing from recovered vehicle-grand theft, property missing from recovered vehicle-petty theft, theft from person, purse snatch, pickpocket, drunkroll, theft from person, purse snatch-attempted, pickpocket-attempted, drunkroll-attempted, theft-over $400, shoplifting-over $400, dishonest employee grand theft, theft-under $400, theft-attempted, shoplifting-under $400, shoplifting-attempted, dishonest employee-petty theft, dishonest employee-attempted, till tap-over $400, till tap-under $400, till tap-attempted, theft from coin-operated device or machine -over $400, theft from coin-operated device or machine-under $400, theft from coin-operated device or machine -attempted, bicycle-stolen, bicycle-attempted stolen, boat-stolen, boat-attempted stolen, stolen vehicle, and attempted stolen vehicle. The FBI categorizes the following crimes as Part I violent crimes: homicide, manslaughter, rape, attempted rape, robbery, attempted robbery, assault with a deadly weapon, intent assault with a deadly weapon, assault against a police officer, shots fired, and shots fired in an inhabited dwelling.

[66] According to the LAPD, as of August 2004, 59.4 percent of gang members were Hispanic, 34.6 percent were black (Crip and Blood gangs), 3.2 percent were Asian, and 2.8 percent were white (Stoner and white gangs). Source: Los Angeles Police Department, "Citywide Gang Crime Summary," LAPD website (www.lapdonline.org under General Information).

[67] Los Angeles Police Department, "Citywide Gang Crime Summary," LAPD website (www.lapdonline.org under General Information).

review of that data, they were deemed to be incomplete. Audits by the Audit Division of the LAPD and the Office of the Inspector General for the Los Angeles Police Commission found that inconsistent coding of crime reports led to underreporting of gang crimes.[68]

Given the shortcomings of these gang-related data, Analysis Group developed an alternative measure of gang activity – the number stops made by LAPD gang officers. Since gang officers almost exclusively stop gang members, the number of gang officer stops is likely to be a good indicator of gang-related law enforcement activities. In order to get the counts of gang officer stops per RD, we obtained a list of all officers assigned to gang units. Then we measured the number of stops these gang officers made in each RD.

B.2.4 Shootings at Officers

Data regarding shootings at officers detail incidents in which a firearm was discharged at an LAPD officer. These data may be used as a proxy for crime in an area. They may also indicate areas where officers are likely to feel more threatened, which may affect their stop and post-stop activities.

The shootings at officers database includes the following information:

- date of the shooting;
- RD in which the shooting occurred; and
- type of firearm used.

The shootings at officer database provided to Analysis Group contains 139 unique shootings at officers in 113 unique RDs. The database covers incidents that occurred from July 1, 2001 through June 30, 2003.

Given the relatively small number of observations in this database and the small degree of variation across RDs (e.g., many RDs have no shootings at officers), Analysis Group did not find the number of shootings at officers per RD to be useful in our post-stop analyses. Thus, as an alternative, we considered a dummy variable for shootings at officers (where 1 denotes that an RD had a shooting at officers and 0 denotes it did not). This variable was included in the gang officer post-stop analysis since it contributed to the explanation of post-stop outcomes.

[68] Los Angeles Police Department, Audit Division, "Audit of Special Enforcement Unit, Gang Related Crime Reporting Statistics Procedures, Deployment Period No. 4, 2003," January 29, 2004; Los Angeles Police Commission, Office of the Inspector General, "Review of the Department's Audit of Gang Related Crime Reporting Statistics Procedures," May 14, 2004.

B.2.5 Citations

Citations data consist of tickets issued by LAPD officers for traffic and penal code violations. These data were used to supplement the stop database. While the stop database identifies whether a citation was given during a stop and the citation number, it does not provide the violation for which a citation was issued. Therefore, using the citation number field in the stop database, the citations database was queried to identify the violations for all stops for which a citation was issued.

As noted in Section B.2.1, the stop database contains 814,492 stops conducted from July 1, 2003, through June 30, 2004. A further review of this database identified that citations were given in 537,502 of these stops (66 percent of all stops). Of these stops with citations, less than 0.01 percent had an invalid citation number and two percent of stops had duplicate citation numbers. This leaves 526,665 unique citation numbers. These figures exclude release from custody (RFC) citations which are listed separately in the "action taken" section of the FDR but share the same citation number field with traffic/penal code citations.

Upon merging the citations database with the stop database for the purposes of extracting the violations for which suspects were cited, Analysis Group found that approximately three percent of all stops with unique citations numbers could not be matched to the citations database.

A potential explanation for discrepancies between the stop and citations databases is parking citations. When a parking ticket is given by an officer, they may put the parking citation number in the field where the traffic citation number is recorded on the FDR since there is no separate field for parking ticket number. Upon reviewing this issue, the LAPD determined that it is not possible to identify which numbers listed in the citation number field in the stop database are parking citations. If parking citations were identifiable, we would simply count them as stops with parking citations, not as stops with traffic/penal code citations. Given that they cannot be linked to a type of violation in the citation database, they are effectively treated as stops with traffic/penal code citations. Instances where parking citations are included in the citation field are not likely to be common since officers do not complete an FDR solely as a result of a parking ticket, but only when a parking citation is results from an event that requires an FDR.

A second potential explanation for the discrepancies between the stop and citations databases is typographical errors. The LAPD conducted a cursory review of a sample of the stops with citation numbers for which Analysis Group could not identify a matching citation in the citations database. This review found some cases where citation numbers were incorrectly written on FDRs or where they were unreadable. Given the relatively small number of occurrences and the fact that they must be

reviewed manually by collecting source documents, it is not worth the time and effort to go back and try to identify and fix these FDRs. Discrepancies resulting from typographical errors are not likely to pose a significant problem in the overall analyses given the small number of occurrences.

Overall, the discrepancy rate between the citation numbers in the stop database and citations database was low enough that it did not cause any concerns regarding the reliability of the citations database. Furthermore, since the citation numbers from the citations database were linked to citation numbers in the stop database solely to identify and exclude lower discretion citations (e.g., citations for: suspended licenses; unlicensed drivers, hit and runs, reckless driving, and false registration), only a small fraction of stops with citation numbers (six percent) were actually excluded from the citations analysis.

B.2.6 Arrests

The arrest data consist of information pertaining to each arrest made by the LAPD. Arrest data were used to supplement the stop database. While the stop database identifies whether a person was arrested, and if so the booking number, it does not provide the violation for which the person was arrested. Thus, the booking number field in the stop database was used to query the arrest database and identify the arrest charge for all stops where an arrest was made.

The arrest database contains information about each arrest, including:

- booking number of the arrested individual;
- arrest date and time;
- reason for arrest; and
- whether the arrest was made pursuant to a warrant.

As noted in Section B.2.1, the stop database contains 814,492 stops conducted from July 1, 2003, through June 30, 2004. Furthermore, arrests were made in 108,653 of these stops (13 percent of all stops), of which 21 (less than 0.02 percent) were not marked as arrests on the FDR but still had a booking number and 26 (0.02 percent) were marked as a release from custody (in 99.9 percent of release from custodies, the officer also indicated that the stop resulted in an arrest). Of these stops, 35,663 stops (33 percent) do not have booking numbers or have a booking number of "0" , and 1,394 stops (one percent) have duplicate booking numbers. This leaves 71,596 unique booking numbers.

Upon merging the arrest database to the stop database for the purposes of extracting the arrest charge, Analysis Group found that 2,515 stops with arrests (four percent of all unique booking numbers in the stop database) could not be matched to the arrest database. The reason that some stops with

arrest could not be matched to the arrest database could not be determined. However, given the low discrepancy rate, Analysis Group determined the arrest database to be reliable.

Analysis Group identified three types of lower discretion arrests in the stop database: DUI arrests, warrant arrests, and violent arrests. The arrest charge stated in the arrest database was used to identify DUI arrests and violent arrests. DUI arrests are both felony and misdemeanor arrests resulting from driving under the influence, while violent arrests are felony arrests such as willful homicide, non-vehicular manslaughter, vehicular manslaughter, forcible rape, robbery, and rape. Of the 108,653 total arrests, there are 8,030 DUI arrests (seven percent) and 5,569 violent arrests (five percent). The warrant arrest indicator in the arrest database was used to identify arrests resulting from the issuance of a warrant. The stop database contains 13,795 warrant arrests (13 percent).

B.2.7 Parolees and Probationers

Parolee data, which are maintained by the California Department of Corrections, and probationer data, which are maintained by several different law enforcement agencies and compiled by the California Department of Justice, contain information such as last known residence. Therefore, the number of parolees and probationers in a geographic area could potentially be determined and serve as a measure of crime. However, these data were not ultimately available in a usable format. As an alternative to these parolee and probationer data, Analysis Group suggested in the Proposed Pedestrian and Motor Vehicle Stop Data Analyses Methodology Report (January 2005) that it may be possible to identify parolees and probationers from the LAPD FDR since their status is listed as an authority for a search. In the stop database, there were 22,603 parolees/probationers searches. However, this alternative was not used as a control variable in our analyses either since it was already being accounted for in the search outcome variable. As noted in Section B.2.1, parolees/probationers is one of the three higher discretion searches included in the higher discretion search outcome.

B.2.8 LAPD Officers

Officer data contain background information on LAPD officers. The officer database includes the following information about each officer:

- identification number;
- birth date;
- race;
- gender;
- employment start date with the LAPD;

- rank;
- unit number to which officer was assigned; and
- start and end dates of assignment to the unit.

Because officers are often assigned to more than one unit and obtain various ranks during their careers with the LAPD, there are multiple entries for some officers in the officer database. The officer database provided to Analysis Group contains 45,992 observations and covers employment from December 1, 1951 through September 27, 2004. These observations correspond to 14,404 unique officer identification numbers.

In the stop database, six stops are missing officer identification numbers. In addition, officer identification numbers listed on the FDRs could not be found for 1,277 of the stops (0.2 percent of all stops). These stops correspond to 286 unique officer identification numbers, which is only five percent of the 6,105 unique officer identification numbers in the stop database.

There are a number of officer characteristics used in post-stop analyses. These include:

- Officer age – Officer age is calculated as the difference between the date of the stop and the officer's date of birth. Date of birth was available for all but 741 stops (0.1 percent of all stops).
- Officer gender – Officer gender is indicated in the officer database as male or female and is coded as a dummy variable, with 1 denoting male and 0 denoting female. Approximately nine percent of the stops were made by female officers and 91 percent by male officers. Gender of the officer was available for all but 883 stops (0.1 percent of all stops).
- Officer race – There are six race categories for officers: black, Hispanic, Asian, white, American Indian, and Filipino. In the stop database, 12 percent of the suspects are stopped by black officers, 36 percent by Hispanic officers, 6 percent by Asian officers, 43 percent by white officers, 0.8 percent by American Indian officers, and 2 percent by Filipino officers. For the post-stop analyses, we have merged Filipino into Asian. Therefore, five officer race categories are coded as four dummy variables (white was set as the baseline), where 1 indicates that the officer was of that particular race and 0 indicates the officer was not. There are 885 stops without officer race information.
- Length of service – Length of service is measured as the number of months an officer has served with the LAPD when a stop occurred. The length of service is available for all but 1,129 stops (0.1 percent of all stops)

B.2.9 Specialized Enforcement Units

The LAPD has specialized units that focus on gangs and career/wanted criminals. Since officers assigned to these units focus on specific types of criminal activity, it may be important to separate them from officers that do not focus on such activities.

This is especially true for officers assigned to the gang units. Although gang unit officers record data on stops, their stop activity is very different from that of non-gang officers. First, because gang unit officers are focused on gangs, they make fewer non-gang-related stops or respond to fewer calls for service than patrol officers. Second, because gangs in Los Angeles have tended to proliferate mostly among young, male minorities,[69] it is likely that gang officers will stop and conduct post-stop activities more often for young, male minorities. In order to account for the unique stop patterns of gang officers, Analysis Group has analyzed gang officers separately from non-gang officers. As noted in Section B.2.3, stop activity of gang officers (i.e., the number of stops by gang officers in different geographic areas) may also serve as a proxy for gang activity and thus may be included as a control variable in various analyses.

The City provided Analysis Group with data on gang officers from the SEU database. The SEU officer database contains the following information on gang officers:

- officer identification number;
- area assignment; and
- assignment start and end dates.

The SEU officer database provided to Analysis Group includes 955 records and covers assignments for March 2000 through April 2005. In the stop database, 46,790 stops (approximately six percent of all stops) were made by 456 unique gang officers (approximately 0.06 percent of unique officers in the stop database).

B.2.10 Police Deployment

Police deployment data provide information on the deployment of LAPD units. These data provide the number of officers assigned to a given area, day, and time. Generally, the deployment of non-gang officers is done by area and determined by demand for police services, crime, population served, size of geographic area covered, and response time. For each shift (i.e., day and time) in an area, cars are initially assigned to a "basic car area," which encompasses a group of RDs. Although

[69] *See* footnote 66.

officers are assigned a particular area, they are sometimes dispatched to other adjacent areas when the need arises.

The deployment of some centralized LAPD entities, such as Metro and the Community Safety Operations Center, are done on a citywide basis based on crime and specific community issues and concerns. Officers in these entities are not necessarily assigned to a specific area but rather a police bureau, which is made up of multiple areas.

The deployment database contains the following information:

- unit identification;
- start date of the unit's deployment;
- end date of the unit's deployment;
- time of the deployment;
- area to which the unit is deployed;
- number of officers deployed; and
- identification numbers of the deployed officers.

The police deployment database contains 941,843 units deployed from January 1, 2002 through July 26, 2004.

Deployment data was originally conceived by Analysis Group as a potential control variable for analyzing *stop* patterns across geographic areas. Given that we are no longer analyzing stops, deployment data was excluded from all post-stop analyses.

B.2.11 Officer Commendations

Officer commendations data enumerate all police department awards received by LAPD officers. These data are contained in two databases: major commendations and minor commendations. Major commendations include medals for extraordinary acts. Minor commendations include more routine performance awards. Officer commendations may be used as control variables in order to help explain officer post-stop actions.

The major commendations database includes the following information:

- officer identification number;
- type of commendation;
- initiator of commendation (i.e., department or public);
- date of the event for which the commendation is awarded; and
- date the commendation was awarded.

Because officers may receive more than one commendation, multiple entries exist for some officers in the major commendations database. The major commendations database provided to Analysis Group contains 323 major commendations corresponding to 312 unique officers from July 1, 2001 through June 30, 2003, a two-year period prior to the relevant stop data period (July 1, 2003 through June 30, 2004). For the control variable, we used the number of major commendations received by an officer to help explain post-stop outcomes.

The minor commendations database includes the following information:

- officer identification number;
- type of commendation;
- initiator of commendation (i.e., department or public); and
- date the commendation was reported.

Again officers may receive more than one commendation. Thus, there may be multiple entries for an officer. The minor commendations database provided to Analysis Group contains 31,664 minor commendations corresponding to 7,549 unique officers from July 1, 2002 through June 30, 2003, a one-year period prior to the relevant stop data period (July 1, 2003 through June 30, 2004). For the control variable, we used the number of minor commendations received by an officer to help explain post-stop outcomes. However, minor commendations did not contribute to the explanation of any post-stop outcomes. Therefore, it was excluded from all of the post-stop analyses.

B.2.12 Complaints

The complaints data contain information regarding all complaints filed against LAPD officers. This includes sustained and guilty complaints (i.e., complaints where wrongdoing was found on the part of an officer and there was a resulting action against them),[70] complaints not sustained (i.e., complaints where no wrongdoing was found on the part of an officer), and pending complaints. The number of complaints was tried as a control variable in order to help explain officer post-stop activities.

The complaint database includes the following information about each complaint:

- date of the officer action for which the complaint was filed;
- date of complaint;
- date the complaint was closed;
- source of complaint;

[70] The complaint database distinguishes between complaints where wrongdoing was determined internally by the department (termed "sustained") and those determined by an independent review (termed "guilty"). For simplicity, this report refers to both types of resolutions as sustained.

- officer identification number, bureau, division, and rank;
- complaint classification;
- result of complaint;
- penalty received, if any; and
- penalty length, if any.

There are some potential limitations inherent in complaint data. First, given the seriousness with which complaints are handled by the department and potentially lengthy administrative processes, it can take a significant amount of time to resolve a complaint.[71] Second, officer identification numbers for 1,790 of the complaints could not be identified. Third, the number of sustained complaints is relatively low. From July 1, 2001 through June 30, 2003, a two-year period before the relevant stop data period, there are 14,196 complaints against 5,083 officers. However, there were only 2,630 misconduct allegations sustained against 1,985 officers in this time period (19 percent of all allegations filed in the time period). Also, 68 sustained misconduct allegations do not have officer identification numbers.

Three complaints variables, total number of complaints, total number of sustained complaints, and total number of guilty complaints, were tried as control variables in order to see if they help explain officer post-stop activities. However, because total number of sustained complaints and total number of guilty complaints were highly correlated, they were excluded from all post-stop analyses. Thus, only total number of complaints remains as a control variable.

B.2.13 Calls for Service

In terms of measuring the public demand for police services, we investigated using public calls for service to the LAPD. However, public calls for service were not maintained in a separate database. Instead, they were included in a calls for service database that includes data on all LAPD dispatch calls (i.e., to and from officers). Therefore, it includes calls from the public (primarily 911 calls) and officer calls to dispatch during their shifts. For each call for service, the following information is recorded: date, RD, and the reason for the call. Unfortunately, there was no identifier that distinguished between public calls for service and officer calls to dispatch.

Therefore, in order to identify the public calls for service, Analysis Group used the reasons for call. With assistance from the LAPD, we identified the reasons that were solely associated with officer calls to dispatch and exclude all calls that had those reasons. Reasons distinguishable as officer calls to

[71] There is a one-year statute of limitations on misconduct complaint investigations, which can be extended in certain circumstances (per City Charter, Section 1070).

dispatch included related to: making traffic stops, pursuing suspects, requesting assistance, requesting backup, and notifying dispatch when they are not available for calls (e.g., lunch breaks).

From July 1, 2003 through June 30, 2004, there were 1,439,554 public calls for service. Of theses public calls for service, 14,906 calls (one percent of all public calls for service) did not have an RD number and 4,813 calls (0.3 percent) had invalid RD numbers.

In the post-stop analyses, we used the number of public calls for service resulting from incivility (i.e., reasons for the call included: possession of narcotics or any narcotic activity, public intoxication, disturbing the peace, or vandalism) and violence (i.e., reasons for the call included: murder, kidnapping, robbery, assault with a deadly weapon, shots being fired, or disturbing the peace with a gun) in an RD. These types of calls serve as important indicators of demand for police services and often drive police deployment and enforcement activities.

B.2.14 Use of Force

Use of force data include all incidents in which force was used by an LAPD officer on a suspect. Use of force data may provide an indication of the temperament of suspects and/or officers. They may also indicate areas where officers are likely to feel threatened, thus potentially affecting their stop and post-stop behavior.

The use of force database contains 57,804 use of force incidents by 14,563 officers between June 2, 1976 and November 26, 2004. In some cases, more than one officer is identified for an incident.

The use of force database includes all uses of force, as defined by the LAPD. Uses of force include physical force (e.g., wrist locks, kicks, and punches), impact devices (e.g., baton), chemical agents, TASERs, less-than-lethal devices (e.g., beanbag shotguns), and firearms.

The use of force database contains information about each use of force incident, including:

- incident date;
- area/division of occurrence;
- identification number of officers involved;
- type of force used;
- type of weapon used, if any;
- suspect characteristics such as gender, race, age, height, and weight; and
- arrest booking number.

Unfortunately, use of force data was not available in an electronic format that was usable in the post-stop analysis. In addition, there were other available data (e.g., shootings at officers, crime, and gang crime) that serve as indicators of areas where officers are likely to feel threatened.

B.3 Demographic, Economic, and Socioeconomic Data

Demographic, economic, and socioeconomic data provide descriptive information about the City of Los Angeles and its inhabitants. Some of these data were gathered and maintained by the City of Los Angeles in its regular course of business. Other information was publicly available through the U.S. Census Bureau.

B.3.1 Census Data

U.S. Census data, which was obtained from the U.S. Census Bureau, will be used to provide certain demographic information on the City of Los Angeles and its inhabitants. Census data will be used as to create control variables when analyzing post-stop outcomes across geographic areas.

The census data used in the post-stop analysis include:

- percentage of residents that are black;
- percentage of residents that are Hispanic;
- percentage of residents age 24 years and under;
- percentage of unemployed persons age 16 years and over;
- percentage of persons living below the poverty line;
- percentage of housing units occupied by homeowners;
- population density (persons per 100 square meters);
- percentage of divorced persons age 15 and over; and
- percentage of single-parent households.

Analysis Group used data from the 2000 decennial census because they were the most current data available. The census data are available at the census tract level. Because the stop data were collected at the LAPD RD level, we converted census data from census tracts to RDs. This was done using a LAPD translation table that identifies the RDs in each census tract in the City. For each RD that is wholly contained within a census tract, the values for census data were set equal to those values for the census tract in which it was contained. For RDs that are in more than one census tract, the values for census data were set equal to the average of the values for the census tracts in which the RD was contained.

One potential limitation of census data is that it may undercount minorities (*see* Section 2.3.9.1 of the Proposed Pedestrian and Motor Vehicle Stop Data Analyses Methodology Report, January 2005). If this is the case, then it calls into question the validity of census data. While adjustments to census data have been proposed in order to eliminate these undercounts (e.g., Accuracy and Coverage Evaluation Survey [A.C.E.]), the U.S. Department of Commerce has repeatedly decided against it and this decision has been upheld in the courts.

B.3.2 Sales Volume

The sales volume data provided to Analysis Group by the City of Los Angeles consist of total gross receipts and retail gross receipts by zip code by fiscal year. These data are a measure of economic activity. They indicate commercial areas where there may be more people during certain times of day.

Since the data are identified by zip code, they required conversion to RD in order to be used in any analysis of stop data. The conversion of sales volume was a two-step process. First, sales volume by zip code was converted to sales volume by census tracts using a translation table obtained from the U.S. Census Bureau. Second, sales volume by census tracts was converted to RDs. This second step utilized the LAPD translation table discussed in Section C.3.1. Using this table, sales volume in each census tract was divided evenly across the RDs within the census tract. For RDs that are in more than one census tract, sales volume equals the sum of the allocations from each tract it is in.

One possible limitation to these data is that sales volume data were not provided for zip codes with three or less business tax registration certificates. This was done to protect individual licensees' confidential information.

For the fiscal year 2004, which runs from July 1, 2003 through June 30, 2004, total sales volume and retail sales volume were provided for 128 and 122 zip codes, respectively, of the 157 zip codes in the City.

Upon further review of the sales volume data, we concluded that they would not be included in the post-stop analysis because there were too many zip codes that were missing data (for total sales volume, 18 percent of the zip codes were missing data; for retail sales volume, 22 percent of the zip codes were missing data).

B.3.3 Business Tax Registration Certificates

The business tax registration certificates database consists of the number of tax registration certificates in each zip code within the City. There are two counts given for each zip code: the total

number of certificates and the number of retail certificates only. These data are measures of economic activity across geographic areas and possible indicators of commercial and residential areas.

Since business tax registration certificates data are identified by zip code, they must be converted to RD. Analysis Group will use the same conversion process as described for sales volume data.

For the fiscal year 2004, total business tax registration certificates and retail business tax registration certificates were provided for all 157 zip codes in the City. This data was used to develop business tax registration certificates control variables.

B.3.4 Vacant/Abandoned Buildings

The vacant/abandoned buildings database identifies properties that became vacant or abandoned from July 1, 2003 through June 30, 2004. The vacant/abandoned buildings database includes the RD of each property and the date, if any, when the property was boarded up.

The vacant/abandoned buildings database provided to Analysis Group includes 586 records between July 1, 2003 and June 30, 2004. This data was used to develop a vacant/abandoned buildings control variable, which was measured as the number of observations per RD.

B.3.5 Traffic Volume

Traffic volume data measure the amount of traffic on roads. These data may be useful in identifying areas with a greater number of vehicles and potential for more violations.

In the City of Los Angeles, traffic volume data are collected in order to assist with traffic planning. However, these data are collected on an as-needed basis (e.g., for traffic safety and new development concerns). Therefore, not all roads in the City are included and the available data are not likely to be representative of actual traffic volume on all roads. As a result, these data are not usable in our analyses.

B.3.6 Other Economic Indicators

As previously noted, measures of economic activity may be useful control variables in analyses of stop data. Such measures that were provided to Analysis Group were sales volume and business tax registration certificates data. Measures of economic activity that were not available or useable include business tax collections and vacant retail/office space.

Business tax collections data measure the amount of business taxes paid to the City of Los Angeles. Vacant retail/office space data measure the amount of commercial property that is

unoccupied in the City of Los Angeles. Both of these types of data were not available from the City. Therefore, Analysis Group considered the other measures of economic activity that were available.

B.3.7 Other Measures of Disorder/Physical Decay in the City

Measures of disorder and physical decay in the City may also be useful control variables in analyses of stop data. One such measure, vacant/abandoned buildings, was provided to Analysis Group. Measures of disorder that were not available or in a usable format include health and safety code violations, abandoned vehicles towed, burned out streetlights, missing or broken signs, and graffiti.

Data for health and safety code violations, abandoned vehicles towed, missing or broken signs, and graffiti were not available in a usable format. Data for burned out streetlights were only available by street and could not be readily aggregated to RDs. As a result of the unavailability of these data, Analysis Group included vacant/abandoned buildings as a measure of disorder and physical decay.

APPENDIX C: SUMMARY STATISTICS FOR VARIABLES USED IN THE POST-STOP ANALYSIS

(see the following pages)

Table C
Descriptive Statistics by LAPD

		Census Demographics [2]										
Division	Name	White	Hispanic	Black	Other	24 and Under	Divorced [3]	Single Parent Households	Below Poverty Line [4]	Owner Occupied Housing [5]	Unemployed [6]	Density [7]
1	Central	12.6%	34.6%	17.5%	35.3%	26.1%	11.4%	4.7%	39.6%	7.6%	22.6%	36.4
2	Rampart	6.6%	71.9%	3.8%	17.8%	41.3%	6.0%	15.3%	36.4%	7.6%	12.1%	122.1
3	Southwest	5.5%	45.4%	42.1%	7.1%	44.4%	8.7%	17.0%	30.9%	30.3%	13.5%	54.0
4	Hollenbeck	4.4%	82.9%	2.5%	10.3%	44.1%	6.4%	15.4%	29.6%	33.3%	11.7%	44.3
5	Harbor	27.2%	56.1%	6.3%	10.4%	40.3%	9.3%	12.9%	20.6%	42.2%	8.1%	25.0
6	Hollywood	49.0%	33.8%	3.9%	13.3%	28.0%	8.2%	6.3%	22.7%	21.0%	9.7%	37.2
7	Wilshire	20.5%	40.5%	16.2%	22.8%	33.8%	8.6%	10.5%	23.9%	20.7%	9.5%	69.0
8	West Los Angeles	68.6%	11.1%	3.7%	16.6%	29.7%	8.8%	4.0%	13.3%	45.8%	5.6%	14.1
9	Van Nuys	41.4%	43.2%	4.9%	10.5%	35.5%	9.9%	10.7%	18.3%	37.2%	7.9%	35.7
10	West Valley	57.6%	25.9%	3.3%	13.2%	32.1%	9.7%	8.0%	11.5%	59.4%	6.3%	19.8
11	Northeast	25.2%	52.8%	2.2%	19.7%	35.2%	7.6%	9.7%	18.2%	39.5%	8.3%	31.3
12	77th Street	1.1%	46.4%	50.5%	2.0%	45.2%	9.4%	20.5%	32.4%	43.5%	14.7%	58.1
13	Newton Street	1.2%	82.3%	15.0%	1.5%	52.0%	4.7%	21.3%	40.0%	26.8%	14.4%	60.9
14	Pacific [1]	50.4%	24.9%	8.5%	16.1%	28.5%	11.0%	6.4%	13.6%	36.1%	6.6%	29.6
15	North Hollywood	38.9%	46.9%	4.2%	10.1%	35.5%	9.3%	9.2%	18.4%	37.1%	9.0%	35.6
16	Foothill	24.3%	63.5%	4.6%	7.6%	42.2%	7.7%	11.0%	15.4%	67.0%	8.5%	17.4
17	Devonshire	42.2%	35.7%	4.4%	17.7%	37.7%	7.5%	9.7%	14.5%	58.8%	7.5%	20.3
18	Southeast	1.5%	56.5%	39.0%	3.0%	50.9%	6.4%	24.0%	38.3%	40.5%	17.2%	53.2

Notes:

1. Includes Reporting District 1494, which contains the Los Angeles International Airport.
2. According to 2000 Census data.
3. Base population is persons age 15 and over.
4. Population with income below poverty level in 1999.
5. Base population is homeowners.
6. Base population is persons age 16 and over.
7. Persons per 100 square meters.

Table C
Descriptive Statistics by LAPD

Division	Name	Number of RDs	Number of Officers	Stops	Gang Stops	Stops During Weekends	Stops at Night	Average Number of Suspects Interacting with the Officer	Calls for Service Due to Incivility	Calls for Service Due to Violence
1	Central	52	433	48,373	1,271	19,106	14,054	1.41	16,820	5,094
2	Rampart	46	323	40,010	2,011	17,518	15,322	1.41	35,241	8,771
3	Southwest	54	408	38,349	5,707	15,093	12,832	1.37	27,206	10,873
4	Hollenbeck	54	121	24,732	2,479	10,074	8,241	1.40	18,737	5,632
5	Harbor	41	175	32,482	2,676	12,647	11,136	1.41	22,071	5,240
6	Hollywood	42	274	58,618	1,855	24,738	26,879	1.29	32,249	6,488
7	Wilshire	74	187	58,338	2,220	23,373	19,106	1.29	29,037	7,002
8	West Los Angeles	62	116	47,700	880	13,561	10,950	1.18	21,221	2,729
9	Van Nuys	51	393	49,986	1,143	16,702	13,539	1.25	27,241	5,158
10	West Valley	81	164	42,558	1,384	14,583	13,312	1.30	24,109	5,178
11	Northeast	57	95	31,040	2,692	12,186	9,532	1.32	25,050	5,908
12	77th Street	36	159	43,489	7,528	18,308	17,593	1.51	23,356	12,527
13	Newton Street	35	105	32,509	2,665	13,863	11,895	1.35	19,911	8,343
14	Pacific [1]	73	203	105,075	1,839	45,475	31,459	1.53	24,625	3,720
15	North Hollywood	59	103	31,855	931	10,595	11,907	1.27	25,041	5,452
16	Foothill	80	124	39,825	2,254	15,702	17,369	1.42	23,521	6,247
17	Devonshire	84	114	48,066	3,156	18,676	18,005	1.34	23,590	6,047
18	Southeast	28	74	27,496	3,245	12,357	11,051	1.53	17,710	10,693

Note:

1. Includes Reporting District 1494, which contains the Los Angeles International Airport.

Table C
Descriptive Statistics by LAPD

		Stop Outcomes											
Division	Name	Arrests	Warrant Arrests	Violent Arrests	DUI Arrests	Citations	Suspended License Citations	Other Lower Discretion Citations	Officer Requests to Exit the Vehicle	Pat-Downs /Frisks	Higher Discretion Searches	No Action Taken	Requests for Consent to Search
1	Central	10,251	2,126	429	171	28,640	459	1,475	2,942	13,714	2,573	810	4,390
2	Rampart	9,328	1,577	550	378	21,819	699	2,449	5,685	16,273	3,077	1,020	5,500
3	Southwest	3,913	609	198	170	24,450	1,109	1,887	5,030	12,916	4,123	776	5,342
4	Hollenbeck	3,637	458	157	396	14,525	485	1,824	3,614	7,434	2,497	592	3,310
5	Harbor	4,128	532	193	327	18,798	580	1,379	4,046	12,212	3,898	1,055	4,512
6	Hollywood	9,460	894	251	891	39,297	881	2,350	6,357	12,026	3,230	1,071	5,207
7	Wilshire	6,016	703	401	391	41,713	1,190	2,807	6,272	12,872	2,945	1,616	6,377
8	West Los Angeles	3,332	182	152	189	38,960	393	692	1,876	4,373	1,095	345	1,662
9	Van Nuys	5,630	473	284	576	36,062	781	1,883	4,790	10,584	2,607	1,144	4,614
10	West Valley	5,264	435	216	504	30,045	856	1,712	4,784	9,166	2,091	1,374	3,651
11	Northeast	4,050	377	261	285	21,477	631	1,406	3,260	7,359	1,891	527	3,339
12	77th Street	6,108	1,335	511	484	19,754	929	2,353	7,902	21,200	7,310	1,422	8,701
13	Newton Street	4,222	830	322	411	19,385	809	3,110	6,318	12,597	3,686	888	4,293
14	Pacific [1]	8,527	383	255	445	85,973	1,164	1,625	4,702	8,497	2,467	1,074	3,337
15	North Hollywood	5,124	472	292	528	20,590	505	1,341	3,670	7,618	1,771	825	3,370
16	Foothill	6,289	589	268	900	22,380	864	1,838	6,569	13,970	3,456	1,901	7,016
17	Devonshire	7,831	892	385	660	30,071	913	2,119	6,022	13,921	3,289	2,048	6,538
18	Southeast	4,209	759	303	221	13,242	777	1,591	5,612	13,887	3,162	1,224	4,557

Note:

1. Includes Reporting District 1494, which contains the Los Angeles International Airport.

Table C
Descriptive Statistics by LAPD

		Initial Reason for Stop										
Division	**Name**	**Call for Service**	**Consensual**	**Department Briefing**	**Health and Safety Violation**	**Moving Vehicle Violation**	**Municipal Violation**	**Pedestrian Vehicle Violation**	**Penal Violation**	**Equipment/ Registration Vehicle Violation**	**Suspect Flight**	**Other Reason**
1	Central	5.9%	3.4%	0.4%	4.0%	23.7%	16.3%	26.4%	3.5%	15.2%	0.1%	1.2%
2	Rampart	8.8%	4.7%	0.7%	4.1%	35.5%	10.3%	10.6%	5.4%	17.7%	0.2%	2.1%
3	Southwest	3.6%	3.9%	0.8%	1.6%	43.5%	7.6%	5.9%	3.6%	27.8%	0.3%	1.4%
4	Hollenbeck	6.3%	2.7%	1.1%	2.8%	49.9%	7.9%	4.3%	4.2%	17.8%	0.5%	2.5%
5	Harbor	5.6%	5.2%	2.5%	2.2%	43.4%	8.6%	4.3%	3.7%	21.9%	0.3%	2.3%
6	Hollywood	4.0%	2.6%	0.5%	1.0%	43.1%	8.8%	5.0%	5.2%	29.0%	0.1%	0.9%
7	Wilshire	5.7%	3.0%	0.4%	0.7%	45.8%	5.3%	4.0%	3.0%	30.9%	0.1%	1.1%
8	West Los Angeles	5.3%	0.7%	0.4%	0.3%	66.9%	5.0%	3.1%	1.4%	16.1%	0.1%	0.7%
9	Van Nuys	7.3%	1.8%	0.6%	1.0%	61.9%	4.1%	3.6%	3.4%	14.9%	0.1%	1.3%
10	West Valley	9.1%	1.5%	0.5%	1.0%	55.6%	4.6%	2.6%	2.3%	20.8%	0.1%	1.8%
11	Northeast	8.0%	1.7%	0.6%	1.0%	48.3%	7.7%	3.9%	3.8%	23.1%	0.3%	1.4%
12	77th Street	5.6%	6.0%	1.4%	3.8%	39.6%	6.6%	7.7%	7.4%	19.4%	0.9%	1.6%
13	Newton Street	5.5%	3.3%	0.7%	3.2%	43.7%	5.1%	8.6%	4.7%	24.0%	0.3%	0.9%
14	Pacific [1]	2.6%	0.9%	0.5%	0.6%	34.0%	5.3%	1.8%	1.1%	50.9%	0.1%	2.3%
15	North Hollywood	8.4%	2.4%	0.4%	1.1%	57.8%	5.7%	2.7%	4.0%	15.1%	0.2%	2.3%
16	Foothill	7.7%	4.4%	1.2%	1.2%	44.0%	6.4%	2.6%	4.3%	25.7%	0.4%	2.1%
17	Devonshire	11.2%	4.4%	0.6%	1.8%	50.3%	6.8%	3.5%	3.5%	16.3%	0.2%	1.5%
18	Southeast	6.2%	3.3%	1.7%	2.8%	32.9%	9.7%	5.5%	7.1%	28.2%	1.0%	1.7%

Note:

1. Includes Reporting District 1494, which contains the Los Angeles International Airport.

Table C
Descriptive Statistics by LAPD

		Officer Data				Officer Race					Officer Type				Officer Gender	
Division	Name	Average Officer Age [2]	Average Months of Service [2]	Complaints Against Officers [3]	Major Commendations [3]	American Indian	Asian	Black	Hispanic	White	Patrol	Traffic	Gang	Other	Male	Female
1	Central	36	115	729	16	0.7%	9.3%	9.3%	40.8%	34.0%	75.1%	9.0%	1.6%	14.3%	84.1%	15.9%
2	Rampart	35	103	561	11	0.3%	12.4%	12.4%	47.0%	29.5%	79.3%	6.5%	6.2%	8.0%	84.4%	15.6%
3	Southwest	34	95	603	12	0.0%	11.0%	11.0%	35.3%	35.5%	81.1%	9.6%	4.9%	4.4%	83.8%	16.3%
4	Hollenbeck	37	134	215	2	0.0%	5.0%	5.0%	64.2%	25.0%	86.8%	6.6%	6.6%	0.0%	83.3%	16.7%
5	Harbor	36	121	185	8	0.6%	9.5%	9.5%	32.7%	50.0%	93.1%	2.9%	1.7%	2.3%	79.2%	20.8%
6	Hollywood	36	115	500	3	0.8%	8.6%	8.6%	33.1%	44.0%	74.1%	20.1%	3.3%	2.6%	79.7%	20.3%
7	Wilshire	36	114	269	4	0.6%	8.3%	8.3%	35.4%	38.1%	80.2%	11.2%	3.2%	5.3%	81.8%	18.2%
8	West Los Angeles	38	129	137	4	0.0%	10.6%	10.6%	28.3%	47.8%	83.6%	10.3%	2.6%	3.4%	80.5%	19.5%
9	Van Nuys	36	111	693	9	0.3%	7.5%	7.5%	31.6%	53.0%	79.9%	13.0%	4.1%	3.1%	83.0%	17.0%
10	West Valley	36	120	243	4	0.6%	7.5%	7.5%	28.6%	55.3%	87.8%	5.5%	4.3%	2.4%	81.4%	18.6%
11	Northeast	38	140	154	1	0.0%	6.4%	6.4%	42.6%	39.4%	84.2%	6.3%	6.3%	3.2%	86.2%	13.8%
12	77th Street	36	116	234	9	1.3%	6.5%	6.5%	38.6%	41.8%	87.4%	3.8%	2.5%	6.3%	77.1%	22.9%
13	Newton Street	37	132	132	3	0.0%	5.1%	5.1%	37.4%	46.5%	83.8%	6.7%	6.7%	2.9%	79.0%	21.0%
14	Pacific [1]	37	137	213	2	0.5%	6.3%	6.3%	32.8%	45.0%	72.9%	20.7%	2.5%	3.9%	73.5%	26.5%
15	North Hollywood	37	137	125	1	1.0%	6.1%	6.1%	41.4%	41.4%	88.3%	4.9%	2.9%	3.9%	79.8%	20.2%
16	Foothill	38	142	171	5	1.7%	9.9%	9.9%	30.6%	47.9%	87.1%	3.2%	2.4%	7.3%	74.4%	25.6%
17	Devonshire	37	135	136	1	0.0%	7.5%	7.5%	30.2%	55.7%	93.9%	2.6%	0.9%	2.6%	81.1%	18.9%
18	Southeast	37	139	194	6	0.0%	8.3%	8.3%	34.7%	48.6%	82.4%	1.4%	6.8%	9.5%	76.4%	23.6%

Notes:

1. Includes Reporting District 1494, which contains the Los Angeles International Airport.
2. As of the stop date.
3. From July 1, 2001 through June 30, 2003.

Table C
Descriptive Statistics by LAPD

		Suspect Gender		Suspect Race					
Division	Name	Male	Female	American Indian	Asian	Black	Hispanic	White	Other
1	Central	77.6%	22.4%	0.1%	6.8%	39.9%	36.5%	15.4%	1.3%
2	Rampart	80.5%	19.5%	0.2%	8.9%	16.5%	60.2%	13.2%	0.9%
3	Southwest	73.4%	26.6%	0.1%	1.8%	66.5%	26.7%	4.6%	0.3%
4	Hollenbeck	78.4%	21.6%	0.0%	4.1%	2.7%	86.8%	5.9%	0.4%
5	Harbor	77.2%	22.8%	0.1%	3.7%	13.1%	58.4%	24.1%	0.6%
6	Hollywood	75.0%	25.0%	0.3%	6.1%	16.9%	29.1%	45.2%	2.4%
7	Wilshire	73.4%	26.6%	0.2%	16.3%	26.5%	34.7%	20.6%	1.7%
8	West Los Angeles	67.4%	32.6%	0.1%	7.0%	11.4%	17.3%	59.8%	4.4%
9	Van Nuys	69.3%	30.7%	0.2%	4.7%	10.0%	41.1%	41.9%	2.0%
10	West Valley	68.6%	31.4%	0.1%	4.9%	7.7%	32.4%	51.1%	3.8%
11	Northeast	75.1%	24.9%	0.1%	8.0%	6.6%	55.1%	28.2%	2.0%
12	77th Street	76.5%	23.5%	0.1%	0.4%	73.3%	24.3%	1.7%	0.1%
13	Newton Street	82.6%	17.4%	0.1%	2.0%	36.5%	57.4%	3.6%	0.4%
14	Pacific [1]	69.6%	30.4%	0.3%	12.5%	16.0%	22.8%	46.5%	2.0%
15	North Hollywood	73.7%	26.3%	0.1%	3.2%	8.2%	45.0%	41.5%	1.9%
16	Foothill	76.3%	23.7%	0.1%	2.8%	9.2%	63.2%	23.5%	1.2%
17	Devonshire	71.9%	28.1%	0.2%	5.7%	10.2%	45.1%	37.4%	1.5%
18	Southeast	78.8%	21.2%	0.1%	0.6%	68.1%	29.3%	1.8%	0.2%

Note:

1. Includes Reporting District 1494, which contains the Los Angeles International Airport.

Table C
Descriptive Statistics by LAPD

		Suspect Age Range						Suspect Type		
Division	Name	1 - 17	18 - 25	26 - 35	36 - 45	46 - 55	56 or Above	Drivers	Passengers	Pedestrians
1	Central	1.6%	16.4%	26.4%	29.9%	19.1%	6.6%	35.7%	1.5%	62.7%
2	Rampart	5.0%	26.3%	29.7%	22.8%	11.8%	4.4%	51.0%	4.0%	45.0%
3	Southwest	8.2%	32.6%	24.9%	19.6%	10.0%	4.7%	65.7%	5.0%	29.3%
4	Hollenbeck	8.0%	30.0%	27.3%	19.5%	10.4%	4.9%	66.0%	4.4%	29.6%
5	Harbor	12.1%	28.8%	24.6%	20.5%	9.7%	4.3%	60.5%	4.5%	35.0%
6	Hollywood	3.2%	29.3%	32.8%	20.6%	9.8%	4.3%	70.7%	2.8%	26.5%
7	Wilshire	6.0%	25.9%	29.3%	21.4%	11.4%	6.0%	74.7%	3.4%	22.0%
8	West Los Angeles	3.9%	20.5%	25.7%	23.0%	16.5%	10.3%	82.6%	1.4%	16.0%
9	Van Nuys	5.9%	25.4%	27.9%	21.9%	12.3%	6.6%	77.0%	2.8%	20.2%
10	West Valley	7.8%	27.6%	24.2%	20.8%	12.3%	7.2%	76.8%	3.7%	19.4%
11	Northeast	8.1%	27.7%	27.0%	20.1%	11.1%	5.9%	71.1%	3.5%	25.4%
12	77th Street	9.2%	33.1%	24.7%	20.0%	9.9%	3.1%	52.3%	7.2%	40.6%
13	Newton Street	6.3%	31.3%	27.1%	21.4%	10.2%	3.7%	62.1%	5.5%	32.4%
14	Pacific [1]	3.5%	21.9%	29.9%	23.0%	14.2%	7.6%	84.6%	1.6%	13.8%
15	North Hollywood	5.5%	26.1%	29.0%	22.3%	11.5%	5.6%	72.3%	3.7%	23.9%
16	Foothill	8.5%	32.7%	25.8%	19.5%	9.6%	3.9%	67.9%	7.1%	25.1%
17	Devonshire	10.6%	31.4%	24.9%	18.9%	9.5%	4.7%	66.6%	3.8%	29.6%
18	Southeast	10.6%	35.0%	24.8%	17.9%	9.1%	2.7%	55.0%	6.6%	38.4%

Note:

1. Includes Reporting District 1494, which contains the Los Angeles International Airport.

Table C
Descriptive Statistics by LAPD

Division	Name	Property Crimes per 10,000 People	Violent Crimes per 10,000 People	Business Registration Certificates	Retail Business Registration Certificates	Vacant/ Abandoned Buildings	Number of RDs with Shootings at Officers
1	Central	1,106	401	14,672	14,512	10	0
2	Rampart	270	102	13,198	5,956	19	4
3	Southwest	487	154	7,328	2,172	47	5
4	Hollenbeck	291	72	5,315	2,499	18	2
5	Harbor	271	67	6,957	3,624	11	6
6	Hollywood	445	114	14,432	6,672	34	0
7	Wilshire	359	91	20,665	7,613	19	5
8	West Los Angeles	294	35	23,614	13,922	23	1
9	Van Nuys	343	56	18,134	8,305	26	2
10	West Valley	308	44	29,127	13,156	28	2
11	Northeast	302	60	12,372	3,681	32	3
12	77th Street	401	204	5,533	1,088	62	6
13	Newton Street	470	167	6,735	3,947	61	8
14	Pacific [1]	409	43	14,205	7,097	11	1
15	North Hollywood	391	59	17,268	5,912	29	0
16	Foothill	256	59	11,616	5,826	25	4
17	Devonshire	345	55	17,578	7,734	27	4
18	Southeast	382	218	2,414	672	64	7

Note:

1. Includes Reporting District 1494, which contains the Los Angeles International Airport.

APPENDIX D: SUMMARY OF POST-STOP ANALYSIS RESULTS FOR NON-GANG OFFICERS

(see the following pages)

Table D1
Non-Gang Officer Analysis
Likelihood of Arrest
Controlling for Factors Other Than Race

		White	Hispanic		Black		Asian, American Indian, and Other [5]	
Division	Name	*Likelihood of Arrest*	*Likelihood of Arrest*	*Likelihood Relative to White*	*Likelihood of Arrest*	*Likelihood Relative to White*	*Likelihood of Arrest*	*Likelihood Relative to White*
1	Central	9.5%	10.1%		12.7%	More Likely **	6.4%	Less Likely **
2	Rampart	11.6%	10.5%		13.8%	More Likely **	10.6%	
3	Southwest	2.9%	4.1%		4.6%	More Likely **	4.3%	
4	Hollenbeck	5.5%	6.9%		5.0%		3.5%	
5	Harbor	5.0%	6.1%	More Likely **	5.5%		3.5%	Less Likely *
6	Hollywood	5.5%	6.9%	More Likely **	6.0%		4.8%	Less Likely *
7	Wilshire	3.1%	3.9%	More Likely *	4.2%	More Likely **	3.4%	
8	West Los Angeles	2.9%	3.4%		3.1%		1.7%	Less Likely **
9	Van Nuys	4.4%	5.7%	More Likely **	4.4%		5.7%	More Likely **
10	West Valley	5.7%	6.5%	More Likely **	6.5%	More Likely *	4.4%	Less Likely **
11	Northeast	4.7%	6.5%	More Likely **	5.5%		4.4%	
12	77th Street	6.5%	8.4%		7.9%		8.2%	
13	Newton Street	5.3%	6.7%		6.8%		3.4%	
14	Pacific [6]	3.1%	4.0%	More Likely **	3.4%	More Likely *	2.0%	Less Likely **
15	North Hollywood	6.3%	8.8%	More Likely **	6.5%		7.3%	
16	Foothill	7.5%	9.7%	More Likely **	8.4%		5.7%	Less Likely *
17	Devonshire	6.6%	9.3%	More Likely **	7.1%		6.4%	
18	Southeast	4.8%	7.9%	More Likely **	8.3%	More Likely **	7.1%	
	RD containing LAX	0.1%	0.1%		0.0%		0.1%	

Notes:

1. Likelihood of Arrest represents the percentage of people for a given race who would be arrested as predicted by the regression model. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be arrested relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 2.0% American Indians, 76.7% Asians, and 21.3% races other than American Indian or Asian. The Reporting District containing the Los Angeles International Airport ("LAX") has the following racial breakdown: 1.1 % American Indians, 88.0% Asians, and 10.9% races other than American Indian or Asian.
6. Excludes Reporting District 1494, which contains LAX.
7. Mission Division was not created until April 2005 and, therefore, is not included in the analysis.

Table D2
Non-Gang Officer Analysis
Likelihood of Arrest Excluding Warrant, Violent, and DUI Arrests
Controlling for Factors Other Than Race

		White	Hispanic		Black		Asian, American Indian, and Other [5]	
Division	Name	*Likelihood of Arrest*	*Likelihood of Arrest*	*Likelihood Relative to White*	*Likelihood of Arrest*	*Likelihood Relative to White*	*Likelihood of Arrest*	*Likelihood Relative to White*
1	Central	4.9%	5.3%		6.5%	More Likely **	3.5%	Less Likely **
2	Rampart	5.5%	5.2%		6.6%	More Likely *	4.6%	
3	Southwest	1.6%	1.8%		1.9%		2.1%	
4	Hollenbeck	2.3%	2.6%		1.7%		1.5%	
5	Harbor	2.7%	3.1%		2.6%		2.0%	
6	Hollywood	2.3%	3.1%	More Likely **	2.6%	More Likely *	2.0%	Less Likely *
7	Wilshire	1.6%	1.9%		2.0%		1.8%	
8	West Los Angeles	1.7%	1.7%		1.6%		0.9%	Less Likely **
9	Van Nuys	1.8%	2.1%	More Likely **	1.8%		2.7%	More Likely **
10	West Valley	3.0%	3.2%		3.3%		2.7%	
11	Northeast	2.1%	2.8%	More Likely **	2.5%		2.0%	
12	77th Street	2.8%	3.4%		3.0%		3.9%	
13	Newton Street	2.3%	2.4%		2.3%		1.9%	
14	Pacific [6]	2.0%	2.5%	More Likely **	2.2%	More Likely **	1.4%	Less Likely **
15	North Hollywood	2.8%	3.7%	More Likely **	2.7%		3.7%	More Likely *
16	Foothill	3.6%	4.4%	More Likely **	4.0%		3.0%	
17	Devonshire	3.3%	4.6%	More Likely **	3.7%		3.3%	
18	Southeast	2.9%	3.8%		3.8%		3.7%	
	RD containing LAX	0.0%	0.0%		0.0%		0.0%	

Notes:

1. Likelihood of Arrest represents the percentage of people for a given race who would be arrested as predicted by the regression model. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be arrested relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 1.9% American Indians, 76.8% Asians, and 21.2% races other than American Indian or Asian. The Reporting District containing the Los Angeles International Airport ("LAX") has the following racial breakdown: 1.1 % American Indians, 88.0% Asians, and 10.9% races other than American Indian or Asian.
6. Excludes Reporting District 1494, which contains LAX.
7. Mission Division was not created until April 2005 and, therefore, is not included in the analysis.

Table D3
Non-Gang Officer Analysis
Likelihood of Citation
Controlling for Factors Other Than Race

		White	Hispanic		Black		Asian, American Indian, and Other [5]	
Division	Name	*Likelihood of Citation*	*Likelihood of Citation*	*Likelihood Relative to White*	*Likelihood of Citation*	*Likelihood Relative to White*	*Likelihood of Citation*	*Likelihood Relative to White*
1	Central	56.8%	65.0%	More Likely **	53.0%	Less Likely *	68.3%	More Likely **
2	Rampart	45.2%	55.0%	More Likely **	43.4%		54.2%	More Likely **
3	Southwest	77.9%	79.7%		75.4%		81.8%	
4	Hollenbeck	64.2%	64.7%		56.8%		75.5%	More Likely **
5	Harbor	61.8%	65.0%	More Likely *	52.0%	Less Likely **	73.4%	More Likely **
6	Hollywood	74.1%	76.8%	More Likely **	72.2%		79.2%	More Likely **
7	Wilshire	80.9%	82.7%	More Likely *	75.0%	Less Likely **	88.6%	More Likely **
8	West Los Angeles	89.6%	88.6%		86.6%	Less Likely **	91.8%	More Likely **
9	Van Nuys	79.6%	79.0%		70.7%	Less Likely **	84.9%	More Likely **
10	West Valley	74.2%	77.7%	More Likely **	71.5%	Less Likely *	81.1%	More Likely **
11	Northeast	75.1%	73.2%		67.3%	Less Likely **	78.4%	More Likely *
12	77th Street	48.9%	51.4%		45.3%		41.0%	
13	Newton Street	62.4%	63.4%		56.9%		75.0%	More Likely **
14	Pacific [6]	89.3%	91.1%	More Likely **	86.2%	Less Likely **	93.9%	More Likely **
15	North Hollywood	66.6%	67.5%		59.2%	Less Likely **	72.6%	More Likely **
16	Foothill	47.8%	57.2%	More Likely **	46.1%		59.8%	More Likely **
17	Devonshire	58.1%	66.3%	More Likely **	53.0%	Less Likely **	70.5%	More Likely **
18	Southeast	38.4%	51.9%	More Likely **	43.3%		54.1%	More Likely *
	RD containing LAX	96.8%	97.3%		96.6%	Less Likely **	95.2%	Less Likely **

Notes:

1. Likelihood of Citation represents the percentage of people for a given race who would be given a citation as predicted by the regression model. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be given a citation relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 2.0% American Indians, 76.7% Asians, and 21.3% races other than American Indian or Asian. The Reporting District containing the Los Angeles International Airport ("LAX") has the following racial breakdown: 1.1 % American Indians, 88.0% Asians, and 10.9% races other than American Indian or Asian.
6. Excludes Reporting District 1494, which contains LAX.
7. Mission Division was not created until April 2005 and, therefore, is not included in the analysis.

Table D4
Non-Gang Officer Analysis
Likelihood of Citation Excluding Suspended License and Other Lower Discretion Citations [1]
Controlling for Factors Other Than Race

		White	Hispanic		Black		Asian, American Indian, and Other [5]	
Division	Name	*Likelihood of Citation*	*Likelihood of Citation*	*Likelihood Relative to White*	*Likelihood of Citation*	*Likelihood Relative to White*	*Likelihood of Citation*	*Likelihood Relative to White*
1	Central	54.7%	61.0%	More Likely **	49.1%	Less Likely **	67.4%	More Likely **
2	Rampart	40.4%	46.7%	More Likely **	36.9%	Less Likely *	50.9%	More Likely **
3	Southwest	76.7%	75.2%		71.5%	Less Likely *	80.9%	
4	Hollenbeck	60.0%	57.4%		50.1%	Less Likely *	72.2%	More Likely **
5	Harbor	58.2%	59.4%		47.4%	Less Likely **	71.3%	More Likely **
6	Hollywood	71.5%	73.0%		68.6%	Less Likely **	77.5%	More Likely **
7	Wilshire	79.7%	79.2%		71.6%	Less Likely **	88.1%	More Likely **
8	West Los Angeles	89.4%	87.5%	Less Likely *	85.7%	Less Likely **	91.9%	More Likely **
9	Van Nuys	78.7%	75.3%	Less Likely *	67.8%	Less Likely **	84.5%	More Likely **
10	West Valley	72.8%	73.4%		68.5%	Less Likely **	80.8%	More Likely **
11	Northeast	73.4%	69.1%	Less Likely **	64.6%	Less Likely **	77.4%	More Likely *
12	77th Street	42.9%	41.2%		37.6%		34.5%	
13	Newton Street	55.1%	52.3%		47.4%	Less Likely *	71.0%	More Likely **
14	Pacific [6]	88.8%	89.9%		85.1%	Less Likely **	93.8%	More Likely **
15	North Hollywood	64.5%	61.8%		55.5%	Less Likely **	71.3%	More Likely **
16	Foothill	43.5%	50.1%	More Likely **	40.2%		57.5%	More Likely **
17	Devonshire	54.9%	60.1%	More Likely **	48.2%	Less Likely **	68.8%	More Likely **
18	Southeast	32.9%	41.5%	More Likely *	35.3%		46.2%	
	RD containing LAX	96.7%	97.2%		96.5%	Less Likely **	95.0%	Less Likely **

Notes:

1. Likelihood of Citation represents the percentage of people for a given race who would be given a citation as predicted by the regression model. Other Lower Discretion Citations includes unlicensed drivers, hit and run on property including vehicles, no injury hit and run, and unlawful presentation of false registration. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be given a citation relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 2.0% American Indians, 76.8% Asians, and 21.2% races other than American Indian or Asian. The Reporting District containing the Los Angeles International Airport ("LAX") has the following racial breakdown: 1.1 % American Indians, 88.0% Asians, and 10.8% races other than American Indian or Asian.
6. Excludes Reporting District 1494, which contains LAX.
7. Mission Division was not created until April 2005 and, therefore, is not included in the analysis.

Table D5
Non-Gang Officer Analysis
Likelihood of Officer Request to Exit the Vehicle
Controlling for Factors Other Than Race

		White	Hispanic		Black		Asian, American Indian, and Other [5]	
Division	Name	*Likelihood of Request to Exit*	*Likelihood of Request to Exit*	*Likelihood Relative to White*	*Likelihood of Request to Exit*	*Likelihood Relative to White*	*Likelihood of Request to Exit*	*Likelihood Relative to White*
1	Central	5.8%	18.6%	More Likely **	16.0%	More Likely **	5.6%	
2	Rampart	13.5%	25.1%	More Likely **	22.7%	More Likely **	9.5%	Less Likely **
3	Southwest	3.8%	13.2%	More Likely **	13.4%	More Likely **	4.6%	
4	Hollenbeck	7.9%	19.2%	More Likely **	9.7%		5.0%	Less Likely *
5	Harbor	11.5%	17.0%	More Likely **	16.0%	More Likely **	6.5%	Less Likely **
6	Hollywood	7.6%	14.1%	More Likely **	10.2%	More Likely **	5.6%	Less Likely **
7	Wilshire	4.7%	14.2%	More Likely **	12.4%	More Likely **	4.0%	
8	West Los Angeles	2.5%	7.8%	More Likely **	5.9%	More Likely **	2.5%	
9	Van Nuys	6.8%	13.6%	More Likely **	10.5%	More Likely **	4.9%	Less Likely **
10	West Valley	7.8%	13.5%	More Likely **	9.8%	More Likely **	4.6%	Less Likely **
11	Northeast	6.1%	13.9%	More Likely **	10.9%	More Likely **	5.4%	
12	77th Street	11.5%	26.2%	More Likely **	25.2%	More Likely **	8.4%	
13	Newton Street	12.5%	28.2%	More Likely **	26.5%	More Likely **	7.6%	Less Likely **
14	Pacific [6]	3.9%	6.9%	More Likely **	5.4%	More Likely **	2.4%	Less Likely **
15	North Hollywood	8.1%	16.7%	More Likely **	11.6%	More Likely **	7.5%	
16	Foothill	15.9%	20.7%	More Likely **	21.0%	More Likely **	8.7%	Less Likely **
17	Devonshire	11.7%	17.4%	More Likely **	13.0%		6.1%	Less Likely **
18	Southeast	16.7%	30.7%	More Likely **	30.8%	More Likely **	20.6%	
	RD containing LAX	0.9%	1.5%	More Likely **	1.0%	More Likely **	1.2%	

Notes:

1. Likelihood of Request to Exit represents the percentage of people for a given race who would be asked to exit the vehicle as predicted by the regression model. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be asked to exit the vehicle relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 1.3% American Indians, 77.9% Asians, and 20.7% races other than American Indian or Asian. The Reporting District containing the Los Angeles International Airport ("LAX") has the following racial breakdown: 1.2 % American Indians, 88.2% Asians, and 10.6% races other than American Indian or Asian.
6. Excludes Reporting District 1494, which contains LAX.
7. Mission Division was not created until April 2005 and, therefore, is not included in the analysis.

Table D6
Non-Gang Officer Analysis
Likelihood of Officer Request to Exit the Vehicle Excluding Violent Arrests
Controlling for Factors Other Than Race

		White	Hispanic		Black		Asian, American Indian, and Other [5]	
Division	Name	*Likelihood of Request to Exit*	*Likelihood of Request to Exit*	*Likelihood Relative to White*	*Likelihood of Request to Exit*	*Likelihood Relative to White*	*Likelihood of Request to Exit*	*Likelihood Relative to White*
1	Central	5.8%	18.6%	More Likely **	16.0%	More Likely **	5.5%	
2	Rampart	13.4%	25.1%	More Likely **	22.7%	More Likely **	9.5%	Less Likely **
3	Southwest	3.8%	13.2%	More Likely **	13.4%	More Likely **	4.6%	
4	Hollenbeck	7.9%	19.2%	More Likely **	9.6%		5.0%	Less Likely *
5	Harbor	11.4%	16.9%	More Likely **	16.0%	More Likely **	6.5%	Less Likely **
6	Hollywood	7.5%	14.0%	More Likely **	10.1%	More Likely **	5.6%	Less Likely **
7	Wilshire	4.7%	14.2%	More Likely **	12.3%	More Likely **	3.9%	
8	West Los Angeles	2.5%	7.8%	More Likely **	5.8%	More Likely **	2.5%	
9	Van Nuys	6.7%	13.6%	More Likely **	10.5%	More Likely **	4.9%	Less Likely **
10	West Valley	7.8%	13.5%	More Likely **	9.8%	More Likely **	4.6%	Less Likely **
11	Northeast	6.1%	13.9%	More Likely **	10.9%	More Likely **	5.4%	
12	77th Street	11.5%	26.1%	More Likely **	25.2%	More Likely **	8.3%	
13	Newton Street	12.4%	28.2%	More Likely **	26.5%	More Likely **	7.6%	Less Likely **
14	Pacific [6]	3.9%	6.9%	More Likely **	5.4%	More Likely **	2.4%	Less Likely **
15	North Hollywood	8.0%	16.7%	More Likely **	11.5%	More Likely **	7.5%	
16	Foothill	15.8%	20.6%	More Likely **	20.9%	More Likely **	8.6%	Less Likely **
17	Devonshire	11.7%	17.4%	More Likely **	12.9%		6.1%	Less Likely **
18	Southeast	16.6%	30.7%	More Likely **	30.7%	More Likely **	20.5%	
	RD containing LAX	0.8%	1.5%	More Likely **	1.1%	More Likely **	1.2%	

Notes:

1. Likelihood of Request to Exit represents the percentage of people for a given race who would be asked to exit the vehicle as predicted by the regression model. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be asked to exit the vehicle relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 1.3% American Indians, 77.9% Asians, and 20.7% races other than American Indian or Asian. The Reporting District containing the Los Angeles International Airport ("LAX") has the following racial breakdown: 1.2 % American Indians, 88.2% Asians, and 10.6% races other than American Indian or Asian.
6. Excludes Reporting District 1494, which contains LAX.
7. Mission Division was not created until April 2005 and, therefore, is not included in the analysis.

Table D7
Non-Gang Officer Analysis
Likelihood of Pat-down/Frisk
Controlling for Factors Other Than Race

		White	Hispanic		Black		Asian, American Indian, and Other [5]	
Division	Name	*Likelihood of Pat-down/Frisk*	*Likelihood of Pat-down/Frisk*	*Likelihood Relative to White*	*Likelihood of Pat-down/Frisk*	*Likelihood Relative to White*	*Likelihood of Pat-down/Frisk*	*Likelihood Relative to White*
1	Central	13.5%	16.0%	More Likely **	22.3%	More Likely **	7.5%	Less Likely **
2	Rampart	23.1%	26.4%	More Likely **	28.3%	More Likely **	15.0%	Less Likely **
3	Southwest	3.5%	8.9%	More Likely **	11.5%	More Likely **	2.4%	
4	Hollenbeck	10.1%	14.2%	More Likely *	11.0%		7.1%	
5	Harbor	14.7%	19.5%	More Likely **	21.0%	More Likely **	8.0%	Less Likely **
6	Hollywood	6.5%	8.4%	More Likely **	9.5%	More Likely **	4.5%	Less Likely **
7	Wilshire	4.7%	8.7%	More Likely **	10.2%	More Likely **	3.7%	Less Likely **
8	West Los Angeles	1.7%	4.0%	More Likely **	3.2%	More Likely **	1.5%	
9	Van Nuys	5.1%	7.6%	More Likely **	6.9%	More Likely **	4.3%	
10	West Valley	7.6%	9.0%	More Likely **	8.6%		4.3%	Less Likely **
11	Northeast	6.3%	9.7%	More Likely **	9.7%	More Likely **	5.3%	
12	77th Street	20.4%	29.1%	More Likely **	32.6%	More Likely **	10.7%	
13	Newton Street	15.8%	20.7%	More Likely *	24.6%	More Likely **	7.5%	Less Likely **
14	Pacific [6]	3.0%	4.2%	More Likely **	4.0%	More Likely **	1.8%	Less Likely **
15	North Hollywood	8.5%	12.2%	More Likely **	12.2%	More Likely **	8.2%	
16	Foothill	18.4%	19.9%		22.7%	More Likely **	7.7%	Less Likely **
17	Devonshire	12.3%	13.7%	More Likely **	13.2%		7.2%	Less Likely **
18	Southeast	29.0%	33.4%		40.7%	More Likely **	14.9%	
	RD containing LAX	0.1%	0.0%		0.0%		0.0%	

Notes:

1. Likelihood of Pat-down/Frisk represents the percentage of people for a given race who would be subject to a pat-down or frisk as predicted by the regression model. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be subject to a pat-down or frisk relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 2.0% American Indians, 76.7% Asians, and 21.3% races other than American Indian or Asian. The Reporting District containing the Los Angeles International Airport ("LAX") has the following racial breakdown: 1.1 % American Indians, 88.0% Asians, and 10.9% races other than American Indian or Asian.
6. Excludes Reporting District 1494, which contains LAX.
7. Mission Division was not created until April 2005 and, therefore, is not included in the analysis.

Table D8
Non-Gang Officer Analysis
Likelihood of Higher Discretion Search
Controlling for Factors Other Than Race

		White	Hispanic		Black		Asian, American Indian, and Other [5]	
Division	**Name**	*Likelihood of Higher Discretion Search*	*Likelihood of Higher Discretion Search*	*Likelihood Relative to White*	*Likelihood of Higher Discretion Search*	*Likelihood Relative to White*	*Likelihood of Higher Discretion Search*	*Likelihood Relative to White*
1	Central	1.4%	1.8%	More Likely **	2.7%	More Likely **	1.0%	
2	Rampart	2.9%	2.2%	Less Likely **	3.9%	More Likely **	1.5%	Less Likely **
3	Southwest	0.6%	1.2%	More Likely **	1.9%	More Likely **	0.6%	
4	Hollenbeck	1.4%	1.8%		1.3%		1.1%	
5	Harbor	2.9%	3.0%		4.7%	More Likely **	2.1%	Less Likely *
6	Hollywood	1.0%	1.2%	More Likely *	1.8%	More Likely **	0.6%	Less Likely **
7	Wilshire	0.9%	1.0%		1.7%	More Likely **	0.5%	Less Likely **
8	West Los Angeles	0.4%	0.8%	More Likely **	0.8%	More Likely **	0.4%	
9	Van Nuys	0.7%	0.8%		1.1%	More Likely **	0.4%	Less Likely **
10	West Valley	1.2%	1.1%		1.3%		0.5%	Less Likely **
11	Northeast	0.8%	1.4%	More Likely **	1.5%	More Likely **	0.7%	
12	77th Street	3.5%	3.1%		4.8%		1.3%	
13	Newton Street	1.5%	2.0%		2.7%	More Likely **	1.4%	
14	Pacific [6]	0.7%	0.8%	More Likely **	1.0%	More Likely **	0.4%	Less Likely **
15	North Hollywood	1.2%	1.3%		1.8%	More Likely **	1.1%	
16	Foothill	2.5%	1.9%	Less Likely **	3.3%	More Likely **	1.2%	Less Likely **
17	Devonshire	1.8%	1.3%	Less Likely **	2.2%	More Likely **	0.9%	Less Likely **
18	Southeast	3.4%	3.2%		4.8%		3.6%	
	RD containing LAX [8]	N/A	N/A		N/A		N/A	

Notes:

1. Likelihood of Higher Discretion Search represents the percentage of people for a given race who would be subject to a higher discretion search as predicted by the regression model. Higher discretion searches are defined as searches resulting from odor of a contraband, incident to a frisk, or parolee and probationer searches. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be subject to a higher discretion search relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 2.0% American Indians, 76.7% Asians, and 21.3% races other than American Indian or Asian. The Reporting District containing the Los Angeles International Airport ("LAX") has the following racial breakdown: 1.1 % American Indians, 88.0% Asians, and 10.9% races other than American Indian or Asian.
6. Excludes Reporting District 1494, which contains LAX.
7. Mission Division was not created until April 2005 and, therefore, is not included in the analysis.
8. Model could not be estimated due to low frequency of higher discretion searches. Less than 0.1% of the stops resulted in a higher discretion search.

Table D9
Non-Gang Officer Analysis
Likelihood of No Action Taken
Controlling for Factors Other Than Race

		White	Hispanic		Black		Asian, American Indian, and Other [5]	
Division	Name	*Likelihood of No Action*	*Likelihood of No Action*	*Likelihood Relative to White*	*Likelihood of No Action*	*Likelihood Relative to White*	*Likelihood of No Action*	*Likelihood Relative to White*
1	Central	0.6%	0.5%		0.5%		0.9%	More Likely *
2	Rampart	0.6%	0.7%		0.9%	More Likely **	0.5%	
3	Southwest	0.7%	0.7%		0.5%		0.5%	
4	Hollenbeck	0.5%	0.5%		0.5%		0.3%	
5	Harbor	1.0%	0.9%		1.1%		0.8%	
6	Hollywood	0.4%	0.4%		0.4%		0.3%	
7	Wilshire	0.6%	0.6%		0.7%		0.5%	
8	West Los Angeles	0.2%	0.3%	More Likely *	0.2%		0.2%	
9	Van Nuys	0.5%	0.5%		0.5%		0.3%	
10	West Valley	0.7%	0.7%		0.9%	More Likely *	0.7%	
11	Northeast	0.4%	0.4%		0.5%		0.7%	More Likely **
12	77th Street	0.5%	0.9%	More Likely *	0.9%		2.6%	More Likely **
13	Newton Street	0.4%	0.6%		0.5%		0.4%	
14	Pacific [6]	0.4%	0.4%		0.6%	More Likely **	0.5%	
15	North Hollywood	0.6%	0.6%		0.8%	More Likely *	0.6%	
16	Foothill	1.3%	1.1%		1.0%	Less Likely *	1.2%	
17	Devonshire	0.9%	0.9%		0.9%		0.8%	
18	Southeast	1.0%	1.2%		1.2%		1.5%	
	RD containing LAX [8]	N/A	N/A		N/A		N/A	

Notes:

1. Likelihood of No Action represents the percentage of people for a given race who would not be subject to a post-stop action by the officer as predicted by the regression model. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would not be subject to a post-stop action by the officer relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 2.0% American Indians, 76.7% Asians, and 21.3% races other than American Indian or Asian. The Reporting District containing the Los Angeles International Airport ("LAX") has the following racial breakdown: 1.1 % American Indians, 88.0% Asians, and 10.9% races other than American Indian or Asian.
6. Excludes Reporting District 1494, which contains LAX.
7. Mission Division was not created until April 2005 and, therefore, is not included in the analysis.
8. Model could not be estimated due to the low frequency of no post-stop actions by the officer. Less than 0.3% of the stops resulted in the suspect not being subject to a post-stop action by the officer.

Table D10
Non-Gang Officer Analysis
Likelihood of Request for Consent to Search
Controlling for Factors Other Than Race

		White	Hispanic		Black		Asian, American Indian, and Other [5]	
Division	**Name**	*Likelihood of Consent Search*	*Likelihood of Consent Search*	*Likelihood Relative to White*	*Likelihood of Consent Search*	*Likelihood Relative to White*	*Likelihood of Consent Search*	*Likelihood Relative to White*
1	Central	3.5%	3.7%		5.5%	More Likely **	2.2%	Less Likely **
2	Rampart	6.8%	5.0%	Less Likely **	6.0%	Less Likely *	4.3%	Less Likely **
3	Southwest	1.2%	2.8%	More Likely **	3.4%	More Likely **	1.1%	
4	Hollenbeck	3.2%	4.0%		3.4%		2.7%	
5	Harbor	4.6%	5.0%		5.3%		2.7%	Less Likely **
6	Hollywood	2.2%	2.6%	More Likely *	2.9%	More Likely **	1.3%	Less Likely **
7	Wilshire	1.7%	2.8%	More Likely **	3.3%	More Likely **	1.1%	Less Likely **
8	West Los Angeles	0.8%	1.8%	More Likely **	1.5%	More Likely **	0.8%	
9	Van Nuys	2.3%	2.5%		2.4%		1.8%	Less Likely *
10	West Valley	3.2%	3.2%		3.1%		1.6%	Less Likely **
11	Northeast	1.9%	2.8%	More Likely **	2.9%	More Likely **	1.6%	
12	77th Street	5.6%	5.8%		7.4%		4.4%	
13	Newton Street	3.7%	4.3%		5.0%		1.5%	Less Likely *
14	Pacific [6]	1.2%	1.6%	More Likely **	1.5%	More Likely **	0.7%	Less Likely **
15	North Hollywood	3.1%	3.4%		3.8%	More Likely *	2.7%	
16	Foothill	6.7%	5.6%	Less Likely **	5.5%	Less Likely **	2.8%	Less Likely **
17	Devonshire	5.0%	4.2%	Less Likely **	4.5%	Less Likely *	2.5%	Less Likely **
18	Southeast	9.2%	6.2%	Less Likely *	8.2%		12.5%	
	RD containing LAX	0.0%	0.0%	More Likely *	0.0%		0.0%	

Notes:

1. Likelihood of Consent Search represents the percentage of people for a given race who would be asked to submit to a search as predicted by the regression model. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be asked to submit to a search relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 2.0% American Indians, 76.7% Asians, and 21.3% races other than American Indian or Asian. The Reporting District containing the Los Angeles International Airport ("LAX") has the following racial breakdown: 1.1 % American Indians, 88.0% Asians, and 10.9% races other than American Indian or Asian.
6. Excludes Reporting District 1494, which contains LAX.
7. Mission Division was not created until April 2005 and, therefore, is not included in the analysis.

APPENDIX E: SUMMARY OF POST-STOP ANALYSIS RESULTS FOR GANG OFFICERS

(see the following pages)

Table E1
Gang Officer Analysis
Likelihood of Arrest
Controlling for Factors Other Than Race

	White	Hispanic		Black		Asian, American Indian, and Other [5]	
Bureau Name	*Likelihood of Arrest*	*Likelihood of Arrest*	*Likelihood Relative to White*	*Likelihood of Arrest*	*Likelihood Relative to White*	*Likelihood of Arrest*	*Likelihood Relative to White*
Central	15.0%	21.6%	More Likely **	19.7%		20.9%	
South	12.4%	12.3%		12.3%		8.8%	
Valley	17.7%	19.4%		14.1%		17.3%	
West	11.9%	11.8%		14.3%		6.8%	Less Likely *

Notes:

1. Likelihood of Arrest represents the percentage of people for a given race who would be arrested as predicted by the regression model. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be arrested relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 2.4% American Indians, 63.6% Asians, and 33.9% races other than American Indian or Asian.

Table E2
Gang Officer Analysis
Likelihood of Arrest Excluding Warrant, Violent, and DUI Arrests
Controlling for Factors Other Than Race

	White	Hispanic		Black		Asian, American Indian, and Other [5]	
Bureau Name	*Likelihood of Arrest*	*Likelihood of Arrest*	*Likelihood Relative to White*	*Likelihood of Arrest*	*Likelihood Relative to White*	*Likelihood of Arrest*	*Likelihood Relative to White*
Central	12.1%	16.9%	More Likely *	15.2%		13.9%	
South	10.6%	10.0%		9.3%		8.8%	
Valley	14.9%	15.7%		11.9%	Less Likely *	16.1%	
West	8.0%	9.6%		11.8%	More Likely **	3.6%	Less Likely *

Notes:

1. Likelihood of Arrest represents the percentage of people for a given race who would be arrested as predicted by the regression model. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be arrested relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 2.5% American Indians, 63.5% Asians, and 34.0% races other than American Indian or Asian.

Table E3
Gang Officer Analysis
Likelihood of Citation
Controlling for Factors Other Than Race

	White	Hispanic		Black		Asian, American Indian, and Other [5]	
Bureau Name	*Likelihood of Citation*	*Likelihood of Citation*	*Likelihood Relative to White*	*Likelihood of Citation*	*Likelihood Relative to White*	*Likelihood of Citation*	*Likelihood Relative to White*
Central	15.1%	12.4%		11.2%		15.1%	
South	9.3%	9.0%		7.5%		9.2%	
Valley	9.7%	14.3%	More Likely **	11.2%		20.0%	More Likely **
West	28.7%	22.0%	Less Likely **	20.5%	Less Likely **	29.0%	

Notes:

1. Likelihood of Citation represents the percentage of people for a given race who would be given a citation as predicted by the regression model. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be given a citation relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 2.4% American Indians, 63.6% Asians, and 33.9% races other than American Indian or Asian.

Table E4
Gang Officer Analysis
Likelihood of Citation Excluding Suspended License and Other Lower Discretion Citations [1]
Controlling for Factors Other Than Race

	White	Hispanic		Black		Asian, American Indian, and Other [5]	
Bureau Name	*Likelihood of Citation*	*Likelihood of Citation*	*Likelihood Relative to White*	*Likelihood of Citation*	*Likelihood Relative to White*	*Likelihood of Citation*	*Likelihood Relative to White*
Central	14.0%	10.2%	Less Likely *	9.5%	Less Likely *	15.0%	
South	7.8%	7.6%		6.6%		9.8%	
Valley	8.5%	11.2%		9.5%		20.3%	More Likely **
West	27.2%	19.0%	Less Likely **	18.5%	Less Likely **	28.6%	

Notes:

1. Likelihood of Citation represents the percentage of people for a given race who would be given a citation as predicted by the regression model. Other Lower Discretion Citations includes unlicensed drivers, hit and run on property including vehicles, no injury hit and run, and unlawful presentation of false registration. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be given a citation relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 2.0% American Indians, 63.8% Asians, and 34.2% races other than American Indian or Asian.

Table E5
Gang Officer Analysis
Likelihood of Officer Request to Exit the Vehicle
Controlling for Factors Other Than Race

	White	Hispanic		Black		Asian, American Indian, and Other [5]	
Bureau Name	*Likelihood of Request to Exit*	*Likelihood of Request to Exit*	*Likelihood Relative to White*	*Likelihood of Request to Exit*	*Likelihood Relative to White*	*Likelihood of Request to Exit*	*Likelihood Relative to White*
Central	55.1%	68.8%	More Likely **	69.8%	More Likely **	64.0%	
South	73.7%	66.0%		67.3%		61.0%	
Valley	70.4%	72.8%		64.4%		66.7%	
West	28.5%	43.4%	More Likely **	40.5%	More Likely **	25.1%	

Notes:

1. Likelihood of Request to Exit represents the percentage of people for a given race who would be asked to exit the vehicle as predicted by the regression model. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be asked to exit the vehicle relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 1.5% American Indians, 65.0% Asians, and 33.5% races other than American Indian or Asian.

Table E6
Gang Officer Analysis
Likelihood of Officer Request to Exit the Vehicle Excluding Violent Arrests
Controlling for Factors Other Than Race

	White	Hispanic		Black		Asian, American Indian, and Other [5]	
Bureau Name	*Likelihood of Request to Exit*	*Likelihood of Request to Exit*	*Likelihood Relative to White*	*Likelihood of Request to Exit*	*Likelihood Relative to White*	*Likelihood of Request to Exit*	*Likelihood Relative to White*
Central	55.0%	68.8%	More Likely **	69.9%	More Likely **	63.9%	
South	73.6%	66.0%		67.3%		60.9%	
Valley	70.3%	72.7%		64.7%		66.6%	
West	28.5%	43.4%	More Likely **	40.5%	More Likely **	25.1%	

Notes:

1. Likelihood of Request to Exit represents the percentage of people for a given race who would be asked to exit the vehicle as predicted by the regression model. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be asked to exit the vehicle relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 1.5% American Indians, 64.9% Asians, and 33.6% races other than American Indian or Asian.

Table E7
Gang Officer Analysis
Predicted Pat-down/Frisk
Controlling for Factors Other Than Race

	White	Hispanic		Black		Asian, American Indian, and Other [5]	
Bureau Name	*Likelihood of Pat-down/Frisk*	*Likelihood of Pat-down/Frisk*	*Likelihood Relative to White*	*Likelihood of Pat-down/Frisk*	*Likelihood Relative to White*	*Likelihood of Pat-down/Frisk*	*Likelihood Relative to White*
Central	78.5%	88.9%	More Likely **	88.2%	More Likely **	80.7%	
South	87.5%	85.2%		86.9%		79.4%	
Valley	86.5%	89.1%	More Likely **	85.2%		82.4%	
West	61.9%	73.0%	More Likely **	72.1%	More Likely **	54.8%	

Notes:

1. Likelihood of Pat-down/Frisk represents the percentage of people for a given race who would be subject to a pat-down or frisk as predicted by the regression model. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be subject to a pat-down or frisk relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 2.4% American Indians, 63.6% Asians, and 33.9% races other than American Indian or Asian.

Table E8
Gang Officer Analysis
Likelihood of Higher Discretion Search
Controlling for Factors Other Than Race

	White	Hispanic		Black		Asian, American Indian, and Other [5]	
Bureau Name	*Likelihood of Higher Discretion Search*	*Likelihood of Higher Discretion Search*	*Likelihood Relative to White*	*Likelihood of Higher Discretion Search*	*Likelihood Relative to White*	*Likelihood of Higher Discretion Search*	*Likelihood Relative to White*
Central	15.7%	18.7%		24.3%	More Likely **	18.3%	
South	18.5%	19.1%		25.4%	More Likely *	18.9%	
Valley	22.4%	17.3%	Less Likely **	21.9%		9.9%	Less Likely **
West	10.9%	13.5%		16.7%	More Likely **	7.5%	

Notes:

1. Likelihood of Higher Discretion Search represents the percentage of people for a given race who would be subject to a higher discretion search as predicted by the regression model. Higher discretion searches are defined as searches resulting from odor of a contraband, incident to a frisk, or parolee and probationer searches. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be subject to a higher discretion search relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 2.4% American Indians, 63.6% Asians, and 33.9% races other than American Indian or Asian.

Table E9
Gang Officer Analysis
Likelihood of No Action Taken
Controlling for Factors Other Than Race

	White	Hispanic		Black		Asian, American Indian, and Other [5]	
Bureau Name	*Likelihood of No Action*	*Likelihood of No Action*	*Likelihood Relative to White*	*Likelihood of No Action*	*Likelihood Relative to White*	*Likelihood of No Action*	*Likelihood Relative to White*
Central	3.3%	2.5%		2.5%		0.6%	Less Likely **
South	2.8%	1.8%		1.6%	Less Likely *	5.7%	
Valley	5.2%	4.5%		4.2%		5.9%	
West	2.6%	2.2%		2.0%		2.0%	

Notes:

1. Likelihood of No Action represents the percentage of people for a given race who would not be subject to a post-stop action by the officer as predicted by the regression model. See Section A.3.5 for a discussion of the method used to calculate these values.
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would not be subject to a post-stop action by the officer relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 2.4% American Indians, 63.6% Asians, and 33.9% races other than American Indian or Asian.

Table E10
Gang Officer Analysis
Likelihood of Request for Consent to Search
Controlling for Factors Other Than Race

	White	Hispanic		Black		Asian, American Indian, and Other [5]	
Bureau Name	*Likelihood of Consent Search*	*Likelihood of Consent Search*	*Likelihood Relative to White*	*Likelihood of Consent Search*	*Likelihood Relative to White*	*Likelihood of Consent Search*	*Likelihood Relative to White*
Central	23.9%	34.3%	More Likely **	32.0%	More Likely **	26.1%	
South	39.1%	32.0%		34.1%		26.9%	
Valley	45.3%	45.7%		45.7%		32.6%	Less Likely *
West	21.1%	29.0%	More Likely **	25.1%	More Likely *	19.5%	

Notes:

1. Likelihood of Consent Search represents the percentage of people for a given race who would be asked to submit to a search as predicted by the regression model. See Section A.3.5 for a discussion of the method used to calculate these value
2. Likelihood Relative to White indicates whether the percentage difference between the likelihood percentage for the race in question relative to the likelihood percentage for whites is positive or negative. A "More Likely" ("Less Likely") indicates that more (fewer) people of that race would be asked to submit to a search relative to whites.
3. Asterisks next to the value for differences indicate statistical significance. A single asterisk (*) indicates that the difference is significant at the 0.05 significance level and two asterisks (**) indicate the difference is significant at the 0.01 significance level.
4. Likelihood values are for the typical stop. See Section A.3.5 for a discussion of the method used to calculate these values.
5. Asian, American Indian, and Other has the following racial breakdown: 2.4% American Indians, 63.6% Asians, and 33.9% races other than American Indian or Asian.

APPENDIX F: REGRESSION OUTPUT FOR POST-STOP ANALYSES OF NON-GANG OFFICERS

(see the following pages)

Table F1
Summary of Parameter Estimates for Non-Gang Officer Post-Stop Outcome Models

			All Arrests			Arrests Excluding Warrant, Violent, and DUI Arrests		
Variable Description	**Variable Name**	**Class Variable**	**Coefficient**	**p-value**	**Odds Ratio**	**Coefficient**	**p-value**	**Odds Ratio**
Intercept	Intercept		-3.2514	0.0000	0.0387	-3.3942	0.0000	0.0336
Suspect Race	Race	Black	0.3672	0.0012	1.4437	0.2085	0.1370	1.2318
		Hispanic	0.2793	0.0173	1.3222	0.1390	0.3272	1.1491
		Other	0.0748	0.6007	1.0777	0.0687	0.6965	1.0711
		White						
Division	Area	01	0.1433	0.3865	1.1541	-0.0906	0.6521	0.9133
		02	0.5989	0.0002	1.8202	0.4075	0.0413	1.5031
		03	-0.0773	0.7388	0.9256	-0.0587	0.8228	0.9430
		04	0.2430	0.2493	1.2751	0.0810	0.7517	1.0844
		05	0.0238	0.8887	1.0241	-0.1058	0.5959	0.8996
		06	0.3305	0.1176	1.3916	0.0394	0.8818	1.0402
		08	0.1870	0.2569	1.2056	0.2008	0.2429	1.2224
		09	0.4402	0.0122	1.5530	0.3297	0.1031	1.3905
		10	0.6115	0.0002	1.8432	0.5059	0.0117	1.6584
		11	0.2397	0.1570	1.2708	-0.0199	0.9233	0.9803
		12	0.1818	0.4065	1.1994	-0.1660	0.5497	0.8470
		13	0.2831	0.1690	1.3273	0.1527	0.5220	1.1650
		14	-0.0335	0.8353	0.9670	0.0316	0.8696	1.0321
		15	0.4780	0.0035	1.6128	0.2796	0.1616	1.3226
		16	0.5620	0.0009	1.7542	0.3183	0.1136	1.3747
		17	0.5180	0.0016	1.6787	0.3171	0.1069	1.3731
		18	-0.2219	0.3796	0.8010	-0.3680	0.2084	0.6921
		07						
Suspect Race * Division	Race * Area	Black * 01	-0.0167	0.8902	0.9834	0.1284	0.3857	1.1370
		Hispanic * 01	-0.2034	0.1048	0.8160	-0.0424	0.7767	0.9584
		Other * 01	-0.5458	0.0006	0.5794	-0.4552	0.0190	0.6343
		White * 01						
		Black * 02	-0.1414	0.2589	0.8682	0.0040	0.9795	1.0040
		Hispanic * 02	-0.3788	0.0026	0.6847	-0.1947	0.2021	0.8231
		Other * 02	-0.2185	0.1724	0.8037	-0.2879	0.1477	0.7499
		White * 02						
		Black * 03	0.1289	0.5297	1.1376	0.0110	0.9627	1.0110
		Hispanic * 03	0.0743	0.7277	1.0772	0.0065	0.9786	1.0065
		Other * 03	0.2730	0.3344	1.3140	0.1876	0.5735	1.2064
		White * 03						
		Black * 04	-0.4390	0.1000	0.6447	-0.5000	0.1283	0.6065
		Hispanic * 04	-0.0176	0.9253	0.9826	-0.0128	0.9535	0.9873
		Other * 04	-0.5947	0.0333	0.5517	-0.5590	0.0909	0.5718
		White * 04						
		Black * 05	-0.2242	0.0893	0.7991	-0.2360	0.1464	0.7897
		Hispanic * 05	-0.0515	0.6897	0.9498	0.0090	0.9528	1.0091
		Other * 05	-0.5044	0.0130	0.6039	-0.4369	0.0751	0.6460
		White * 05						

Variable Description	Variable Name	Class Variable	All Arrests			Arrests Excluding Warrant, Violent, and DUI Arrests		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
		Black * 06	-0.2505	0.0425	0.7784	-0.0541	0.7228	0.9474
		Hispanic * 06	-0.0281	0.8062	0.9723	0.1793	0.1814	1.1964
		Other * 06	-0.2750	0.0455	0.7596	-0.2630	0.1126	0.7688
		White * 06						
		Black * 08	-0.2678	0.0501	0.7651	-0.1979	0.2121	0.8204
		Hispanic * 08	-0.1292	0.3700	0.8788	-0.0689	0.6804	0.9334
		Other * 08	-0.6670	0.0001	0.5133	-0.7009	0.0006	0.4961
		White * 08						
		Black * 09	-0.3331	0.0159	0.7167	-0.1989	0.2266	0.8196
		Hispanic * 09	0.0158	0.9010	1.0159	0.0650	0.6611	1.0671
		Other * 09	0.1667	0.3152	1.1814	0.3347	0.0940	1.3976
		White * 09						
		Black * 10	-0.1974	0.1268	0.8208	-0.0945	0.5489	0.9098
		Hispanic * 10	-0.1356	0.2595	0.8732	-0.0523	0.7196	0.9491
		Other * 10	-0.4069	0.0090	0.6657	-0.2072	0.2587	0.8129
		White * 10						
		Black * 11	-0.1720	0.2431	0.8420	-0.0113	0.9496	0.9888
		Hispanic * 11	0.0685	0.5978	1.0709	0.1722	0.2717	1.1879
		Other * 11	-0.2014	0.2447	0.8176	-0.1384	0.5111	0.8707
		White * 11						
		Black * 12	-0.1147	0.5458	0.8917	-0.1181	0.6254	0.8886
		Hispanic * 12	0.0167	0.9320	1.0168	0.0696	0.7791	1.0721
		Other * 12	0.1441	0.6256	1.1550	0.2457	0.5026	1.2786
		White * 12						
		Black * 13	-0.0734	0.6773	0.9292	-0.2011	0.3081	0.8178
		Hispanic * 13	-0.0217	0.9087	0.9785	-0.0663	0.7479	0.9359
		Other * 13	-0.5794	0.0626	0.5602	-0.2846	0.4207	0.7523
		White * 13						
		Black * 14	-0.2291	0.0529	0.7953	-0.0520	0.7157	0.9494
		Hispanic * 14	-0.0081	0.9496	0.9919	0.1192	0.4409	1.1265
		Other * 14	-0.5653	0.0003	0.5682	-0.4801	0.0088	0.6187
		White * 14						
		Black * 15	-0.3003	0.0278	0.7406	-0.2061	0.2073	0.8138
		Hispanic * 15	0.0972	0.4373	1.1021	0.1626	0.2781	1.1765
		Other * 15	0.0280	0.8618	1.0284	0.1841	0.3642	1.2021
		White * 15						
		Black * 16	-0.2199	0.1079	0.8026	-0.0751	0.6480	0.9277
		Hispanic * 16	0.0154	0.9031	1.0155	0.0959	0.5201	1.1007
		Other * 16	-0.4106	0.0193	0.6633	-0.2910	0.1556	0.7475
		White * 16						
		Black * 17	-0.2482	0.0547	0.7802	-0.0540	0.7279	0.9475
		Hispanic * 17	0.1070	0.3797	1.1129	0.2363	0.1057	1.2666
		Other * 17	-0.1498	0.3599	0.8609	-0.0965	0.6209	0.9080
		White * 17						
		Black * 18	0.2553	0.2689	1.2908	0.0920	0.7255	1.0963
		Hispanic * 18	0.2699	0.2381	1.3098	0.1712	0.5183	1.1867

Variable Description	Variable Name	Class Variable	All Arrests			Arrests Excluding Warrant, Violent, and DUI Arrests		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
		Other * 18	0.2961	0.3579	1.3446	0.1647	0.6368	1.1791
		White * 18						
		Black * 07						
		Hispanic * 07						
		Other * 07						
		White * 07						
Officer Race	Officer_Race	Off_AmerIndian	-0.1312	0.6300	0.8770	-0.0902	0.6648	0.9137
		Off_Asian	0.0632	0.3934	1.0652	0.0666	0.3980	1.0689
		Off_Black	-0.2326	0.0092	0.7925	-0.2651	0.0041	0.7672
		Off_Hispanic	0.0012	0.9800	1.0012	-0.0521	0.2863	0.9492
		Off_White						
Suspect Race * Officer Race	Race * Officer_Race	Black * Off_AmerIndian	0.2519	0.1289	1.2865	0.1332	0.5072	1.1425
		Black * Off_Asian	-0.1301	0.0571	0.8780	-0.1952	0.0061	0.8227
		Black * Off_Black	-0.0135	0.8493	0.9866	0.0394	0.6172	1.0402
		Black * Off_Hispanic	-0.0416	0.3244	0.9593	-0.0241	0.5998	0.9762
		Black * Off_White						
		Hispanic * Off_AmerIndian	-0.2545	0.0522	0.7753	-0.4189	0.0083	0.6578
		Hispanic * Off_Asian	0.0342	0.6139	1.0348	-0.0333	0.6635	0.9672
		Hispanic * Off_Black	0.0268	0.7140	1.0271	0.0303	0.6972	1.0308
		Hispanic * Off_Hispanic	-0.0376	0.3669	0.9631	-0.0285	0.5136	0.9719
		Hispanic * Off_White						
		Other * Off_AmerIndian	-0.3296	0.3323	0.7192	-0.2004	0.6301	0.8184
		Other * Off_Asian	0.0432	0.6615	1.0442	-0.0356	0.7395	0.9650
		Other * Off_Black	0.0398	0.7117	1.0406	0.0911	0.4642	1.0954
		Other * Off_Hispanic	0.0848	0.1826	1.0885	0.0623	0.3961	1.0643
		Other * Off_White						
		White * Off_AmerIndian						
		White * Off_Asian						
		White * Off_Black						
		White * Off_Hispanic						
		White * Off_White						
Stop Reason	Stop_Reason	Call for Service	2.1123	0.0000	8.2671	2.1467	0.0000	8.5562
		Consensual	0.9666	0.0000	2.6290	0.9376	0.0000	2.5539
		Department Briefing	1.5371	0.0000	4.6513	1.4692	0.0000	4.3458
		Health and Safety	2.5579	0.0000	12.9081	2.5760	0.0000	13.1451
		Municipal	2.3548	0.0000	10.5359	2.6533	0.0000	14.2002
		Other	2.3198	0.0000	10.1738	2.5502	0.0000	12.8093
		Pedestrian Vehicle	-0.0779	0.1620	0.9250	-0.0627	0.3186	0.9392
		Penal	2.6988	0.0000	14.8616	2.8985	0.0000	18.1477
		Equip./Regist. Vehicle	-0.2603	0.0000	0.7708	0.0838	0.0174	1.0874
		Suspect Flight	2.3081	0.0000	10.0549	2.4099	0.0000	11.1332
		Moving Vehicle						

Variable Description	Variable Name	Class Variable	All Arrests			Arrests Excluding Warrant, Violent, and DUI Arrests		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
Weekend Stop	Weekend_Dum		0.0245	0.0749	1.0248	-0.0442	0.0036	0.9567
Night Stop	Night_Dum		0.2158	0.0000	1.2408	-0.0124	0.5679	0.9877
Number of People in Encounter	Group		-0.1005	0.0000	0.9044	-0.0814	0.0000	0.9219
Count of Incivility Stops in RD	Incivil		0.0001	0.0109	1.0001	0.0000	0.1251	1.0000
Count of Violent Crime Stops in RD	Violent		0.0003	0.0042	1.0003	0.0004	0.0009	1.0004
Percent Under 24 Years Old in RD	Percent_24under		-0.6061	0.0000	0.5455	-0.7370	0.0000	0.4785
Percent Hispanic in RD	Percent_Hispanic		0.4438	0.0000	1.5586	0.2862	0.0000	1.3314
Percent Divorced in RD	Percent_Divorced		0.9047	0.0037	2.4713	0.0616	0.8627	1.0635
Percent Unemployed in RD	Percent_Unemployed		0.6358	0.0000	1.8885	0.5688	0.0000	1.7661
Population Density	Density		-0.0004	0.0213	0.9996	-0.0007	0.0008	0.9993
Rate of Property Crime in RD	Property_Rate		0.0000	0.0002	1.0000	0.0001	0.0000	1.0001
Rate of Violent Crime in RD	Violent_Rate		0.0000	0.1534	1.0000	-0.0001	0.0051	0.9999
Count of Accounts	Accounts		-0.0003	0.0566	0.9997	-0.0005	0.0056	0.9995
Count of Retail Accounts	Retail_Accounts		0.0009	0.0967	1.0009	0.0017	0.0034	1.0017
Count of Gang Stops in RD	Gang_Stops		-0.0003	0.0000	0.9997	-0.0004	0.0000	0.9996
Count of Complaints Against Officer	Complaints		0.0166	0.0181	1.0168	0.0237	0.0008	1.0240
Count of Major Commendations Received by Officer	Mj_Commend		-0.2278	0.0167	0.7963	-0.2050	0.0246	0.8146
Officer's Age	Officer_Age		-0.0117	0.0042	0.9884	-0.0120	0.0029	0.9881
Number of Months of Service for Officer	Service_Months		0.0033	0.0000	1.0033	0.0042	0.0000	1.0042
Number of Months of Service for Officer Squared	Service_Months_Sq		0.0000	0.0000	1.0000	0.0000	0.0000	1.0000
Gender of Officer	Officer_Male_Dum		-0.2085	0.0000	0.8118	-0.1749	0.0007	0.8395
Patrol/Traffic/Other Officer Indicator	Officer_Type	Other	-0.2091	0.0138	0.8113	-0.3659	0.0001	0.6936
		Traffic	-0.8454	0.0000	0.4294	-1.8430	0.0000	0.1583
		Patrol						
Suspect Age Range	Age_Rng	1-17	-0.5201	0.0000	0.5945	-0.3562	0.0000	0.7003
		18-25	-0.1934	0.0000	0.8241	-0.0591	0.0007	0.9426
		36-45	0.0739	0.0000	1.0767	0.0411	0.0132	1.0420
		46-55	0.1249	0.0000	1.1331	0.0966	0.0000	1.1014
		56 or Above	0.0071	0.8054	1.0071	0.0378	0.2569	1.0385
		26-35						
Pedestrian Indicator	Pedestrian_Dum		0.5801	0.0000	1.7862	0.7949	0.0000	2.2143
Passenger Indicator	Passenger_Dum		0.5840	0.0000	1.7931	0.7309	0.0000	2.0769
Suspect Gender	Male_Dum		0.1848	0.0000	1.2030	0.1283	0.0000	1.1369

Note:

1. Variables set as the baseline do not have Coefficients, p-values, and Odds Ratios.

Table F1
Summary of Parameter Estimates for Non-Gang Officer Post-Stop Outcome Models

			All Citations			Citations Excluding Suspended License and Other Lower Discretion Citations		
Variable Description	**Variable Name**	**Class Variable**	**Coefficient**	**p-value**	**Odds Ratio**	**Coefficient**	**p-value**	**Odds Ratio**
Intercept	Intercept		2.4034	0.0000	11.0606	2.3944	0.0000	10.9616
Suspect Race	Race	Black	-0.3681	0.0000	0.6921	-0.4650	0.0000	0.6281
		Hispanic	0.1435	0.0220	1.1543	-0.0102	0.8722	0.9898
		Other	0.5798	0.0000	1.7857	0.6284	0.0000	1.8745
		White						
Division	Area	01	-0.1268	0.3558	0.8809	-0.1933	0.1673	0.8243
		02	-0.4554	0.0035	0.6342	-0.4761	0.0030	0.6212
		03	0.0127	0.9483	1.0127	0.0481	0.8057	1.0493
		04	-0.5246	0.0291	0.5918	-0.5161	0.0309	0.5968
		05	-0.2469	0.1016	0.7812	-0.2716	0.0779	0.7621
		06	-0.2478	0.1472	0.7805	-0.2880	0.0958	0.7497
		08	0.0608	0.6820	1.0627	0.0341	0.8208	1.0347
		09	-0.3727	0.0589	0.6889	-0.3969	0.0446	0.6724
		10	-0.5073	0.0015	0.6021	-0.5483	0.0007	0.5779
		11	-0.2885	0.0909	0.7494	-0.3007	0.0833	0.7403
		12	-0.2276	0.2272	0.7965	-0.2779	0.1440	0.7574
		13	-0.4517	0.0193	0.6365	-0.5077	0.0096	0.6019
		14	0.5486	0.0053	1.7308	0.5308	0.0067	1.7003
		15	-0.5166	0.0026	0.5965	-0.5460	0.0017	0.5792
		16	-0.8831	0.0000	0.4135	-0.9263	0.0000	0.3960
		17	-0.6800	0.0000	0.5066	-0.7343	0.0000	0.4798
		18	-0.6428	0.0013	0.5258	-0.6660	0.0010	0.5138
		07						
Suspect Race * Division	Race * Area	Black * 01	0.1913	0.0255	1.2108	0.2156	0.0125	1.2406
		Hispanic * 01	0.2244	0.0038	1.2516	0.2843	0.0003	1.3288
		Other * 01	-0.1049	0.3160	0.9004	-0.1054	0.3183	0.8999
		White * 01						
		Black * 02	0.2727	0.0020	1.3135	0.2946	0.0010	1.3426
		Hispanic * 02	0.2728	0.0012	1.3136	0.2851	0.0007	1.3299
		Other * 02	-0.2429	0.0226	0.7844	-0.2152	0.0463	0.8064
		White * 02						
		Black * 03	0.2058	0.1714	1.2285	0.1711	0.2515	1.1866
		Hispanic * 03	-0.0143	0.9284	0.9858	-0.0513	0.7499	0.9500
		Other * 03	-0.3601	0.1135	0.6976	-0.3834	0.0861	0.6815
		White * 03						
		Black * 04	0.0362	0.8368	1.0369	0.0415	0.8089	1.0424
		Hispanic * 04	-0.0992	0.4781	0.9055	-0.0793	0.5657	0.9238
		Other * 04	-0.0609	0.7220	0.9409	-0.0880	0.6018	0.9158
		White * 04						

Variable Description	Variable Name	Class Variable	All Citations			Citations Excluding Suspended License and Other Lower Discretion Citations		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
		Black * 05	-0.0525	0.5674	0.9488	0.0061	0.9476	1.0061
		Hispanic * 05	0.0179	0.8332	1.0180	0.0808	0.3522	1.0842
		Other * 05	-0.0630	0.6214	0.9390	-0.0578	0.6486	0.9439
		White * 05						
		Black * 06	0.2492	0.0023	1.2830	0.2998	0.0003	1.3496
		Hispanic * 06	0.0267	0.7481	1.0271	0.1040	0.2201	1.1096
		Other * 06	-0.3134	0.0004	0.7309	-0.3213	0.0002	0.7252
		White * 06						
		Black * 08	0.0581	0.5260	1.0599	0.0989	0.2741	1.1039
		Hispanic * 08	-0.2205	0.0098	0.8021	-0.1537	0.0797	0.8575
		Other * 08	-0.3319	0.0012	0.7176	-0.3445	0.0006	0.7086
		White * 08						
		Black * 09	-0.1355	0.1442	0.8732	-0.1202	0.1942	0.8867
		Hispanic * 09	-0.1534	0.1216	0.8578	-0.1642	0.0941	0.8486
		Other * 09	-0.2384	0.0261	0.7879	-0.2473	0.0216	0.7809
		White * 09						
		Black * 10	0.2071	0.0169	1.2301	0.2355	0.0075	1.2655
		Hispanic * 10	0.0698	0.3515	1.0723	0.0595	0.4403	1.0613
		Other * 10	-0.2059	0.0429	0.8140	-0.1880	0.0672	0.8286
		White * 10						
		Black * 11	-0.0344	0.7397	0.9662	0.0256	0.8050	1.0259
		Hispanic * 11	-0.2213	0.0094	0.8015	-0.1840	0.0346	0.8319
		Other * 11	-0.4144	0.0003	0.6608	-0.4226	0.0002	0.6553
		White * 11						
		Black * 12	0.2022	0.1818	1.2241	0.2234	0.1405	1.2504
		Hispanic * 12	-0.0205	0.8968	0.9798	-0.0391	0.8068	0.9616
		Other * 12	-0.9206	0.0006	0.3983	-0.9935	0.0002	0.3703
		White * 12						
		Black * 13	0.1156	0.4089	1.1225	0.1290	0.3567	1.1377
		Hispanic * 13	-0.0787	0.6296	0.9243	-0.0869	0.5943	0.9168
		Other * 13	-0.0056	0.9787	0.9944	0.0490	0.8179	1.0502
		White * 13						
		Black * 14	0.0604	0.4538	1.0622	0.1174	0.1483	1.1246
		Hispanic * 14	0.0937	0.2645	1.0983	0.1469	0.0844	1.1582
		Other * 14	0.0194	0.8776	1.0196	0.0033	0.9783	1.0033
		White * 14						
		Black * 15	0.0294	0.7689	1.0298	0.0666	0.5130	1.0689
		Hispanic * 15	-0.0800	0.3406	0.9231	-0.0858	0.3131	0.9178
		Other * 15	-0.3140	0.0084	0.7306	-0.3265	0.0059	0.7214
		White * 15						
		Black * 16	0.2781	0.0031	1.3206	0.3070	0.0018	1.3594
		Hispanic * 16	0.2580	0.0057	1.2943	0.2929	0.0018	1.3403

Variable Description	Variable Name	Class Variable	All Citations			Citations Excluding Suspended License and Other Lower Discretion Citations		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
		Other * 16	-0.1141	0.3780	0.8922	-0.0756	0.5689	0.9272
		White * 16						
		Black * 17	0.1413	0.0985	1.1518	0.1711	0.0481	1.1866
		Hispanic * 17	0.2307	0.0026	1.2595	0.2425	0.0020	1.2744
		Other * 17	-0.0541	0.5942	0.9473	-0.0480	0.6356	0.9531
		White * 17						
		Black * 18	0.5482	0.0005	1.7301	0.5473	0.0005	1.7285
		Hispanic * 18	0.4276	0.0123	1.5336	0.3963	0.0209	1.4864
		Other * 18	0.0349	0.9117	1.0355	-0.0803	0.7973	0.9228
		White * 18						
		Black * 07						
		Hispanic * 07						
		Other * 07						
		White * 07						
Officer Race	Officer_Race	Off_AmerIndian	-0.0268	0.9221	0.9735	-0.0227	0.9367	0.9776
		Off_Asian	0.1298	0.1418	1.1386	0.1359	0.1215	1.1455
		Off_Black	0.2484	0.0035	1.2819	0.2790	0.0012	1.3218
		Off_Hispanic	0.1668	0.0014	1.1816	0.1789	0.0007	1.1959
		Off_White						
Suspect Race * Officer Race	Race * Officer_Race	Black * Off_AmerIndian	0.1665	0.2081	1.1811	0.1318	0.4139	1.1408
		Black * Off_Asian	0.0156	0.8564	1.0157	0.0209	0.8047	1.0211
		Black * Off_Black	-0.0015	0.9838	0.9985	0.0097	0.8993	1.0098
		Black * Off_Hispanic	0.0428	0.3454	1.0437	0.0410	0.3628	1.0419
		Black * Off_White						
		Hispanic * Off_AmerIndian	0.3896	0.0001	1.4764	0.4013	0.0001	1.4937
		Hispanic * Off_Asian	-0.1222	0.2603	0.8850	-0.1178	0.2662	0.8889
		Hispanic * Off_Black	-0.0394	0.5735	0.9613	-0.0305	0.6697	0.9700
		Hispanic * Off_Hispanic	-0.0221	0.6629	0.9781	-0.0156	0.7541	0.9845
		Hispanic * Off_White						
		Other * Off_AmerIndian	0.1058	0.7324	1.1117	0.0917	0.7644	1.0960
		Other * Off_Asian	-0.1579	0.0336	0.8539	-0.1797	0.0172	0.8355
		Other * Off_Black	-0.0186	0.8336	0.9816	-0.0277	0.7550	0.9727
		Other * Off_Hispanic	0.0793	0.1308	1.0825	0.0648	0.2143	1.0669
		Other * Off_White						
		White * Off_AmerIndian						
		White * Off_Asian						
		White * Off_Black						
		White * Off_Hispanic						
		White * Off_White						

Variable Description	Variable Name	Class Variable	All Citations			Citations Excluding Suspended License and Other Lower Discretion Citations		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
Stop Reason	Stop_Reason	Call for Service	-3.5188	0.0000	0.0296	-3.7052	0.0000	0.0246
		Consensual	-4.6003	0.0000	0.0100	-4.8696	0.0000	0.0077
		Department Briefing	-4.3888	0.0000	0.0124	-4.8202	0.0000	0.0081
		Health and Safety	-4.6119	0.0000	0.0099	-4.8870	0.0000	0.0075
		Municipal	-2.3718	0.0000	0.0933	-2.5654	0.0000	0.0769
		Other	-2.9003	0.0000	0.0550	-3.5938	0.0000	0.0275
		Pedestrian Vehicle	0.4909	0.0000	1.6338	0.3402	0.0000	1.4053
		Penal	-3.5306	0.0000	0.0293	-3.7953	0.0000	0.0225
		Equip./Regist. Vehicle	-0.1091	0.0013	0.8966	-0.1494	0.0000	0.8613
		Suspect Flight Moving Vehicle	-3.7850	0.0000	0.0227	-4.0590	0.0000	0.0173
Night Stop	Night_Dum		-0.5212	0.0000	0.5938	-0.5293	0.0000	0.5890
Number of People in Encounter	Group		-0.0903	0.0000	0.9137	-0.0939	0.0000	0.9104
Count of Incivility Stops in RD	Incivil		-0.0001	0.0014	0.9999	-0.0001	0.0016	0.9999
Percent Black in RD	Percent_Black		-0.5560	0.0000	0.5735	-0.6039	0.0000	0.5467
Percent Hispanic in RD	Percent_Hispanic		-0.5024	0.0000	0.6051	-0.6069	0.0000	0.5450
Percent Single Parents in RD	Percent_SingleParent		-0.6900	0.0001	0.5016	-0.7877	0.0000	0.4549
Count of Complaints Against Officer	Complaints		0.0227	0.0008	1.0230	0.0201	0.0040	1.0203
Count of Major Commendations Received by Officer	Mj_Commend		0.1971	0.0333	1.2179	0.2102	0.0276	1.2339
Patrol/Traffic/Other Officer Indicator	Officer_Type	Other	-1.0551	0.0000	0.3482	-1.0381	0.0000	0.3541
		Traffic	1.2867	0.0000	3.6210	1.3809	0.0000	3.9784
		Patrol						
Suspect Age Range	Age_Rng	1-17	2.3057	0.0000	10.0308	2.3856	0.0000	10.8659
		18-25	0.1593	0.0000	1.1727	0.1387	0.0000	1.1487
		36-45	-0.0054	0.6775	0.9946	0.0308	0.0198	1.0313
		46-55	0.1614	0.0000	1.1752	0.2200	0.0000	1.2460
		56 or Above	0.1801	0.0000	1.1974	0.2507	0.0000	1.2849
		26-35						
Pedestrian Indicator	Pedestrian_Dum		-1.2897	0.0000	0.2753	-0.9283	0.0000	0.3952
Passenger Indicator	Passenger_Dum		-2.1499	0.0000	0.1165	-1.8945	0.0000	0.1504
Suspect Gender	Male_Dum		-0.2447	0.0000	0.7829	-0.2919	0.0000	0.7469

Note:

1. Variables set as the baseline do not have Coefficients, p-values, and Odds Ratios.

Table F1
Summary of Parameter Estimates for Non-Gang Officer Post-Stop Outcome Models

			Officer Requests to Exit the Vehicle [2]			Officer Requests to Exit the Vehicle Excluding Violent Arrests [2]		
Variable Description	**Variable Name**	**Class Variable**	**Coefficient**	**p-value**	**Odds Ratio**	**Coefficient**	**p-value**	**Odds Ratio**
Intercept	Intercept		-3.3763	0.0000	0.0342	-3.3784	0.0000	0.0341
Suspect Race	Race	Black	1.0617	0.0000	2.8912	1.0589	0.0000	2.8833
		Hispanic	1.2349	0.0000	3.4381	1.2342	0.0000	3.4357
		Other	-0.2505	0.0044	0.7784	-0.2489	0.0046	0.7797
		White						
Division	Area	01	0.0783	0.4929	1.0814	0.0807	0.4798	1.0841
		02	0.5868	0.0000	1.7981	0.5870	0.0000	1.7985
		03	-0.2823	0.1011	0.7541	-0.2788	0.1052	0.7567
		04	0.1280	0.4406	1.1365	0.1313	0.4292	1.1403
		05	0.5936	0.0000	1.8106	0.5897	0.0000	1.8035
		06	0.4097	0.0003	1.5063	0.4104	0.0003	1.5074
		08	-0.2592	0.0358	0.7716	-0.2615	0.0339	0.7699
		09	0.6294	0.0000	1.8764	0.6282	0.0000	1.8743
		10	0.6543	0.0000	1.9239	0.6567	0.0000	1.9283
		11	0.1096	0.3777	1.1159	0.1154	0.3535	1.1223
		12	0.4122	0.0339	1.5102	0.4164	0.0324	1.5165
		13	0.5114	0.0008	1.6677	0.5159	0.0008	1.6752
		14	-0.0029	0.9749	0.9971	-0.0008	0.9929	0.9992
		15	0.5724	0.0000	1.7725	0.5720	0.0000	1.7718
		16	0.8793	0.0000	2.4093	0.8810	0.0000	2.4132
		17	0.8888	0.0000	2.4322	0.8915	0.0000	2.4387
		18	0.6400	0.0011	1.8965	0.6436	0.0010	1.9034
		07						
Suspect Race * Division	Race * Area	Black * 01	0.0757	0.5284	1.0787	0.0815	0.4970	1.0849
		Hispanic * 01	0.0973	0.3925	1.1022	0.0999	0.3805	1.1050
		Other * 01	0.1375	0.3440	1.1474	0.1342	0.3564	1.1437
		White * 01						
		Black * 02	-0.4164	0.0001	0.6594	-0.4088	0.0001	0.6644
		Hispanic * 02	-0.4386	0.0000	0.6449	-0.4376	0.0000	0.6456
		Other * 02	-0.2057	0.0743	0.8141	-0.2041	0.0757	0.8154
		White * 02						
		Black * 03	0.3216	0.0719	1.3794	0.3247	0.0691	1.3836
		Hispanic * 03	0.1436	0.4294	1.1545	0.1428	0.4320	1.1535
		Other * 03	0.3897	0.1233	1.4766	0.3892	0.1237	1.4758
		White * 03						
		Black * 04	-0.8228	0.0011	0.4392	-0.8209	0.0011	0.4400
		Hispanic * 04	-0.1843	0.2671	0.8317	-0.1834	0.2700	0.8325
		Other * 04	-0.2933	0.1953	0.7458	-0.2926	0.1962	0.7463
		White * 04						

Variable Description	Variable Name	Class Variable	Officer Requests to Exit the Vehicle [2]			Officer Requests to Exit the Vehicle Excluding Violent Arrests [2]		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
		Black * 05	-0.6650	0.0000	0.5143	-0.6568	0.0000	0.5185
		Hispanic * 05	-0.7539	0.0000	0.4705	-0.7490	0.0000	0.4728
		Other * 05	-0.4361	0.0085	0.6465	-0.4279	0.0099	0.6519
		White * 05						
		Black * 06	-0.7197	0.0000	0.4869	-0.7189	0.0000	0.4873
		Hispanic * 06	-0.5127	0.0000	0.5989	-0.5124	0.0000	0.5990
		Other * 06	-0.1285	0.3183	0.8794	-0.1360	0.2903	0.8729
		White * 06						
		Black * 08	-0.1453	0.1948	0.8648	-0.1413	0.2081	0.8682
		Hispanic * 08	0.0068	0.9495	1.0069	0.0094	0.9304	1.0095
		Other * 08	0.2156	0.0772	1.2406	0.2173	0.0749	1.2427
		White * 08						
		Black * 09	-0.5729	0.0000	0.5639	-0.5624	0.0000	0.5699
		Hispanic * 09	-0.4369	0.0000	0.6460	-0.4323	0.0000	0.6490
		Other * 09	-0.1489	0.2255	0.8617	-0.1444	0.2394	0.8655
		White * 09						
		Black * 10	-0.7967	0.0000	0.4508	-0.7930	0.0000	0.4525
		Hispanic * 10	-0.6007	0.0000	0.5484	-0.5997	0.0000	0.5490
		Other * 10	-0.3695	0.0016	0.6911	-0.3656	0.0018	0.6938
		White * 10						
		Black * 11	-0.4017	0.0011	0.6692	-0.4057	0.0010	0.6665
		Hispanic * 11	-0.2859	0.0052	0.7513	-0.2874	0.0050	0.7502
		Other * 11	0.0709	0.6298	1.0734	0.0603	0.6837	1.0621
		White * 11						
		Black * 12	-0.0945	0.6181	0.9098	-0.0906	0.6332	0.9134
		Hispanic * 12	-0.2032	0.2970	0.8161	-0.2053	0.2928	0.8144
		Other * 12	-0.1670	0.6067	0.8462	-0.1670	0.6068	0.8462
		White * 12						
		Black * 13	-0.1146	0.4590	0.8917	-0.1134	0.4642	0.8928
		Hispanic * 13	-0.1919	0.2085	0.8254	-0.1911	0.2113	0.8261
		Other * 13	-0.3623	0.1063	0.6961	-0.3628	0.1061	0.6957
		White * 13						
		Black * 14	-0.7077	0.0000	0.4928	-0.7062	0.0000	0.4935
		Hispanic * 14	-0.6016	0.0000	0.5479	-0.6019	0.0000	0.5478
		Other * 14	-0.2966	0.0191	0.7433	-0.2955	0.0196	0.7442
		White * 14						
		Black * 15	-0.6459	0.0000	0.5242	-0.6432	0.0000	0.5256
		Hispanic * 15	-0.3780	0.0001	0.6852	-0.3734	0.0001	0.6884
		Other * 15	0.1114	0.4111	1.1179	0.1166	0.3892	1.1237
		White * 15						
		Black * 16	-0.7067	0.0000	0.4933	-0.7027	0.0000	0.4953
		Hispanic * 16	-0.8835	0.0000	0.4133	-0.8813	0.0000	0.4142

Variable Description	Variable Name	Class Variable	Officer Requests to Exit the Vehicle [2]			Officer Requests to Exit the Vehicle Excluding Violent Arrests [2]		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
		Other * 16	-0.5011	0.0020	0.6059	-0.5086	0.0017	0.6013
		White * 16						
		Black * 17	-0.9317	0.0000	0.3939	-0.9324	0.0000	0.3936
		Hispanic * 17	-0.7435	0.0000	0.4754	-0.7437	0.0000	0.4754
		Other * 17	-0.5307	0.0000	0.5882	-0.5282	0.0000	0.5896
		White * 17						
		Black * 18	-0.2495	0.1896	0.7792	-0.2476	0.1931	0.7807
		Hispanic * 18	-0.4099	0.0299	0.6637	-0.4094	0.0301	0.6641
		Other * 18	0.4486	0.1310	1.5662	0.4472	0.1323	1.5640
		White * 18						
		Black * 07						
		Hispanic * 07						
		Other * 07						
		White * 07						
Officer Race	Officer_Race	Off_AmerIndian	0.3554	0.3543	1.4268	0.3578	0.3494	1.4302
		Off_Asian	-0.0403	0.5795	0.9605	-0.0436	0.5501	0.9574
		Off_Black	-0.3453	0.0000	0.7080	-0.3453	0.0000	0.7080
		Off_Hispanic	-0.0060	0.9061	0.9940	-0.0067	0.8960	0.9933
		Off_White						
Suspect Race * Officer Race	Race * Officer_Race	Black * Off_AmerIndian	-0.4510	0.1886	0.6370	-0.4575	0.1775	0.6329
		Black * Off_Asian	0.0713	0.3454	1.0739	0.0734	0.3314	1.0762
		Black * Off_Black	0.0072	0.9272	1.0073	0.0098	0.9016	1.0098
		Black * Off_Hispanic	-0.0418	0.4189	0.9591	-0.0436	0.3996	0.9573
		Black * Off_White						
		Hispanic * Off_AmerIndian	-0.6219	0.0051	0.5369	-0.6274	0.0044	0.5340
		Hispanic * Off_Asian	0.0082	0.9055	1.0082	0.0098	0.8874	1.0098
		Hispanic * Off_Black	0.1623	0.0174	1.1762	0.1644	0.0159	1.1787
		Hispanic * Off_Hispanic	-0.0877	0.0873	0.9161	-0.0880	0.0866	0.9158
		Hispanic * Off_White						
		Other * Off_AmerIndian	-0.7152	0.0031	0.4891	-0.7173	0.0030	0.4881
		Other * Off_Asian	0.1894	0.0800	1.2085	0.1846	0.0884	1.2028
		Other * Off_Black	0.2623	0.0085	1.2999	0.2629	0.0083	1.3007
		Other * Off_Hispanic	0.0576	0.3786	1.0593	0.0526	0.4215	1.0540
		Other * Off_White						
		White * Off_AmerIndian						
		White * Off_Asian						
		White * Off_Black						
		White * Off_Hispanic						
		White * Off_White						

Variable Description	Variable Name	Class Variable	Officer Requests to Exit the Vehicle [2]			Officer Requests to Exit the Vehicle Excluding Violent Arrests [2]		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
Stop Reason	Stop_Reason	Call for Service	0.5481	0.0000	1.7299	0.5373	0.0000	1.7114
		Consensual	0.8335	0.0000	2.3013	0.8265	0.0000	2.2853
		Department Briefing	1.3445	0.0000	3.8362	1.3250	0.0000	3.7620
		Health and Safety	2.2934	0.0000	9.9090	2.2955	0.0000	9.9289
		Municipal	0.7891	0.0000	2.2015	0.7877	0.0000	2.1984
		Other	1.1521	0.0000	3.1649	1.1466	0.0000	3.1475
		Pedestrian Vehicle	-0.8300	0.0003	0.4360	-0.8300	0.0003	0.4360
		Penal	1.7391	0.0000	5.6924	1.7492	0.0000	5.7498
		Equip./Regist. Vehicle	0.1335	0.0000	1.1428	0.1346	0.0000	1.1441
		Suspect Flight Moving Vehicle	0.7429	0.0001	2.1019	0.7124	0.0003	2.0389
Weekend Stop	Weekend_Dum		0.0455	0.0004	1.0465	0.0451	0.0004	1.0461
Night Stop	Night_Dum		0.4546	0.0000	1.5756	0.4553	0.0000	1.5767
Number of People in Encounter	Group		0.4295	0.0000	1.5365	0.4281	0.0000	1.5343
Percent Black in RD	Percent_Black		0.4158	0.0000	1.5155	0.4122	0.0000	1.5101
Percent Hispanic in RD	Percent_Hispanic		0.7968	0.0000	2.2184	0.7958	0.0000	2.2162
Percent Unemployed in RD	Percent_Unemployed		0.3019	0.0044	1.3525	0.2992	0.0049	1.3488
Population Density	Density		0.0004	0.0392	1.0004	0.0004	0.0341	1.0004
Count of Gang Stops in RD	Gang_Stops		0.0002	0.0004	1.0002	0.0002	0.0004	1.0002
Count of Complaints Against Officer	Complaints		0.0196	0.0003	1.0198	0.0201	0.0002	1.0203
Officer's Age	Officer_Age		-0.0173	0.0000	0.9828	-0.0173	0.0000	0.9828
Patrol/Traffic/Other Officer Indicator	Officer_Type	Other	1.0367	0.0000	2.8199	1.0337	0.0000	2.8114
		Traffic	-0.8227	0.0000	0.4392	-0.8208	0.0000	0.4401
		Patrol						
Suspect Age Range	Age_Rng	1-17	0.7112	0.0000	2.0365	0.7130	0.0000	2.0401
		18-25	0.1849	0.0000	1.2031	0.1861	0.0000	1.2046
		36-45	-0.2378	0.0000	0.7883	-0.2380	0.0000	0.7882
		46-55	-0.5000	0.0000	0.6065	-0.5004	0.0000	0.6063
		56 or Above	-0.8876	0.0000	0.4117	-0.8881	0.0000	0.4114
		26-35						
Suspect Gender	Male_Dum		0.6598	0.0000	1.9344	0.6601	0.0000	1.9350

Notes:

1. Variables set as the baseline do not have Coefficients, p-values, and Odds Ratios.
2. Model excludes pedestrian and passenger records and also excludes "Pedestrian Indicator" and "Passenger Indicator" variables because the stop outcome only applies to drivers.

Table F1
Summary of Parameter Estimates for Non-Gang Officer Post-Stop Outcome Models

			Pat-Downs/Frisks			Higher Discretion Searches [3]		
Variable Description	**Variable Name**	**Class Variable**	**Coefficient**	**p-value**	**Odds Ratio**	**Coefficient**	**p-value**	**Odds Ratio**
Intercept	Intercept		-3.9258	0.0000	0.0197	-4.9346	0.0000	0.0072
Suspect Race	Race	Black	0.8524	0.0000	2.3453	0.6964	0.0000	2.0066
		Hispanic	0.6807	0.0000	1.9752	0.1289	0.2428	1.1376
		Other	-0.3108	0.0010	0.7328	-0.5151	0.0022	0.5974
		White						
Division	Area	01	0.1215	0.2179	1.1292	-0.2263	0.1403	0.7974
		02	0.6367	0.0000	1.8902	0.3202	0.0209	1.3774
		03	-0.4717	0.0021	0.6239	-0.4267	0.0703	0.6527
		04	0.2849	0.0964	1.3297	0.1742	0.4258	1.1903
		05	0.3932	0.0005	1.4817	0.5299	0.0001	1.6987
		06	0.2469	0.0173	1.2800	0.1476	0.2475	1.1591
		08	-0.3495	0.0012	0.7051	-0.1861	0.1727	0.8302
		09	0.5135	0.0000	1.6712	0.2719	0.0411	1.3125
		10	0.6354	0.0000	1.8877	0.4424	0.0008	1.5564
		11	0.1150	0.2800	1.1219	-0.1748	0.2556	0.8396
		12	0.3796	0.0317	1.4617	0.5179	0.0172	1.6786
		13	0.5804	0.0003	1.7867	0.1586	0.4495	1.1719
		14	-0.2296	0.0121	0.7949	-0.0714	0.5813	0.9311
		15	0.4638	0.0000	1.5901	0.2880	0.0253	1.3338
		16	0.7442	0.0000	2.1047	0.5712	0.0000	1.7704
		17	0.5988	0.0000	1.8200	0.4012	0.0015	1.4936
		18	0.6520	0.0001	1.9194	0.3240	0.2532	1.3826
		07						
Suspect Race * Division	Race * Area	Black * 01	-0.2293	0.0101	0.7951	-0.0329	0.8177	0.9676
		Hispanic * 01	-0.4685	0.0000	0.6260	0.1394	0.3463	1.1496
		Other * 01	-0.3932	0.0028	0.6749	0.1630	0.5428	1.1770
		White * 01						
		Black * 02	-0.5738	0.0000	0.5634	-0.3772	0.0039	0.6858
		Hispanic * 02	-0.4979	0.0000	0.6078	-0.3896	0.0043	0.6773
		Other * 02	-0.2795	0.0250	0.7562	-0.1518	0.4845	0.8592
		White * 02						
		Black * 03	0.4336	0.0023	1.5428	0.4637	0.0459	1.5900
		Hispanic * 03	0.3281	0.0199	1.3884	0.5882	0.0151	1.8008
		Other * 03	-0.1211	0.6463	0.8860	0.5064	0.2414	1.6594
		White * 03						
		Black * 04	-0.7492	0.0006	0.4727	-0.7686	0.0057	0.4637
		Hispanic * 04	-0.2816	0.0790	0.7546	0.1403	0.5188	1.1506
		Other * 04	-0.1256	0.5959	0.8820	0.2857	0.4282	1.3306
		White * 04						
		Black * 05	-0.4133	0.0001	0.6615	-0.2064	0.0934	0.8135
		Hispanic * 05	-0.3318	0.0000	0.7176	-0.0966	0.4391	0.9079

Variable Description	Variable Name	Class Variable	Pat-Downs/Frisks			Higher Discretion Searches [3]		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
		Other * 05	-0.4369	0.0032	0.6461	0.1857	0.4179	1.2041
		White * 05						
		Black * 06	-0.4238	0.0000	0.6545	-0.1322	0.2628	0.8762
		Hispanic * 06	-0.3843	0.0000	0.6809	0.0361	0.7759	1.0368
		Other * 06	-0.1259	0.2900	0.8817	0.0291	0.8914	1.0295
		White * 06						
		Black * 08	-0.1843	0.0508	0.8317	-0.0914	0.5172	0.9127
		Hispanic * 08	0.2088	0.0234	1.2322	0.4766	0.0008	1.6106
		Other * 08	0.1400	0.2884	1.1503	0.4427	0.0392	1.5570
		White * 08						
		Black * 09	-0.5262	0.0000	0.5908	-0.2726	0.0368	0.7614
		Hispanic * 09	-0.2524	0.0015	0.7769	-0.0253	0.8536	0.9750
		Other * 09	0.0714	0.6056	1.0741	-0.1032	0.6645	0.9019
		White * 09						
		Black * 10	-0.7181	0.0000	0.4877	-0.6340	0.0000	0.5305
		Hispanic * 10	-0.4872	0.0000	0.6144	-0.1794	0.1751	0.8358
		Other * 10	-0.3508	0.0028	0.7041	-0.4775	0.0319	0.6203
		White * 10						
		Black * 11	-0.3808	0.0006	0.6833	-0.1260	0.4426	0.8816
		Hispanic * 11	-0.2021	0.0253	0.8170	0.4017	0.0037	1.4944
		Other * 11	0.0594	0.6621	1.0612	0.3007	0.2032	1.3509
		White * 11						
		Black * 12	-0.2092	0.1997	0.8112	-0.3688	0.0844	0.6916
		Hispanic * 12	-0.2041	0.2204	0.8154	-0.2379	0.2790	0.7883
		Other * 12	-0.5050	0.2154	0.6035	-0.5168	0.3519	0.5964
		White * 12						
		Black * 13	-0.2919	0.0623	0.7469	-0.1004	0.6226	0.9045
		Hispanic * 13	-0.3426	0.0237	0.7099	0.1580	0.4571	1.1712
		Other * 13	-0.5844	0.0126	0.5574	0.4174	0.3028	1.5181
		White * 13						
		Black * 14	-0.5424	0.0000	0.5813	-0.2946	0.0137	0.7448
		Hispanic * 14	-0.3218	0.0000	0.7249	0.0825	0.5213	1.0860
		Other * 14	-0.2850	0.0155	0.7520	-0.0456	0.8448	0.9555
		White * 14						
		Black * 15	-0.4442	0.0000	0.6413	-0.2328	0.1156	0.7923
		Hispanic * 15	-0.2674	0.0021	0.7653	-0.0011	0.9934	0.9989
		Other * 15	0.2166	0.1234	1.2419	0.4298	0.0984	1.5369
		White * 15						
		Black * 16	-0.5803	0.0000	0.5597	-0.4282	0.0012	0.6517
		Hispanic * 16	-0.5729	0.0000	0.5639	-0.4215	0.0010	0.6561
		Other * 16	-0.7356	0.0000	0.4792	-0.2484	0.2741	0.7800
		White * 16						
		Black * 17	-0.7641	0.0000	0.4657	-0.4623	0.0002	0.6298
		Hispanic * 17	-0.5498	0.0000	0.5771	-0.4452	0.0003	0.6407
		Other * 17	-0.3418	0.0028	0.7105	-0.2028	0.3629	0.8164
		White * 17						

Variable Description	Variable Name	Class Variable	Pat-Downs/Frisks			Higher Discretion Searches [3]		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
		Black * 18	-0.3232	0.0451	0.7239	-0.3440	0.2236	0.7090
		Hispanic * 18	-0.4667	0.0045	0.6270	-0.2054	0.4624	0.8144
		Other * 18	-0.5946	0.2512	0.5518	0.5708	0.2534	1.7697
		White * 18						
		Black * 07						
		Hispanic * 07						
		Other * 07						
		White * 07						
Officer Race	Officer_Race	Off_AmerIndian	-0.2818	0.4806	0.7544	0.1501	0.0637	1.1620
		Off_Asian	0.0792	0.2130	1.0824			
		Off_Black	-0.3299	0.0001	0.7190	-0.3116	0.0042	0.7323
		Off_Hispanic	0.0923	0.0297	1.0967	0.0078	0.8823	1.0078
		Off_White						
Suspect Race * Officer Race	Race * Officer_Race	Black * Off_AmerIndian	0.2047	0.5041	1.2272	0.0230	0.7433	1.0232
		Black * Off_Asian	-0.0073	0.8975	0.9927			
		Black * Off_Black	0.0725	0.2961	1.0751	0.0834	0.3850	1.0869
		Black * Off_Hispanic	-0.0389	0.2992	0.9618	-0.0354	0.4558	0.9652
		Black * Off_White						
		Hispanic * Off_AmerIndian	-0.0774	0.7569	0.9255	0.0049	0.9453	1.0049
		Hispanic * Off_Asian	0.0562	0.2709	1.0578			
		Hispanic * Off_Black	0.1143	0.0918	1.1210	0.2160	0.0248	1.2411
		Hispanic * Off_Hispanic	-0.0570	0.0847	0.9446	-0.0639	0.1598	0.9381
		Hispanic * Off_White						
		Other * Off_AmerIndian	-0.2554	0.5835	0.7746	0.0835	0.5409	1.0870
		Other * Off_Asian	0.0803	0.3382	1.0836			
		Other * Off_Black	0.1699	0.0984	1.1852	0.1687	0.3524	1.1838
		Other * Off_Hispanic	0.0716	0.2306	1.0742	-0.0621	0.5378	0.9398
		Other * Off_White						
		White * Off_AmerIndian						
		White * Off_Asian						
		White * Off_Black						
		White * Off_Hispanic						
		White * Off_White						
Stop Reason	Stop_Reason	Call for Service	1.7962	0.0000	6.0268	0.5945	0.0000	1.8121
		Consensual	1.1115	0.0000	3.0388	0.6165	0.0000	1.8523
		Department Briefing	1.7463	0.0000	5.7332	0.6584	0.0000	1.9317
		Health and Safety	2.3012	0.0000	9.9860	0.7920	0.0000	2.2077
		Municipal	0.8429	0.0000	2.3231	0.1743	0.0001	1.1904
		Other	1.1545	0.0000	3.1724	0.7229	0.0000	2.0604
		Pedestrian Vehicle	0.1085	0.0057	1.1146	0.1886	0.0000	1.2076
		Penal	2.4445	0.0000	11.5249	0.4366	0.0000	1.5474

Variable Description	Variable Name	Class Variable	Pat-Downs/Frisks			Higher Discretion Searches [3]		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
		Equip./Regist. Vehicle	-0.0363	0.0612	0.9643	0.0540	0.0226	1.0555
		Suspect Flight Moving Vehicle	2.5631	0.0000	12.9757	0.9993	0.0000	2.7163
Night Stop	Night_Dum		0.4157	0.0000	1.5154	0.2202	0.0000	1.2463
Number of People in Encounter	Group		0.0870	0.0000	1.0909	0.0770	0.0000	1.0800
Percent Black in RD	Percent_Black		0.4573	0.0000	1.5798	0.3866	0.0000	1.4720
Percent Hispanic in RD	Percent_Hispanic		0.7028	0.0000	2.0194	0.4907	0.0000	1.6334
Percent Divorced in RD	Percent_Divorced		0.9012	0.0004	2.4627			
Percent Single Parents in RD	Percent_SingleParent		0.4486	0.0045	1.5661			
Percent Owner Occupied Dwellings in RD	Percent_Owner		0.1860	0.0000	1.2045			
Percent Unemployed in RD	Percent_Unemployed		0.4801	0.0000	1.6162			
Rate of Property Crime in RD	Property_Rate					0.0000	0.0000	1.0000
Count of Gang Stops in RD	Gang_Stops		0.0003	0.0000	1.0003	0.0003	0.0000	1.0003
Count of Complaints Against Officer	Complaints		0.0163	0.0081	1.0164	0.0280	0.0003	1.0284
Count of Major Commendations Received by Officer	Mj_Commend					0.2351	0.0192	1.2651
Officer's Age	Officer_Age		-0.0294	0.0000	0.9710	-0.0129	0.0071	0.9872
Number of Months of Service for Officer	Service_Months					-0.0037	0.0000	0.9963
Number of Months of Service for Officer Squared	Service_Months_Sq					0.0000	0.0033	1.0000
Gender of Officer	Officer_Male_Dum		-0.1263	0.0051	0.8813			
Patrol/Traffic/Other Officer Indicator	Officer_Type	Other	1.0160	0.0000	2.7620	0.2252	0.0112	1.2526
		Traffic	-1.6575	0.0000	0.1906	-2.0639	0.0000	0.1270
		Patrol						
Suspect Age Range	Age_Rng	1-17	0.0860	0.0022	1.0899	-0.0735	0.0161	0.9291
		18-25	0.2007	0.0000	1.2223	0.0638	0.0002	1.0659
		36-45	-0.1566	0.0000	0.8550	-0.0797	0.0000	0.9234
		46-55	-0.4394	0.0000	0.6444	-0.3519	0.0000	0.7033
		56 or Above	-0.9342	0.0000	0.3929	-0.9823	0.0000	0.3744
		26-35						
Pedestrian Indicator	Pedestrian_Dum		1.1431	0.0000	3.1366	0.9679	0.0000	2.6325
Passenger Indicator	Passenger_Dum		1.5813	0.0000	4.8614	1.2771	0.0000	3.5862
Suspect Gender	Male_Dum		1.9409	0.0000	6.9651	1.4313	0.0000	4.1840

Notes:

1. Variables set as the baseline do not have Coefficients, p-values, and Odds Ratios.
2. Shaded region indicates that the variable is not used in the model for the stop outcome.
3. Model combines officers of American Indian and Asian descent into one category. Coefficients, p-values, and Odds Ratios for the combined American Indian and Asian officers has been listed in "Off_AmerIndian".

Table F1
Summary of Parameter Estimates for Non-Gang Officer Post-Stop Outcome Models

			No Action Taken			Requests for Consent to Search		
Variable Description	**Variable Name**	**Class Variable**	**Coefficient**	**p-value**	**Odds Ratio**	**Coefficient**	**p-value**	**Odds Ratio**
Intercept	Intercept		-5.0309	0.0000	0.0065	-4.8105	0.0000	0.0081
Suspect Race	Race	Black	0.2209	0.0258	1.2471	0.5985	0.0000	1.8195
		Hispanic	-0.0018	0.9880	0.9982	0.4298	0.0000	1.5370
		Other	-0.1215	0.5351	0.8856	-0.5467	0.0000	0.5788
		White						
Division	Area	01	-0.4034	0.0415	0.6680	0.0653	0.6239	1.0675
		02	-0.5027	0.0062	0.6049	0.7388	0.0000	2.0933
		03	-0.0204	0.9424	0.9798	-0.5156	0.0342	0.5972
		04	-0.1458	0.6673	0.8643	0.4494	0.0264	1.5674
		05	0.0474	0.7776	1.0485	0.4610	0.0003	1.5856
		06	-0.2534	0.0989	0.7762	0.3140	0.0079	1.3689
		08	-0.6740	0.0001	0.5097	-0.2185	0.1090	0.8038
		09	0.1550	0.2964	1.1677	0.7259	0.0000	2.0667
		10	0.3268	0.0226	1.3866	0.7744	0.0000	2.1693
		11	-0.3720	0.0429	0.6894	0.0445	0.7539	1.0455
		12	-0.8381	0.0189	0.4325	0.3151	0.1186	1.3704
		13	-0.5599	0.1541	0.5713	0.3853	0.0572	1.4700
		14	-0.3942	0.0105	0.6742	-0.1308	0.2775	0.8774
		15	0.0731	0.6493	1.0758	0.5970	0.0000	1.8167
		16	0.4459	0.0029	1.5618	0.9012	0.0000	2.4625
		17	0.2086	0.1544	1.2320	0.8205	0.0000	2.2717
		18	-0.1674	0.6147	0.8458	0.6973	0.0013	2.0083
		07						
Suspect Race * Division	Race * Area	Black * 01	-0.2397	0.1866	0.7868	-0.1896	0.1300	0.8273
		Hispanic * 01	-0.0469	0.8157	0.9542	-0.4395	0.0002	0.6443
		Other * 01	0.5624	0.0428	1.7548	-0.0660	0.7291	0.9362
		White * 01						
		Black * 02	0.2312	0.1741	1.2602	-0.8029	0.0000	0.4480
		Hispanic * 02	0.2096	0.2431	1.2331	-0.8334	0.0000	0.4346
		Other * 02	-0.0671	0.8245	0.9351	-0.0730	0.6419	0.9296
		White * 02						
		Black * 03	-0.4057	0.1490	0.6665	0.3970	0.0969	1.4873
		Hispanic * 03	0.1457	0.6216	1.1569	0.3615	0.1336	1.4355
		Other * 03	-0.2063	0.7103	0.8136	0.3415	0.3227	1.4070
		White * 03						
		Black * 04	-0.1365	0.7564	0.8724	-0.5999	0.0184	0.5489
		Hispanic * 04	-0.0251	0.9395	0.9752	-0.2713	0.1426	0.7624
		Other * 04	-0.3650	0.4986	0.6942	0.2256	0.4213	1.2531
		White * 04						
		Black * 05	-0.0277	0.8682	0.9727	-0.5234	0.0000	0.5925

Variable Description	Variable Name	Class Variable	No Action Taken			Requests for Consent to Search		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
		Hispanic * 05	-0.0075	0.9619	0.9925	-0.4306	0.0001	0.6501
		Other * 05	-0.0624	0.8551	0.9395	-0.1459	0.4932	0.8642
		White * 05						
		Black * 06	-0.0902	0.4913	0.9138	-0.3651	0.0004	0.6941
		Hispanic * 06	0.0626	0.6927	1.0646	-0.3454	0.0012	0.7080
		Other * 06	-0.0380	0.8783	0.9627	-0.1136	0.4674	0.8926
		White * 06						
		Black * 08	-0.1261	0.6179	0.8815	-0.0253	0.8356	0.9750
		Hispanic * 08	0.4976	0.0161	1.6448	0.2894	0.0152	1.3357
		Other * 08	0.1340	0.6589	1.1434	0.3417	0.0499	1.4073
		White * 08						
		Black * 09	-0.1591	0.2869	0.8529	-0.5979	0.0000	0.5500
		Hispanic * 09	0.1532	0.3062	1.1655	-0.4255	0.0000	0.6535
		Other * 09	-0.1639	0.5849	0.8488	0.1507	0.4480	1.1627
		White * 09						
		Black * 10	0.0356	0.7949	1.0362	-0.6861	0.0000	0.5035
		Hispanic * 10	0.0625	0.6537	1.0644	-0.4966	0.0000	0.6086
		Other * 10	0.0871	0.7020	1.0910	-0.2674	0.0721	0.7654
		White * 10						
		Black * 11	0.1063	0.6335	1.1122	-0.2298	0.1091	0.7947
		Hispanic * 11	0.0972	0.5882	1.1020	-0.0746	0.5706	0.9282
		Other * 11	0.6904	0.0130	1.9944	0.2429	0.1937	1.2749
		White * 11						
		Black * 12	0.4970	0.1534	1.6438	-0.3735	0.0592	0.6883
		Hispanic * 12	0.7483	0.0372	2.1133	-0.4723	0.0190	0.6236
		Other * 12	1.8365	0.0019	6.2746	0.1645	0.6748	1.1788
		White * 12						
		Black * 13	0.2479	0.5114	1.2813	-0.3330	0.0828	0.7167
		Hispanic * 13	0.5250	0.1869	1.6905	-0.3442	0.0824	0.7088
		Other * 13	0.2795	0.6718	1.3224	-0.4757	0.2851	0.6215
		White * 13						
		Black * 14	0.2177	0.0987	1.2433	-0.4195	0.0001	0.6574
		Hispanic * 14	0.1313	0.4435	1.1403	-0.2118	0.0489	0.8091
		Other * 14	0.4492	0.1031	1.5670	-0.1503	0.3784	0.8605
		White * 14						
		Black * 15	0.1812	0.3550	1.1986	-0.4551	0.0002	0.6344
		Hispanic * 15	0.0947	0.5541	1.0993	-0.3939	0.0004	0.6744
		Other * 15	0.1914	0.5088	1.2109	0.2680	0.1235	1.3074
		White * 15						
		Black * 16	-0.4210	0.0060	0.6564	-0.8863	0.0000	0.4122
		Hispanic * 16	-0.1168	0.4229	0.8897	-0.7046	0.0000	0.4943
		Other * 16	0.0619	0.8192	1.0639	-0.5138	0.0046	0.5982
		White * 16						
		Black * 17	-0.1222	0.3511	0.8850	-0.7697	0.0000	0.4632
		Hispanic * 17	0.0672	0.6266	1.0695	-0.6763	0.0000	0.5085

Variable Description	Variable Name	Class Variable	No Action Taken			Requests for Consent to Search		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
		Other * 17	0.0144	0.9528	1.0145	-0.3109	0.0495	0.7328
		White * 17						
		Black * 18	0.0059	0.9852	1.0059	-0.7950	0.0002	0.4516
		Hispanic * 18	0.2616	0.4282	1.2990	-0.9380	0.0000	0.3914
		Other * 18	0.5327	0.4225	1.7034	0.7674	0.0310	2.1542
		White * 18						
		Black * 07						
		Hispanic * 07						
		Other * 07						
		White * 07						
Officer Race	Officer_Race	Off_AmerIndian	0.1540	0.6949	1.1665	-0.5459	0.0919	0.5793
		Off_Asian	0.0275	0.7773	1.0279	0.0681	0.4022	1.0705
		Off_Black	0.0687	0.5570	1.0711	-0.2203	0.0248	0.8023
		Off_Hispanic	-0.0361	0.5765	0.9646	0.0594	0.2649	1.0612
		Off_White						
Suspect Race * Officer Race	Race * Officer_Race	Black * Off_AmerIndian	-0.1627	0.6941	0.8499	0.4688	0.0043	1.5981
		Black * Off_Asian	-0.1553	0.1000	0.8561	0.1172	0.0880	1.1244
		Black * Off_Black	-0.2032	0.0961	0.8161	0.2406	0.0030	1.2720
		Black * Off_Hispanic	-0.0629	0.3575	0.9391	0.0551	0.2264	1.0567
		Black * Off_White						
		Hispanic * Off_AmerIndian	0.1618	0.7008	1.1757	-0.0629	0.7587	0.9390
		Hispanic * Off_Asian	-0.0628	0.4788	0.9391	0.1293	0.0604	1.1381
		Hispanic * Off_Black	-0.1504	0.1934	0.8603	0.2410	0.0021	1.2725
		Hispanic * Off_Hispanic	-0.0985	0.1181	0.9062	0.0791	0.0530	1.0823
		Hispanic * Off_White						
		Other * Off_AmerIndian	-0.5501	0.5364	0.5769	-0.2817	0.4849	0.7545
		Other * Off_Asian	0.0509	0.7524	1.0522	0.2811	0.0091	1.3245
		Other * Off_Black	-0.2788	0.2455	0.7567	0.1204	0.4186	1.1280
		Other * Off_Hispanic	0.0380	0.7563	1.0387	0.1955	0.0142	1.2160
		Other * Off_White						
		White * Off_AmerIndian						
		White * Off_Asian						
		White * Off_Black						
		White * Off_Hispanic						
		White * Off_White						
Stop Reason	Stop_Reason	Call for Service	1.6620	0.0000	5.2697	0.7539	0.0000	2.1253
		Consensual	2.6378	0.0000	13.9824	1.6051	0.0000	4.9785
		Department Briefing	2.0629	0.0000	7.8690	0.9798	0.0000	2.6640
		Health and Safety	1.0100	0.0000	2.7456	0.9837	0.0000	2.6743
		Municipal	0.3597	0.0000	1.4328	0.5154	0.0000	1.6743

Variable Description	Variable Name	Class Variable	No Action Taken			Requests for Consent to Search		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
		Other	2.0480	0.0000	7.7522	0.5462	0.0000	1.7267
		Pedestrian Vehicle	0.2915	0.0007	1.3384	0.4304	0.0000	1.5379
		Penal	0.8507	0.0000	2.3414	0.7425	0.0000	2.1012
		Equip./Regist. Vehicle	0.6895	0.0000	1.9927	0.1388	0.0000	1.1489
		Suspect Flight Moving Vehicle	1.3684	0.0000	3.9292	0.6234	0.0000	1.8653
Weekend Stop	Weekend_Dum					-0.0436	0.0008	0.9574
Night Stop	Night_Dum		0.1702	0.0000	1.1855	0.2405	0.0000	1.2719
Number of People in Encounter	Group		0.0448	0.0021	1.0458	0.0414	0.0002	1.0423
Count of Incivility Stops in RD	Incivil					0.0001	0.0015	1.0001
Count of Violent Crime Stops in RD	Violent					-0.0004	0.0001	0.9996
Percent Black in RD	Percent_Black		0.6325	0.0000	1.8824	0.5980	0.0000	1.8185
Percent Hispanic in RD	Percent_Hispanic		0.4705	0.0000	1.6007	0.4645	0.0000	1.5912
Percent Single Parents in RD	Percent_SingleParent					0.6417	0.0001	1.8997
Percent Owner Occupied Dwellings in RD	Percent_Owner					0.1723	0.0003	1.1880
Percent Unemployed in RD	Percent_Unemployed		-0.7767	0.0001	0.4599	0.3709	0.0017	1.4491
Count of Gang Stops in RD	Gang_Stops					0.0003	0.0000	1.0003
Number of Months of Service for Officer	Service_Months		-0.0073	0.0000	0.9927	-0.0026	0.0000	0.9974
Number of Months of Service for Officer Squared	Service_Months_Sq		0.0000	0.0000	1.0000			
Patrol/Traffic/Other Officer Indicator	Officer_Type	Other	-0.8848	0.0000	0.4128	1.0168	0.0000	2.7643
		Traffic	-1.2655	0.0000	0.2821	-1.6740	0.0000	0.1875
		Patrol						
Suspect Age Range	Age_Rng	1-17	-0.2829	0.0000	0.7536	-0.1032	0.0002	0.9020
		18-25	-0.0353	0.1626	0.9653	0.1510	0.0000	1.1630
		36-45	-0.1347	0.0000	0.8740	-0.0676	0.0000	0.9346
		46-55	-0.2739	0.0000	0.7604	-0.3155	0.0000	0.7295
		56 or Above	-0.1242	0.0392	0.8832	-0.6684	0.0000	0.5125
		26-35						
Pedestrian Indicator	Pedestrian_Dum		0.7589	0.0000	2.1359	0.5775	0.0000	1.7816
Passenger Indicator	Passenger_Dum		2.3412	0.0000	10.3932	0.8786	0.0000	2.4076
Suspect Gender	Male_Dum					1.1695	0.0000	3.2205

Notes:

1. Variables set as the baseline do not have Coefficients, p-values, and Odds Ratios.
2. Shaded region indicates that the variable is not used in the model for the stop outcome.

Table F2
Summary of F-Tests for Non-Gang Officer Post-Stop Outcome Models

Variable Description	Variable Name	All Arrests	Arrests Excluding Warrant, Violent, and DUI Arrests	All Citations	Citations Excluding Suspended License and Other Lower Discretion Citations	Officer Requests to Exit the Vehicle [2]	Officer Requests to Exit the Vehicle Excluding Violent Arrests [2]
Suspect Race	Race	0.0000	0.0287	0.0000	0.0000	0.0000	0.0000
Division	Area	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Suspect Race * Division	Race * Area	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Officer Race	Officer_Race	0.0244	0.0402	0.0002	0.0001	0.0028	0.0033
Suspect Race * Officer Race	Race * Officer_Race	0.0281	0.0586	0.0004	0.0003	0.0000	0.0000
Stop Reason	Stop_Reason	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Weekend Stop	Weekend_Dum	0.0749	0.0036			0.0004	0.0004
Night Stop	Night_Dum	0.0000	0.5679	0.0000	0.0000	0.0000	0.0000
Number of People in Encounter	Group	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Count of Incivility Stops in RD	Incivil	0.0109	0.1251	0.0014	0.0016		
Count of Violent Crime Stops in RD	Violent	0.0042	0.0009				
Percent Under 24 Years Old in RD	Percent_24under	0.0000	0.0000				
Percent Black in RD	Percent_Black			0.0000	0.0000	0.0000	0.0000
Percent Hispanic in RD	Percent_Hispanic	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Percent Divorced in RD	Percent_Divorced	0.0037	0.8627				
Percent Single Parents in RD	Percent_SingleParent			0.0001	0.0000		
Percent in Poverty in RD	Percent_Poverty			0.0008	0.0040		
Percent Unemployed in RD	Percent_Unemployed	0.0000	0.0000			0.0044	0.0049
Population Density	Density	0.0213	0.0008			0.0392	0.0341
Rate of Property Crime in RD	Property_Rate	0.0002	0.0000				
Rate of Violent Crime in RD	Violent_Rate	0.1534	0.0051				
Count of Accounts	Accounts	0.0566	0.0056				
Count of Retail Accounts	Retail_Accounts	0.0967	0.0034				
Count of Gang Stops in RD	Gang_Stops	0.0000	0.0000			0.0004	0.0004
Count of Complaints Against Officer	Complaints	0.0181	0.0008			0.0003	0.0002
Count of Major Commendations Received by Officer	Mj_Commend	0.0167	0.0246	0.0333	0.0276		
Officer's Age	Officer_Age	0.0042	0.0029			0.0000	0.0000
Number of Months of Service for Officer	Service_Months	0.0000	0.0000				
Number of Months of Service for Officer Squared	Service_Months_Sq	0.0000	0.0000				
Gender of Officer	Officer_Male_Dum	0.0000	0.0007				
Patrol/Traffic/Other Officer Indicator	Officer_Type	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Suspect Age Range	Age_Rng	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pedestrian Indicator	Pedestrian_Dum	0.0000	0.0000	0.0000	0.0000		
Passenger Indicator	Passenger_Dum	0.0000	0.0000	0.0000	0.0000		
Suspect Gender	Male_Dum	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Notes:

1. Shaded region indicates that the variable is not used in the model for the stop outcome.
2. Model excludes pedestrian and passenger records and also excludes "Pedestrian Indicator" and "Passenger Indicator" variables because the stop outcome only applies to drivers.

Table F2
Summary of F-Tests for Non-Gang Officer Post-Stop Outcome Models

Variable Description	Variable Name	Pat-Downs/Frisks	Higher Discretion Searches [2]	No Action Taken	Requests for Consent to Search
Suspect Race	Race	0.0000	0.0000	0.3902	0.0000
Division	Area	0.0000	0.0000	0.0000	0.0000
Suspect Race * Division	Race * Area	0.0000	0.0000	0.0000	0.0000
Officer Race	Officer_Race	0.0000	0.0026	0.7224	0.0012
Suspect Race * Officer Race	Race * Officer_Race	0.0432	0.1996	0.5110	0.0000
Stop Reason	Stop_Reason	0.0000	0.0000	0.0000	0.0000
Weekend Stop	Weekend_Dum				0.0008
Night Stop	Night_Dum	0.0000	0.0000	0.0000	0.0000
Number of People in Encounter	Group	0.0000	0.0000	0.0021	0.0002
Count of Incivility Stops in RD	Incivil				0.0015
Count of Violent Crime Stops in RD	Violent				0.0001
Percent Black in RD	Percent_Black	0.0000	0.0000	0.0000	0.0000
Percent Hispanic in RD	Percent_Hispanic	0.0000	0.0000	0.0000	0.0000
Percent Divorced in RD	Percent_Divorced	0.0004			
Percent Single Parents in RD	Percent_SingleParent	0.0045			0.0001
Percent Owner Occupied Dwellings in RD	Percent_Owner	0.0000			0.0003
Percent Unemployed in RD	Percent_Unemployed	0.0000		0.0001	0.0017
Rate of Property Crime in RD	Property_Rate		0.0000		
Count of Gang Stops in RD	Gang_Stops	0.0000	0.0000		0.0000
Count of Complaints Against Officer	Complaints	0.0081	0.0003		
Count of Major Commendations Received by Officer	Mj_Commend		0.0192		
Officer's Age	Officer_Age	0.0000	0.0071		
Number of Months of Service for Officer	Service_Months		0.0000	0.0000	0.0000
Number of Months of Service for Officer Squared	Service_Months_Sq		0.0033	0.0000	
Gender of Officer	Officer_Male_Dum	0.0051			
Patrol/Traffic/Other Officer Indicator	Officer_Type	0.0000	0.0000	0.0000	0.0000
Suspect Age Range	Age_Rng	0.0000	0.0000	0.0000	0.0000
Pedestrian Indicator	Pedestrian_Dum	0.0000	0.0000	0.0000	0.0000
Passenger Indicator	Passenger_Dum	0.0000	0.0000	0.0000	0.0000
Suspect Gender	Male_Dum	0.0000	0.0000		0.0000

Notes:

1. Shaded region indicates that the variable is not used in the model for the stop outcome.
2. Model combines officers of American Indian and Asian descent into one category.

APPENDIX G: REGRESSION OUTPUT FOR POST-STOP ANALYSES OF GANG OFFICERS

(see the following pages)

Table G1
Summary of Parameter Estimates for Gang Officer Post-Stop Outcome Models

			All Arrests			Arrests Excluding Warrant, Violent, and DUI Arrests		
Variable Description	**Variable Name**	**Class Variable**	**Coefficient**	**p-value**	**Odds Ratio**	**Coefficient**	**p-value**	**Odds Ratio**
Intercept	Intercept		-1.9664	0.0000	0.1400	-2.0101	0.0000	0.1340
Suspect Race	Race	Black	-0.3151	0.1337	0.7297	-0.5012	0.0287	0.6058
		Hispanic	-0.3137	0.1200	0.7307	-0.4456	0.0357	0.6404
		Other	-0.7256	0.1270	0.4840	-0.7779	0.0997	0.4594
		White						
Bureau	Bureau	Central	0.1778	0.4490	1.1946	0.1481	0.5505	1.1596
		Valley	0.4950	0.0186	1.6404	0.4317	0.0539	1.5398
		West	0.1331	0.5789	1.1423	-0.1211	0.6387	0.8859
		South						
Suspect Race * Bureau	Race * Bureau	Other * Central	0.7848	0.1389	2.1919	0.3650	0.4925	1.4405
		Black * Central	0.3410	0.1872	1.4064	0.4091	0.1408	1.5054
		Hispanic * Central	0.4522	0.0645	1.5718	0.4600	0.0783	1.5841
		White * Central						
		Other * Valley	0.3588	0.4718	1.4317	0.2951	0.5480	1.3433
		Black * Valley	-0.2618	0.2832	0.7696	-0.1130	0.6606	0.8932
		Hispanic * Valley	0.1207	0.5471	1.1283	0.1389	0.5172	1.1490
		White * Valley						
		Other * West	-0.2270	0.6802	0.7969	-0.6404	0.2636	0.5271
		Black * West	0.2187	0.3509	1.2444	0.5704	0.0276	1.7690
		Hispanic * West	-0.0043	0.9852	0.9957	0.2697	0.2884	1.3096
		White * West						
		Other * South						
		Black * South						
		Hispanic * South						
		White * South						
Officer Race	Officer_Race	Off_Other	-0.7472	0.0053	0.4737	-0.7320	0.0192	0.4809
		Off_Black	-0.3676	0.1046	0.6924	-0.4057	0.1051	0.6665
		Off_Hispanic	-0.3886	0.0214	0.6780	-0.4771	0.0057	0.6206
		Off_White						
Suspect Race * Officer Race	Race * Officer_Race	Black * Off_Other	0.6309	0.0070	1.8793	0.5419	0.0689	1.7192
		Black * Off_Black	0.4024	0.0886	1.4954	0.4379	0.1004	1.5494
		Black * Off_Hispanic	0.3925	0.0212	1.4806	0.4828	0.0064	1.6206
		Black * Off_White						
		Hispanic * Off_Other	0.4574	0.0267	1.5799	0.4416	0.0834	1.5552
		Hispanic * Off_Black	0.3533	0.1510	1.4238	0.4403	0.1062	1.5532
		Hispanic * Off_Hispanic	0.4178	0.0094	1.5186	0.5245	0.0013	1.6895
		Hispanic * Off_White						

Variable Description	Variable Name	Class Variable	All Arrests			Arrests Excluding Warrant, Violent, and DUI Arrests		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
		Other * Off_Other	0.5621	0.1000	1.7544	0.6722	0.0643	1.9585
		Other * Off_Black	-0.4398	0.3820	0.6442	0.0863	0.8774	1.0902
		Other * Off_Hispanic	0.5253	0.0779	1.6909	0.8506	0.0105	2.3411
		Other * Off_White						
		White * Off_Other						
		White * Off_Black						
		White * Off_Hispanic						
		White * Off_White						
Stop Reason	Stop_Reason	Call for Service	1.0386	0.0000	2.8252	0.9470	0.0000	2.5781
		Consensual	-0.2002	0.0210	0.8186	-0.2430	0.0095	0.7843
		Department Briefing	1.2329	0.0000	3.4311	0.9404	0.0000	2.5611
		Health and Safety	1.5727	0.0000	4.8197	1.5481	0.0000	4.7026
		Municipal	0.8637	0.0000	2.3718	0.9873	0.0000	2.6839
		Other	1.2730	0.0000	3.5714	1.2611	0.0000	3.5293
		Pedestrian Vehicle	0.1093	0.2419	1.1155	0.1274	0.2071	1.1358
		Penal	1.7525	0.0000	5.7691	1.7403	0.0000	5.6989
		Equip./Regist. Vehicle	-0.3529	0.0000	0.7026	-0.3492	0.0000	0.7053
		Suspect Flight Moving Vehicle	1.5153	0.0000	4.5509	1.5671	0.0000	4.7925
Number of People in Encounter	Group		-0.0783	0.0000	0.9247	-0.0695	0.0000	0.9329
Percent Hispanic in RD	Percent_Hispanic		-0.4505	0.0011	0.6373	-0.5370	0.0003	0.5845
Percent Divorced in RD	Percent_Divorced		-1.5261	0.0580	0.2174	-2.1419	0.0125	0.1174
Percent in Poverty in RD	Percent_Poverty		0.6341	0.0015	1.8854	0.6134	0.0052	1.8467
Rate of Violent Crime in RD	Violent_Rate		0.0002	0.0040	1.0002	0.0002	0.0176	1.0002
Suspect Age Range	Age_Rng	1-17	-0.0204	0.7512	0.9798	0.1928	0.0062	1.2127
		18-25	-0.0804	0.0529	0.9227	0.0098	0.8311	1.0098
		36-45	0.2293	0.0002	1.2577	0.1198	0.0777	1.1273
		46-55	0.3988	0.0027	1.4900	0.1455	0.3081	1.1567
		56 or Above	0.4227	0.0549	1.5260	0.3211	0.2431	1.3787
		26-35						
Pedestrian Indicator	Pedestrian_Dum		0.2547	0.0000	1.2900	0.1636	0.0161	1.1777
Passenger Indicator	Passenger_Dum		0.5111	0.0000	1.6671	0.4518	0.0000	1.5711

Notes:

1. Variables set as the baseline do not have Coefficients, p-values, and Odds Ratios.
2. All models combine officers of American Indian and Asian descent into an "Other" descent category.

Table G1
Summary of Parameter Estimates for Gang Officer Post-Stop Outcome Models

			All Citations			Citations Excluding Suspended License and Other Lower Discretion Citations		
Variable Description	**Variable Name**	**Class Variable**	**Coefficient**	**p-value**	**Odds Ratio**	**Coefficient**	**p-value**	**Odds Ratio**
Intercept	Intercept		0.9994	0.0046	2.7165	0.9638	0.0101	2.6216
Suspect Race	Race	Black	-0.2267	0.2736	0.7972	-0.2021	0.3723	0.8170
		Hispanic	-0.0077	0.9694	0.9923	-0.0101	0.9643	0.9900
		Other	0.1132	0.8176	1.1199	0.3356	0.5000	1.3987
		White						
Bureau	Bureau	Central	0.4351	0.1040	1.5452	0.5402	0.0578	1.7163
		Valley	-0.3550	0.1326	0.7012	-0.3052	0.2339	0.7370
		West	0.5726	0.0099	1.7729	0.6648	0.0055	1.9441
		South						
Suspect Race * Bureau	Race * Bureau	Other * Central	0.0071	0.9893	1.0072	-0.1842	0.7339	0.8318
		Black * Central	-0.1141	0.6812	0.8922	-0.2584	0.3860	0.7723
		Hispanic * Central	-0.1927	0.4402	0.8247	-0.3433	0.2084	0.7094
		White * Central						
		Other * Valley	0.8606	0.0897	2.3645	0.7583	0.1385	2.1346
		Black * Valley	0.3939	0.1212	1.4827	0.3046	0.2659	1.3560
		Hispanic * Valley	0.4817	0.0307	1.6188	0.3359	0.1733	1.3992
		White * Valley						
		Other * West	0.0249	0.9596	1.0252	-0.1871	0.7057	0.8293
		Black * West	-0.2130	0.3274	0.8082	-0.3191	0.1804	0.7268
		Hispanic * West	-0.3163	0.1524	0.7288	-0.4369	0.0715	0.6461
		White * West						
		Other * South						
		Black * South						
		Hispanic * South						
		White * South						
Officer Race	Officer_Race	Off_Other	0.5803	0.0246	1.7865	0.4931	0.0698	1.6373
		Off_Black	0.2914	0.3628	1.3383	0.3561	0.3096	1.4277
		Off_Hispanic	0.1794	0.3441	1.1965	0.1280	0.5204	1.1366
		Off_White						
Suspect Race * Officer Race	Race * Officer_Race	Black * Off_Other	-0.6074	0.0210	0.5447	-0.5407	0.0569	0.5823
		Black * Off_Black	-0.1728	0.5844	0.8413	-0.2612	0.4605	0.7701
		Black * Off_Hispanic	0.0821	0.6653	1.0856	0.1237	0.5395	1.1317
		Black * Off_White						
		Hispanic * Off_Other	-0.4519	0.0213	0.6364	-0.4004	0.0488	0.6701
		Hispanic * Off_Black	0.0908	0.7583	1.0950	0.0039	0.9908	1.0039

Variable Description	Variable Name	Class Variable	All Citations			Citations Excluding Suspended License and Other Lower Discretion Citations		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
		Hispanic * Off_Hispanic	-0.0023	0.9901	0.9977	0.0244	0.9017	1.0247
		Hispanic * Off_White						
		Other * Off_Other	-0.1994	0.5472	0.8192	-0.1458	0.6362	0.8643
		Other * Off_Black	0.3072	0.6070	1.3596	0.2559	0.6799	1.2916
		Other * Off_Hispanic	-0.2060	0.5231	0.8138	-0.1310	0.6832	0.8772
		Other * Off_White						
		White * Off_Other						
		White * Off_Black						
		White * Off_Hispanic						
		White * Off_White						
Stop Reason	Stop_Reason	Call for Service	-2.2433	0.0000	0.1061	-2.2387	0.0000	0.1066
		Consensual	-3.6627	0.0000	0.0257	-3.7053	0.0000	0.0246
		Department Briefing	-3.5070	0.0000	0.0300	-3.5592	0.0000	0.0285
		Health and Safety	-3.4459	0.0000	0.0319	-3.4921	0.0000	0.0304
		Municipal	-1.1503	0.0000	0.3166	-1.1538	0.0000	0.3154
		Other	-2.5414	0.0000	0.0788	-2.8283	0.0000	0.0591
		Pedestrian Vehicle	-0.5749	0.0000	0.5627	-0.5843	0.0000	0.5575
		Penal	-2.3086	0.0000	0.0994	-2.3425	0.0000	0.0961
		Equip./Regist. Vehicle	-0.0128	0.7573	0.9873	0.0002	0.9956	1.0002
		Suspect Flight Moving Vehicle	-3.0269	0.0000	0.0485	-3.0489	0.0000	0.0474
Weekend Stop	Weekend_Dum		0.1593	0.0000	1.1727	0.1705	0.0000	1.1859
Night Stop	Night_Dum		-0.0774	0.0522	0.9255	-0.0885	0.0437	0.9153
Number of People in Encounter	Group		-0.1633	0.0000	0.8493	-0.1763	0.0000	0.8383
Count of Violent Crime Stops in RD	Violent		-0.0003	0.1215	0.9997	-0.0004	0.0262	0.9996
Percent Under 24 Years Old in RD	Percent_24under		-0.8315	0.0809	0.4354	-1.0182	0.0432	0.3613
Percent Black in RD	Percent_Black		-1.0122	0.0000	0.3634	-1.1515	0.0000	0.3161
Percent Hispanic in RD	Percent_Hispanic		-0.7863	0.0000	0.4555	-0.8806	0.0000	0.4145
Percent Owner Occupied Dwellings in RD	Percent_Owner		-0.3527	0.0226	0.7028	-0.3931	0.0180	0.6750
Population Density	Density		0.0015	0.0158	1.0015	0.0014	0.0310	1.0014
Rate of Property Crime in RD	Property_Rate		0.0000	0.0584	1.0000	0.0000	0.0289	1.0000
Count of Accounts	Accounts		-0.0016	0.0171	0.9984	-0.0014	0.0387	0.9986
Count of Retail Accounts	Retail_Accounts		0.0048	0.0171	1.0048	0.0040	0.0495	1.0041
Count of Gang Stops in RD	Gang_Stops		0.0004	0.0231	1.0004	0.0005	0.0018	1.0005

Variable Description	Variable Name	Class Variable	All Citations			Citations Excluding Suspended License and Other Lower Discretion Citations		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
Suspect Age Range	Age_Rng	1-17	1.9332	0.0000	6.9113	1.9018	0.0000	6.6980
		18-25	0.1172	0.0037	1.1244	0.0571	0.1791	1.0588
		36-45	0.1516	0.0137	1.1637	0.0771	0.2137	1.0802
		46-55	0.2934	0.0121	1.3409	0.3548	0.0030	1.4258
		56 or Above	0.3373	0.1798	1.4012	0.4730	0.0574	1.6047
		26-35						
Pedestrian Indicator	Pedestrian_Dum		-0.6780	0.0000	0.5076	-0.2679	0.0005	0.7650
Passenger Indicator	Passenger_Dum		-1.8738	0.0000	0.1535	-1.4906	0.0000	0.2252
Suspect Gender	Male_Dum		-0.4567	0.0000	0.6334	-0.5089	0.0000	0.6012

Notes:

1. Variables set as the baseline do not have Coefficients, p-values, and Odds Ratios.
2. All models combine officers of American Indian and Asian descent into an "Other" descent category.

Table G1
Summary of Parameter Estimates for Gang Officer Post-Stop Outcome Models

Variable Description	Variable Name	Class Variable	Officer Requests to Exit the Vehicle [3]			Officer Requests to Exit the Vehicle Excluding Violent Arrests [3]		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
Intercept	Intercept		-1.9937	0.0000	0.1362	-2.0043	0.0000	0.1348
Suspect Race	Race	Black	-0.3185	0.2441	0.7272	-0.3105	0.2560	0.7331
		Hispanic	-0.5257	0.0638	0.5911	-0.5304	0.0613	0.5884
		Other	-0.8175	0.0566	0.4415	-0.8158	0.0571	0.4423
		White						
Bureau	Bureau	Central	-0.7193	0.0278	0.4871	-0.7094	0.0300	0.4920
		Valley	0.0559	0.8546	1.0575	0.0653	0.8306	1.0675
		West	-1.4205	0.0000	0.2416	-1.4101	0.0000	0.2441
		South						
Suspect Race * Bureau	Race * Bureau	Other * Central	0.9563	0.0647	2.6021	0.9513	0.0665	2.5890
		Black * Central	0.9444	0.0082	2.5713	0.9474	0.0082	2.5789
		Hispanic * Central	0.9557	0.0083	2.6006	0.9517	0.0086	2.5901
		White * Central						
		Other * Valley	0.4084	0.3913	1.5044	0.4070	0.3929	1.5023
		Black * Valley	0.0349	0.9183	1.0355	0.0474	0.8897	1.0485
		Hispanic * Valley	0.4829	0.1310	1.6207	0.4788	0.1344	1.6141
		White * Valley						
		Other * West	0.4095	0.3825	1.5061	0.4070	0.3856	1.5023
		Black * West	0.8452	0.0078	2.3285	0.8381	0.0085	2.3120
		Hispanic * West	1.0233	0.0022	2.7823	1.0170	0.0024	2.7648
		White * West						
		Other * South						
		Black * South						
		Hispanic * South						
		White * South						
Officer Race	Officer_Race	Off_Other	-0.4531	0.0941	0.6356	-0.4541	0.0944	0.6350
		Off_Black	-0.3450	0.4161	0.7082	-0.3430	0.4191	0.7096
		Off_Hispanic	-0.0419	0.8399	0.9590	-0.0465	0.8228	0.9545
		Off_White						
Suspect Race * Officer Race	Race * Officer_Race	Black * Off_Other	0.3312	0.2274	1.3927	0.3209	0.2472	1.3784
		Black * Off_Black	-0.0069	0.9865	0.9931	-0.0170	0.9667	0.9832
		Black * Off_Hispanic	-0.0239	0.9126	0.9764	-0.0254	0.9074	0.9749
		Black * Off_White						
		Hispanic * Off_Other	0.3331	0.1569	1.3953	0.3389	0.1513	1.4034
		Hispanic * Off_Black	0.0682	0.8822	1.0706	0.0741	0.8722	1.0769
		Hispanic * Off_Hispanic	0.2148	0.3048	1.2396	0.2299	0.2741	1.2585
		Hispanic * Off_White						

Variable Description	Variable Name	Class Variable	Officer Requests to Exit the Vehicle [3]			Officer Requests to Exit the Vehicle Excluding Violent Arrests [3]		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
		Other * Off_Other	0.2426	0.5971	1.2745	0.2460	0.5915	1.2789
		Other * Off_Black	-0.3646	0.4535	0.6945	-0.3669	0.4501	0.6929
		Other * Off_Hispanic	0.3794	0.1865	1.4614	0.3802	0.1853	1.4626
		Other * Off_White						
		White * Off_Other						
		White * Off_Black						
		White * Off_Hispanic						
		White * Off_White						
Stop Reason	Stop_Reason	Call for Service	0.6398	0.0534	1.8961	0.6502	0.0615	1.9158
		Consensual	-0.2680	0.4129	0.7649	-0.3181	0.3314	0.7275
		Department Briefing	0.4777	0.0291	1.6124	0.4925	0.0277	1.6363
		Health and Safety	1.6464	0.0000	5.1881	1.6431	0.0000	5.1711
		Municipal	0.2285	0.3064	1.2568	0.2144	0.3373	1.2391
		Other	0.5167	0.0035	1.6765	0.5012	0.0048	1.6507
		Pedestrian Vehicle	0.2123	0.9180	1.2365	0.2052	0.9213	1.2277
		Penal	0.6842	0.0002	1.9822	0.6738	0.0003	1.9616
		Equip./Regist. Vehicle	-0.0195	0.6700	0.9807	-0.0216	0.6360	0.9786
		Suspect Flight Moving Vehicle	-0.7258	0.2885	0.4840	-0.6762	0.3446	0.5085
Night Stop	Night_Dum		0.2792	0.0000	1.3220	0.2780	0.0000	1.3205
Number of People in Encounter	Group		0.6621	0.0000	1.9389	0.6670	0.0000	1.9484
Percent Black in RD	Percent_Black		0.9462	0.0000	2.5758	0.9565	0.0000	2.6025
Percent Hispanic in RD	Percent_Hispanic		0.9329	0.0000	2.5418	0.9313	0.0000	2.5379
Count of Complaints Against Officer	Complaints		0.0253	0.0325	1.0256	0.0250	0.0346	1.0253
Suspect Age Range	Age_Rng	1-17	0.3431	0.0015	1.4093	0.3402	0.0017	1.4053
		18-25	0.1874	0.0000	1.2061	0.1900	0.0000	1.2092
		36-45	-0.1662	0.0204	0.8469	-0.1700	0.0176	0.8437
		46-55	-0.3992	0.0028	0.6709	-0.3950	0.0031	0.6737
		56 or Above	-0.6850	0.0315	0.5041	-0.6881	0.0306	0.5026
		26-35						
Suspect Gender	Male_Dum		0.9946	0.0000	2.7035	0.9935	0.0000	2.7008

Notes:

1. Variables set as the baseline do not have Coefficients, p-values, and Odds Ratios.
2. All models combine officers of American Indian and Asian descent into an "Other" descent category.
3. Model excludes pedestrian and passenger records and also excludes "Pedestrian Indicator" and "Passenger Indicator" variables because the stop outcome only applies to drivers.

Table G1
Summary of Parameter Estimates for Gang Officer Post-Stop Outcome Models

			Pat-Downs/Frisks			Higher Discretion Searches		
Variable Description	**Variable Name**	**Class Variable**	**Coefficient**	**p-value**	**Odds Ratio**	**Coefficient**	**p-value**	**Odds Ratio**
Intercept	Intercept		-3.6283	0.0000	0.0266	-3.0205	0.0000	0.0488
Suspect Race	Race	Black	0.0090	0.9589	1.0090	0.4299	0.0211	1.5371
		Hispanic	-0.1230	0.4295	0.8843	0.1223	0.4836	1.1301
		Other	-0.3007	0.5076	0.7403	0.0796	0.8624	1.0829
		White						
Bureau	Bureau	Central	-0.5989	0.0125	0.5494	-0.0958	0.6868	0.9086
		Valley	0.1895	0.3910	1.2086	0.4215	0.0580	1.5242
		West	-0.8113	0.0005	0.4443	-0.3040	0.2325	0.7379
		South						
Suspect Race * Bureau	Race * Bureau	Other * Central	0.7262	0.1622	2.0673	0.1570	0.7498	1.1699
		Black * Central	0.7690	0.0014	2.1577	0.1365	0.5751	1.1462
		Hispanic * Central	0.9748	0.0001	2.6506	0.1651	0.4775	1.1796
		White * Central						
		Other * Valley	0.2779	0.5683	1.3204	-0.9956	0.0442	0.3695
		Black * Valley	-0.0585	0.7834	0.9431	-0.4354	0.0502	0.6470
		Hispanic * Valley	0.4415	0.0189	1.5550	-0.3688	0.0543	0.6916
		White * Valley						
		Other * West	0.2996	0.5435	1.3494	-0.4436	0.3674	0.6417
		Black * West	0.5126	0.0188	1.6696	0.0823	0.7291	1.0858
		Hispanic * West	0.7006	0.0006	2.0149	0.1977	0.4235	1.2186
		White * West						
		Other * South						
		Black * South						
		Hispanic * South						
		White * South						
Officer Race	Officer_Race	Off_Other	-0.2632	0.2813	0.7686	-0.1200	0.6960	0.8870
		Off_Black	-0.3219	0.3380	0.7248	0.4931	0.1356	1.6374
		Off_Hispanic	0.1597	0.4181	1.1732	-0.1579	0.3928	0.8540
		Off_White						
Suspect Race * Officer Race	Race * Officer_Race	Black * Off_Other	0.3840	0.0737	1.4682	0.1114	0.6702	1.1178
		Black * Off_Black	0.5028	0.0855	1.6533	-0.6587	0.0297	0.5175
		Black * Off_Hispanic	-0.1781	0.3442	0.8369	-0.0025	0.9885	0.9975
		Black * Off_White						
		Hispanic * Off_Other	0.3685	0.0311	1.4456	0.0053	0.9797	1.0054
		Hispanic * Off_Black	0.1292	0.6475	1.1379	-0.5771	0.0274	0.5615
		Hispanic * Off_Hispanic	-0.1669	0.3252	0.8463	-0.0874	0.6024	0.9163
		Hispanic * Off_White						

Variable Description	Variable Name	Class Variable	Pat-Downs/Frisks			Higher Discretion Searches		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
		Other * Off_Other	-0.4344	0.2358	0.6477	-0.0917	0.8550	0.9124
		Other * Off_Black	-0.9359	0.0630	0.3922	-0.5225	0.2244	0.5931
		Other * Off_Hispanic	-0.3556	0.2212	0.7007	-0.0344	0.9319	0.9661
		Other * Off_White						
		White * Off_Other						
		White * Off_Black						
		White * Off_Hispanic						
		White * Off_White						
Stop Reason	Stop_Reason	Call for Service	1.0119	0.0000	2.7508	0.1795	0.1797	1.1967
		Consensual	0.0599	0.5238	1.0617	0.1449	0.0705	1.1559
		Department Briefing	0.7462	0.0000	2.1090	0.2145	0.0634	1.2393
		Health and Safety	1.2990	0.0000	3.6658	0.2862	0.0056	1.3313
		Municipal	0.2534	0.0075	1.2884	-0.1842	0.0157	0.8317
		Other	0.8165	0.0000	2.2627	0.9009	0.0000	2.4618
		Pedestrian Vehicle	0.2357	0.0481	1.2658	0.0110	0.9127	1.0111
		Penal	0.9541	0.0000	2.5962	0.1852	0.0364	1.2034
		Equip./Regist. Vehicle	-0.1981	0.0000	0.8203	-0.0679	0.1790	0.9343
		Suspect Flight	1.7119	0.0000	5.5397	0.7926	0.0000	2.2092
		Moving Vehicle						
Night Stop	Night_Dum		0.2559	0.0000	1.2916			
Number of People in Encounter	Group		0.1870	0.0000	1.2056			
Percent Black in RD	Percent_Black		0.9790	0.0000	2.6619			
Percent Hispanic in RD	Percent_Hispanic		1.1178	0.0000	3.0582	0.2204	0.0332	1.2466
Rate of Violent Crime in RD	Violent_Rate					0.0002	0.0003	1.0002
Count of Gang Stops in RD	Gang_Stops					0.0004	0.0000	1.0004
RD with a Shooting at an Officer	Shoot_Dum					0.1203	0.0053	1.1279
Gender of Officer	Officer_Male_Dum					-0.5164	0.0023	0.5967
Suspect Age Range	Age_Rng	1-17	0.1297	0.0385	1.1385	-0.3886	0.0000	0.6780
		18-25	0.2327	0.0000	1.2620	-0.1920	0.0000	0.8253
		36-45	-0.2304	0.0001	0.7942	-0.1604	0.0041	0.8518
		46-55	-0.7283	0.0000	0.4828	-0.3747	0.0052	0.6875
		56 or Above	-0.6878	0.0169	0.5027	-0.6810	0.0459	0.5061
		26-35						
Pedestrian Indicator	Pedestrian_Dum		1.2063	0.0000	3.3412	0.6283	0.0000	1.8744
Passenger Indicator	Passenger_Dum		1.3061	0.0000	3.6919	0.6623	0.0000	1.9393
Suspect Gender	Male_Dum		2.9551	0.0000	19.2042	1.4875	0.0000	4.4261

Notes:

1. Variables set as the baseline do not have Coefficients, p-values, and Odds Ratios.
2. All models combine officers of American Indian and Asian descent into an "Other" descent category.
3. Shaded region indicates that the variable is not used in the model for the stop outcome.

Table G1
Summary of Parameter Estimates for Gang Officer Post-Stop Outcome Models

			No Action Taken			Requests for Consent to Search		
Variable Description	**Variable Name**	**Class Variable**	**Coefficient**	**p-value**	**Odds Ratio**	**Coefficient**	**p-value**	**Odds Ratio**
Intercept	Intercept		-3.9710	0.0000	0.0189	-2.4543	0.0000	0.0859
Suspect Race	Race	Black	-0.4731	0.1434	0.6230	-0.3171	0.0837	0.7283
		Hispanic	-0.4259	0.1672	0.6532	-0.3891	0.0409	0.6777
		Other	0.1521	0.8095	1.1643	-0.1341	0.7463	0.8745
		White						
Bureau	Bureau	Central	0.1262	0.7617	1.1345	-0.7182	0.0034	0.4876
		Valley	0.6173	0.0542	1.8539	0.4000	0.0968	1.4918
		West	0.0120	0.9753	1.0121	-0.7108	0.0035	0.4912
		South						
Suspect Race * Bureau	Race * Bureau	Other * Central	-2.5218	0.0050	0.0803	0.6721	0.1578	1.9584
		Black * Central	0.2904	0.4896	1.3370	0.6208	0.0077	1.8604
		Hispanic * Central	0.1602	0.6938	1.1738	0.8198	0.0006	2.2700
		White * Central						
		Other * Valley	-0.6165	0.3603	0.5398	0.0153	0.9730	1.0154
		Black * Valley	0.3447	0.3295	1.4116	0.2318	0.2941	1.2609
		Hispanic * Valley	0.2962	0.3475	1.3448	0.3280	0.1187	1.3882
		White * Valley						
		Other * West	-1.0494	0.1614	0.3501	0.4515	0.3023	1.5707
		Black * West	0.2689	0.5035	1.3085	0.4383	0.0393	1.5501
		Hispanic * West	0.2746	0.4848	1.3160	0.7343	0.0008	2.0840
		White * West						
		Other * South						
		Black * South						
		Hispanic * South						
		White * South						
Officer Race	Officer_Race	Off_Other	-0.3918	0.3264	0.6758	-0.0643	0.8237	0.9378
		Off_Black	-0.0818	0.8809	0.9215	-0.6868	0.0718	0.5032
		Off_Hispanic	-0.0676	0.7840	0.9346	0.3387	0.0936	1.4032
		Off_White						
Suspect Race * Officer Race	Race * Officer_Race	Black * Off_Other	0.0215	0.9604	1.0218	0.4258	0.0511	1.5308
		Black * Off_Black	-0.1966	0.7208	0.8215	0.4376	0.0704	1.5490
		Black * Off_Hispanic	-0.1359	0.6011	0.8729	0.0851	0.6249	1.0888
		Black * Off_White						
		Hispanic * Off_Other	0.2231	0.5543	1.2499	0.3490	0.1305	1.4177
		Hispanic * Off_Black	-0.0373	0.9474	0.9634	0.2887	0.2560	1.3346
		Hispanic * Off_Hispanic	-0.0518	0.8292	0.9495	0.0636	0.7001	1.0657
		Hispanic * Off_White						

Variable Description	Variable Name	Class Variable	No Action Taken			Requests for Consent to Search		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
		Other * Off_Other	0.7584	0.4032	2.1349	-0.5316	0.1535	0.5877
		Other * Off_Black	0.1287	0.8914	1.1374	-0.6719	0.1158	0.5107
		Other * Off_Hispanic	0.8803	0.1125	2.4116	-0.5764	0.0390	0.5619
		Other * Off_White						
		White * Off_Other						
		White * Off_Black						
		White * Off_Hispanic						
		White * Off_White						
Stop Reason	Stop_Reason	Call for Service	0.7097	0.0013	2.0335	-0.2075	0.0983	0.8126
		Consensual	1.7561	0.0000	5.7897	0.5387	0.0000	1.7138
		Department Briefing	1.3718	0.0000	3.9423	-0.0988	0.3636	0.9059
		Health and Safety	0.7278	0.0044	2.0704	0.0923	0.3686	1.0967
		Municipal	-0.1918	0.2557	0.8254	-0.2266	0.0021	0.7972
		Other	1.3830	0.0000	3.9868	-0.3081	0.0036	0.7349
		Pedestrian Vehicle	-0.3902	0.0714	0.6769	-0.0463	0.6232	0.9548
		Penal	0.3133	0.1057	1.3680	-0.3990	0.0000	0.6710
		Equip./Regist. Vehicle	0.2321	0.0284	1.2612	0.0296	0.5400	1.0301
		Suspect Flight Moving Vehicle	0.3587	0.1050	1.4315	-0.6288	0.0001	0.5332
Weekend Stop	Weekend_Dum					-0.0763	0.0215	0.9266
Night Stop	Night_Dum		0.2165	0.0004	1.2417	0.0619	0.0257	1.0639
Number of People in Encounter	Group		-0.1478	0.0000	0.8626	0.0640	0.0000	1.0660
Percent Black in RD	Percent_Black					0.4941	0.0030	1.6390
Percent Hispanic in RD	Percent_Hispanic					0.5833	0.0000	1.7919
Suspect Age Range	Age_Rng	1-17				-0.0370	0.4630	0.9637
		18-25				0.1120	0.0018	1.1185
		36-45				-0.0248	0.6828	0.9755
		46-55				-0.4276	0.0006	0.6521
		56 or Above				-0.3646	0.2499	0.6944
		26-35						
Pedestrian Indicator	Pedestrian_Dum		0.6358	0.0000	1.8885			
Passenger Indicator	Passenger_Dum		2.0062	0.0000	7.4351			
Suspect Gender	Male_Dum		-0.3591	0.0001	0.6983	1.3312	0.0000	3.7857

Notes:

1. Variables set as the baseline do not have Coefficients, p-values, and Odds Ratios.
2. All models combine officers of American Indian and Asian descent into an "Other" descent category.
3. Shaded region indicates that the variable is not used in the model for the stop outcome.

Table G2
Summary of F-Tests for Gang Officer Post-Stop Outcome Models

Variable Description	Variable Name	All Arrests	Arrests Excluding Warrant, Violent, and DUI Arrests	All Citations	Citations Excluding Suspended License and Other Lower Discretion Citations	Officer Requests to Exit the Vehicle [2]	Officer Requests to Exit the Vehicle Excluding Violent Arrests [2]
Suspect Race	Race	0.0431	0.0463	0.0000	0.0000	0.0041	0.0042
Bureau	Bureau	0.0001	0.0001	0.0202	0.0306	0.0000	0.0000
Suspect Race * Bureau	Race * Bureau	0.0097	0.0027	0.0106	0.0152	0.0133	0.0167
Officer Race	Officer_Race	0.1640	0.3992	0.3267	0.3933	0.0615	0.0629
Suspect Race * Officer Race	Race * Officer_Race	0.0160	0.0267	0.2337	0.4059	0.2964	0.2601
Stop Reason	Stop_Reason	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Weekend Stop	Weekend_Dum			0.0000	0.0000		
Night Stop	Night_Dum			0.0522	0.0437	0.0000	0.0000
Number of People in Encounter	Group	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Count of Violent Crime Stops in RD	Violent			0.1215	0.0262		
Percent Under 24 Years Old in RD	Percent_24under			0.0809	0.0432		
Percent Black in RD	Percent_Black			0.0000	0.0000	0.0000	0.0000
Percent Hispanic in RD	Percent_Hispanic	0.0011	0.0003	0.0000	0.0000	0.0000	0.0000
Percent Divorced in RD	Percent_Divorced	0.0580	0.0125				
Percent in Poverty in RD	Percent_Poverty	0.0015	0.0052				
Percent Owner Occupied Dwellings in RD	Percent_Owner			0.0226	0.0180		
Population Density	Density			0.0158	0.0310		
Rate of Property Crime in RD	Property_Rate			0.0584	0.0289		
Rate of Violent Crime in RD	Violent_Rate	0.0040	0.0176				
Count of Accounts	Accounts			0.0171	0.0387		
Count of Retail Accounts	Retail_Accounts			0.0171	0.0495		
Count of Gang Stops in RD	Gang_Stops			0.0231	0.0018		
Count of Complaints Against Officer	Complaints					0.0325	0.0346
Suspect Age Range	Age_Rng	0.0000	0.0097	0.0000	0.0000	0.0000	0.0000
Pedestrian Indicator	Pedestrian_Dum	0.0000	0.0161	0.0000	0.0005		
Passenger Indicator	Passenger_Dum	0.0000	0.0000	0.0000	0.0000		
Suspect Gender	Male_Dum			0.0000	0.0000	0.0000	0.0000

Notes:

1. Shaded region indicates that the variable is not used in the model for the stop outcome.
2. Model excludes pedestrian and passenger records and also excludes "Pedestrian Indicator" and "Passenger Indicator" variables because the stop outcome only applies to drivers.

Table G2
Summary of F-Tests for Gang Officer Post-Stop Outcome Models

Variable Description	Variable Name	Pat-Downs/Frisks	Higher Discretion Searches	No Action Taken	Requests for Consent to Search
Suspect Race	Race	0.0000	0.0000	0.1651	0.0001
Bureau	Bureau	0.0004	0.0991	0.0001	0.0002
Suspect Race * Bureau	Race * Bureau	0.0004	0.0664	0.3084	0.0098
Officer Race	Officer_Race	0.3469	0.5059	0.7613	0.0290
Suspect Race * Officer Race	Race * Officer_Race	0.0046	0.5377	0.8810	0.1368
Stop Reason	Stop_Reason	0.0000	0.0000	0.0000	0.0000
Weekend Stop	Weekend_Dum				0.0215
Night Stop	Night_Dum	0.0000		0.0004	0.0257
Number of People in Encounter	Group	0.0000		0.0000	0.0000
Percent Black in RD	Percent_Black	0.0000			0.0030
Percent Hispanic in RD	Percent_Hispanic	0.0000	0.0332		0.0000
Rate of Violent Crime in RD	Violent_Rate		0.0003		
Count of Gang Stops in RD	Gang_Stops		0.0000		
RD with a Shooting at an Officer	Shoot_Dum		0.0053		
Gender of Officer	Officer_Male_Dum		0.0023		
Suspect Age Range	Age_Rng	0.0000	0.0000		0.0000
Pedestrian Indicator	Pedestrian_Dum	0.0000	0.0000	0.0000	
Passenger Indicator	Passenger_Dum	0.0000	0.0000	0.0000	
Suspect Gender	Male_Dum	0.0000	0.0000	0.0001	0.0000

Notes:

1. Shaded region indicates that the variable is not used in the model for the stop outcome.

APPENDIX H: REGRESSION OUTPUT FOR POST-STOP ANALYSES FOR LAX DIVISION

(see the following pages)

Table H1
Summary of Parameter Estimates for LAX Non-Gang Officer Post-Stop Outcome Models

			All Arrests			Arrests Excluding Warrant, Violent, and DUI Arrests		
Variable Description	**Variable Name**	**Class Variable**	**Coefficient**	**p-value**	**Odds Ratio**	**Coefficient**	**p-value**	**Odds Ratio**
Intercept	Intercept		-3.4882	0.0000	0.0306	-4.0493	0.0000	0.0174
Suspect Race	Race	Black	-0.4510	0.2780	0.6370	-0.5354	0.2456	0.5854
		Hispanic	0.0819	0.6498	1.0854	0.0120	0.9487	1.0121
		Other	0.0790	0.5939	1.0822	0.1802	0.1865	1.1975
		White						
Officer Race	Officer_Race	Off_AmerIndian	4.0596	0.0000	57.9519	3.2003	0.0000	24.5408
		Off_Asian	0.4198	0.6315	1.5217	0.3011	0.7719	1.3514
		Off_Black	-0.8549	0.0761	0.4253	-0.7029	0.2363	0.4951
		Off_Hispanic	-0.3556	0.3509	0.7007	-0.2309	0.5927	0.7938
		Off_White						
Night Stop	Night_Dum		0.5937	0.0041	1.8106	0.4035	0.0255	1.4971
Number of Months of Service for Officer	Service_Months		-0.0306	0.0000	0.9699	-0.0323	0.0001	0.9682
Number of Months of Service for Officer Squared	Service_Months_Sq		0.0001	0.0001	1.0001	0.0001	0.0001	1.0001
Patrol/Traffic/Other Officer Indicator	Officer_Type	Other	-2.1130	0.0201	0.1209	-3.0345	0.0363	0.0481
		Traffic	-1.7194	0.0026	0.1792	-2.0290	0.0030	0.1315
		Patrol						
Pedestrian Indicator	Pedestrian_Dum		4.7769	0.0000	118.7326	5.4316	0.0000	228.5134
Passenger Indicator	Passenger_Dum		2.8550	0.0001	17.3737	3.7210	0.0002	41.3070
Suspect Gender	Male_Dum		0.5143	0.0002	1.6725	0.4990	0.0000	1.6471

Note:

1. Variables set as the baseline do not have Coefficients, p-values, and Odds Ratios.

Table H1
Summary of Parameter Estimates for LAX Non-Gang Officer Post-Stop Outcome Models

			All Citations [2]			Citations Excluding Suspended License and Other Lower Discretion Citations [2]		
Variable Description	**Variable Name**	**Class Variable**	**Coefficient**	**p-value**	**Odds Ratio**	**Coefficient**	**p-value**	**Odds Ratio**
Intercept	Intercept		1.7942	0.0000	6.0146	1.7396	0.0000	5.6953
Suspect Race	Race	Black	-0.6455	0.0000	0.5244	-0.6596	0.0000	0.5171
		Hispanic	-0.0871	0.5924	0.9166	-0.1026	0.5296	0.9025
		Other	0.5600	0.0000	1.7508	0.5664	0.0000	1.7620
		White						
Officer Race	Officer_Race	Off_AmerIndian	-0.9854	0.0000	0.3733	-1.0183	0.0000	0.3612
		Off_Asian	-0.4974	0.2654	0.6081	-0.5280	0.2468	0.5898
		Off_Black	1.2632	0.0003	3.5367	1.2808	0.0003	3.5996
		Off_Hispanic	0.0015	0.9954	1.0015	0.0082	0.9748	1.0082
		Off_White						
Suspect Race * Officer Race	Race * Officer_Race	Black * Off_AmerIndian	-0.0482	0.7566	0.9529	-0.0491	0.7506	0.9521
		Black * Off_Asian	0.5625	0.1088	1.7551	0.5643	0.1086	1.7582
		Black * Off_Black	-0.3814	0.3111	0.6829	-0.3777	0.3157	0.6855
		Black * Off_Hispanic	0.4741	0.0191	1.6065	0.4535	0.0233	1.5738
		Black * Off_White						
		Hispanic * Off_AmerIndian	-0.5750	0.0006	0.5627	-0.5802	0.0006	0.5598
		Hispanic * Off_Asian	0.5625	0.0450	1.7550	0.5520	0.0497	1.7368
		Hispanic * Off_Black	0.1290	0.5993	1.1377	0.1187	0.6241	1.1261
		Hispanic * Off_Hispanic	0.1748	0.4229	1.1910	0.1653	0.4471	1.1797
		Hispanic * Off_White						
		Other * Off_AmerIndian	-0.6863	0.0000	0.5034	-0.6931	0.0000	0.5000
		Other * Off_Asian	0.1624	0.5486	1.1763	0.1499	0.5836	1.1617
		Other * Off_Black	-0.3744	0.0987	0.6877	-0.3800	0.0936	0.6838
		Other * Off_Hispanic	-0.0686	0.7473	0.9337	-0.0752	0.7227	0.9276
		Other * Off_White						
		White * Off_AmerIndian						
		White * Off_Asian						
		White * Off_Black						
		White * Off_Hispanic						
		White * Off_White						

Variable Description	Variable Name	Class Variable	All Citations [2]			Citations Excluding Suspended License and Other Lower Discretion Citations [2]		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
Night Stop	Night_Dum		-0.6222	0.0000	0.5367	-0.6203	0.0000	0.5378
Number of People in Encounter	Group		0.1439	0.0001	1.1548	0.1442	0.0001	1.1551
Count of Major Commendations Received by Officer	Mj_Commend		-0.4156	0.2009	0.6599	-0.4122	0.2049	0.6622
Patrol/Traffic/Other Officer Indicator	Officer_Type	Other	-0.3879	0.5600	0.6785	-0.3577	0.5893	0.6993
		Traffic	1.7968	0.0000	6.0302	1.8321	0.0000	6.2472
		Patrol						
Suspect Age Range	Age_Rng	1-17	0.0872	0.7716	1.0911	0.0060	0.9845	1.0060
		18-25	0.3557	0.0000	1.4271	0.3494	0.0000	1.4183
		36-45	0.0803	0.2006	1.0836	0.0913	0.1500	1.0956
		46-55	0.0701	0.3533	1.0726	0.0909	0.2332	1.0952
		56 or Above	0.2918	0.0133	1.3388	0.3070	0.0093	1.3594
		26-35						
Pedestrian Indicator	Pedestrian_Dum		-2.7478	0.0000	0.0641	-2.7246	0.0000	0.0656
Passenger Indicator	Passenger_Dum		-1.5865	0.0000	0.2046	-1.5751	0.0001	0.2070

Notes:

1. Variables set as the baseline do not have Coefficients, p-values, and Odds Ratios.
2. The Count of Major Commendations Received by Officer was included in the model despite statistical insignificance in order for the model to be estimated.

Table H1
Summary of Parameter Estimates for LAX Non-Gang Officer Post-Stop Outcome Models

Variable Description	Variable Name	Class Variable	Officer Requests to Exit the Vehicle [2]			Officer Requests to Exit the Vehicle Excluding Violent Arrests [2]		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
Intercept	Intercept		-2.9672	0.0000	0.0514	-2.9624	0.0000	0.0517
Suspect Race	Race	Black	0.6166	0.0001	1.8526	0.6023	0.0001	1.8262
		Hispanic	0.6233	0.0002	1.8651	0.6237	0.0002	1.8659
		Other	-0.2469	0.0675	0.7813	-0.2471	0.0669	0.7810
		White						
Officer Race	Officer_Race	Off_AmerIndian	2.2350	0.0000	9.3469	2.2420	0.0000	9.4119
		Off_Asian	0.2822	0.5106	1.3260	0.2833	0.5095	1.3275
		Off_Black	-0.1563	0.6486	0.8553	-0.1539	0.6537	0.8573
		Off_Hispanic	-0.6133	0.0230	0.5415	-0.6345	0.0202	0.5302
		Off_White						
Suspect Race * Officer Race	Race * Officer_Race	Black * Off_AmerIndian	-0.2319	0.1512	0.7930	-0.2171	0.1756	0.8049
		Black * Off_Asian	-0.6051	0.0980	0.5460	-0.5904	0.1057	0.5541
		Black * Off_Black	0.0258	0.9547	1.0261	0.0404	0.9290	1.0412
		Black * Off_Hispanic	0.3571	0.1917	1.4292	0.3915	0.1513	1.4792
		Black * Off_White						
		Hispanic * Off_AmerIndian	-0.0464	0.7943	0.9546	-0.0467	0.7930	0.9544
		Hispanic * Off_Asian	-0.1714	0.6714	0.8425	-0.1709	0.6722	0.8429
		Hispanic * Off_Black	-0.2030	0.6165	0.8163	-0.2023	0.6177	0.8169
		Hispanic * Off_Hispanic	0.3860	0.0859	1.4711	0.4075	0.0720	1.5031
		Hispanic * Off_White						
		Other * Off_AmerIndian	0.1524	0.2591	1.1646	0.1517	0.2610	1.1638
		Other * Off_Asian	-0.1620	0.6634	0.8504	-0.1607	0.6657	0.8515
		Other * Off_Black	0.3322	0.4047	1.3940	0.3330	0.4035	1.3952
		Other * Off_Hispanic	0.2475	0.3100	1.2808	0.2682	0.2696	1.3077
		Other * Off_White						
		White * Off_AmerIndian						
		White * Off_Asian						
		White * Off_Black						
		White * Off_Hispanic						
		White * Off_White						

Variable Description	Variable Name	Class Variable	Officer Requests to Exit the Vehicle [2]			Officer Requests to Exit the Vehicle Excluding Violent Arrests [2]		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
Night Stop	Night_Dum		0.2623	0.0330	1.2999	0.2553	0.0395	1.2908
Number of Months of Service for Officer	Service_Months		-0.0116	0.0031	0.9885	-0.0116	0.0030	0.9884
Number of Months of Service for Officer Squared	Service_Months_Sq		0.0000	0.0029	1.0000	0.0000	0.0027	1.0000
Patrol/Traffic/Other Officer Indicator	Officer_Type	Other	-0.0296	0.9504	0.9708	-0.0360	0.9399	0.9646
		Traffic	-1.0083	0.0009	0.3648	-1.0166	0.0009	0.3618
		Patrol						
Suspect Age Range	Age_Rng	1-17	1.3135	0.0000	3.7191	1.3212	0.0000	3.7477
		18-25	0.2695	0.0028	1.3093	0.2763	0.0023	1.3182
		36-45	-0.4344	0.0000	0.6477	-0.4273	0.0001	0.6523
		46-55	-0.7719	0.0000	0.4621	-0.7648	0.0000	0.4654
		56 or Above	-0.8140	0.0000	0.4431	-0.8068	0.0000	0.4463
		26-35						
Suspect Gender	Male_Dum		0.4161	0.0000	1.5161	0.4124	0.0000	1.5104

Notes:

1. Variables set as the baseline do not have Coefficients, p-values, and Odds Ratios.
2. Model excludes pedestrian and passenger records and also excludes "Pedestrian Indicator" and "Passenger Indicator" variables because the stop outcome only applies to drivers.

Table H1
Summary of Parameter Estimates for LAX Non-Gang Officer Post-Stop Outcome Models

			Pat-Downs/Frisks			Requests for Consent to Search		
Variable Description	**Variable Name**	**Class Variable**	**Coefficient**	**p-value**	**Odds Ratio**	**Coefficient**	**p-value**	**Odds Ratio**
Intercept	Intercept		-3.7739	0.0000	0.0230	-9.4126	0.0000	0.0001
Suspect Race	Race	Black	0.7564	0.0307	2.1306	-0.0638	0.9196	0.9382
		Hispanic	0.3230	0.3460	1.3813	0.5957	0.0268	1.8142
		Other	-0.1799	0.5985	0.8354	-0.4330	0.2595	0.6486
		White						
Officer Race	Officer_Race	Off_AmerIndian	3.9993	0.0000	54.5572			
		Off_Asian	-0.1035	0.8925	0.9017			
		Off_Black	-0.6366	0.2066	0.5291			
		Off_Hispanic	0.2501	0.5517	1.2841			
		Off_White						
Suspect Race * Officer Race	Race * Officer_Race	Black * Off_AmerIndian	-0.9866	0.0045	0.3728			
		Black * Off_Asian	0.7546	0.3724	2.1267			
		Black * Off_Black	-0.1206	0.8580	0.8864			
		Black * Off_Hispanic	-1.2451	0.0870	0.2879			
		Black * Off_White						
		Hispanic * Off_AmerIndian	0.0397	0.9078	1.0405			
		Hispanic * Off_Asian	-2.2589	0.1969	0.1045			
		Hispanic * Off_Black	0.8866	0.1302	2.4270			
		Hispanic * Off_Hispanic	-0.1555	0.7300	0.8560			
		Hispanic * Off_White						
		Other * Off_AmerIndian	-1.1129	0.0014	0.3286			
		Other * Off_Asian	0.7081	0.2188	2.0302			
		Other * Off_Black	-0.5616	0.4696	0.5703			
		Other * Off_Hispanic	0.3366	0.4328	1.4002			
		Other * Off_White						
		White * Off_AmerIndian						
		White * Off_Asian						
		White * Off_Black						
		White * Off_Hispanic						
		White * Off_White						

Variable Description	Variable Name	Class Variable	Pat-Downs/Frisks			Requests for Consent to Search		
			Coefficient	p-value	Odds Ratio	Coefficient	p-value	Odds Ratio
Officer's Age	Officer_Age					0.1254	0.0011	1.1337
Number of Months of Service for Officer	Service_Months		-0.0224	0.0005	0.9778	-0.0187	0.0000	0.9815
Number of Months of Service for Officer Squared	Service_Months_Sq		0.0000	0.0202	1.0000			
Patrol/Traffic/Other Officer Indicator	Officer_Type	Other	-0.6030	0.4890	0.5472	3.0845	0.0010	21.8573
		Traffic	-1.9393	0.0003	0.1438	-1.8651	0.0077	0.1549
		Patrol						
Suspect Age Range	Age_Rng	1-17	-0.0805	0.9034	0.9226			
		18-25	0.1123	0.5194	1.1189			
		36-45	-0.1992	0.3226	0.8194			
		46-55	-0.3147	0.0392	0.7300			
		56 or Above	-1.0174	0.0003	0.3615			
		26-35						
Pedestrian Indicator	Pedestrian_Dum		4.3511	0.0000	77.5668	4.8449	0.0000	127.0899
Passenger Indicator	Passenger_Dum		3.2231	0.0000	25.1065	4.0886	0.0000	59.6574
Suspect Gender	Male_Dum		0.9565	0.0000	2.6025	0.5555	0.0369	1.7429

Notes:

1. Variables set as the baseline do not have Coefficients, p-values, and Odds Ratios.
2. Shaded region indicates that the variable is not used in the model for the stop outcome.
3. The models for Higher Discretion Searches and No Action Taken could not be estimated due to low frequency of higher discretion searches and no post-stop outcomes by the officer, respectively. Less than 0.1% of the stops resulted in a higher discretion search and less than 0.3% of the stops resulted in the suspect not being subject to a post-stop action by the officer.

Table H2
Summary of F-Tests for LAX Non-Gang Officer Post-Stop Outcome Models

Variable Description	Variable Name	All Arrests	Arrests Excluding Warrant, Violent, and DUI Arrests	All Citations [2]	Citations Excluding Suspended License and Other Lower Discretion Citations [2]
Suspect Race	Race	0.4949	0.1735	0.0000	0.0000
Officer Race	Officer_Race	0.0000	0.0000	0.0000	0.0000
Suspect Race * Officer Race	Race * Officer_Race			0.0000	0.0000
Night Stop	Night_Dum	0.0041	0.0255	0.0000	0.0000
Number of People in Encounter	Group			0.0001	0.0001
Count of Major Commendations Received by Officer	Mj_Commend			0.2009	0.2049
Number of Months of Service for Officer	Service_Months	0.0000	0.0001		
Number of Months of Service for Officer Squared	Service_Months_Sq	0.0001	0.0001		
Patrol/Traffic/Other Officer Indicator	Officer_Type	0.0046	0.0053	0.0001	0.0001
Suspect Age Range	Age_Rng			0.0001	0.0002
Pedestrian Indicator	Pedestrian_Dum	0.0000	0.0000	0.0000	0.0000
Passenger Indicator	Passenger_Dum	0.0001	0.0002	0.0000	0.0001
Suspect Gender	Male_Dum	0.0002	0.0000		

Notes:

1. Shaded region indicates that the variable is not used in the model for the stop outcome.
2. The Count of Major Commendations Received by Officer was included in the model despite statistical insignificance in order for the model to be estimated.

Table H2
Summary of F-Tests for LAX Non-Gang Officer Post-Stop Outcome Models

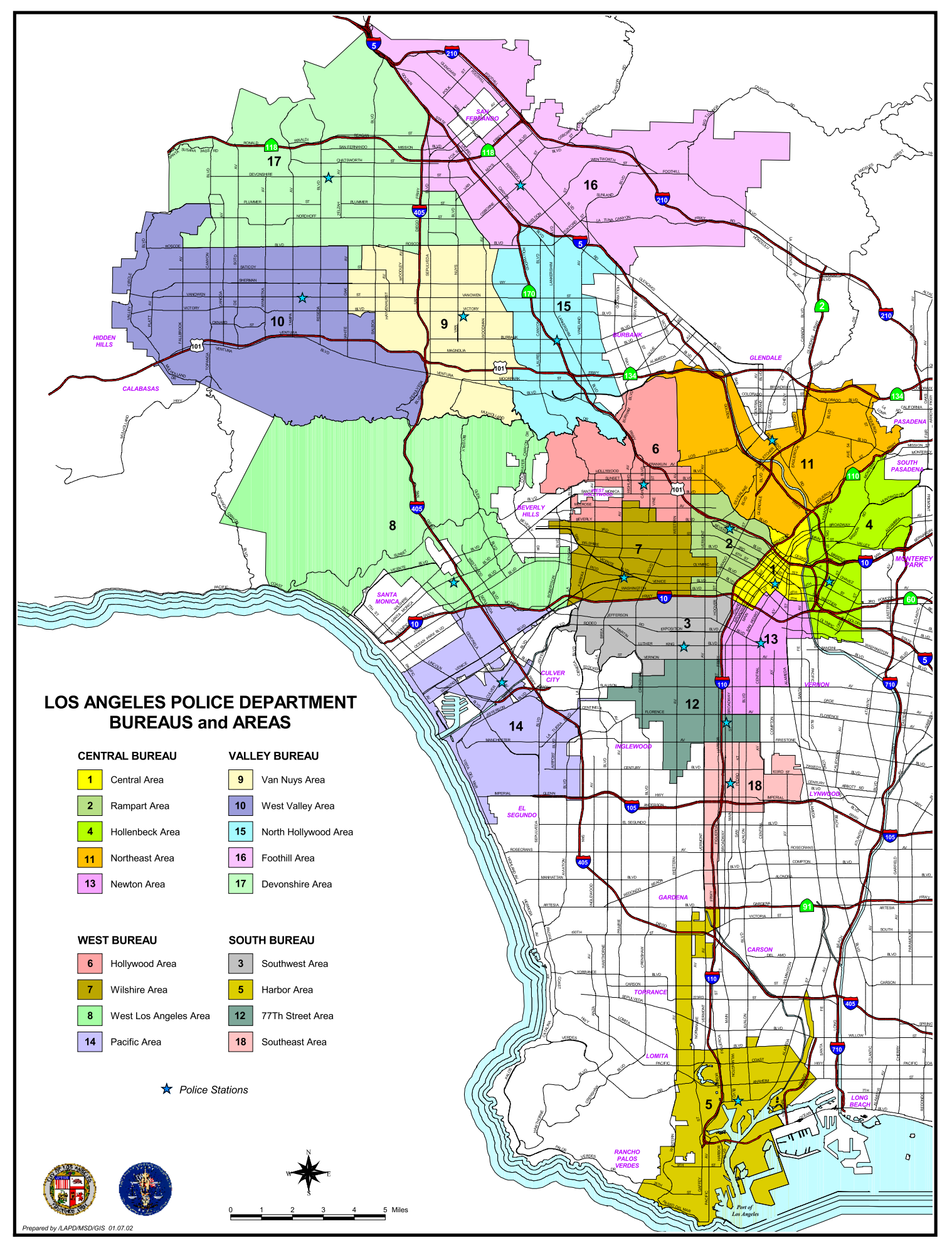
Variable Description	Variable Name	Officer Requests to Exit the Vehicle [2]	Officer Requests to Exit the Vehicle Excluding Violent Arrests [2]	Pat-Downs/Frisks	Requests for Consent to Search
Suspect Race	Race	0.0000	0.0000	0.0250	0.0039
Officer Race	Officer_Race	0.0000	0.0000	0.0000	
Suspect Race * Officer Race	Race * Officer_Race	0.0488	0.0480	0.0000	
Night Stop	Night_Dum	0.0330	0.0395		
Officer's Age	Officer_Age				0.0011
Number of Months of Service for Officer	Service_Months	0.0031	0.0030	0.0005	0.0000
Number of Months of Service for Officer Squared	Service_Months_Sq	0.0029	0.0027	0.0202	
Patrol/Traffic/Other Officer Indicator	Officer_Type	0.0019	0.0019	0.0008	0.0002
Suspect Age Range	Age_Rng	0.0000	0.0000	0.0010	
Pedestrian Indicator	Pedestrian_Dum			0.0000	0.0000
Passenger Indicator	Passenger_Dum			0.0000	0.0000
Suspect Gender	Male_Dum	0.0000	0.0000	0.0000	0.0369

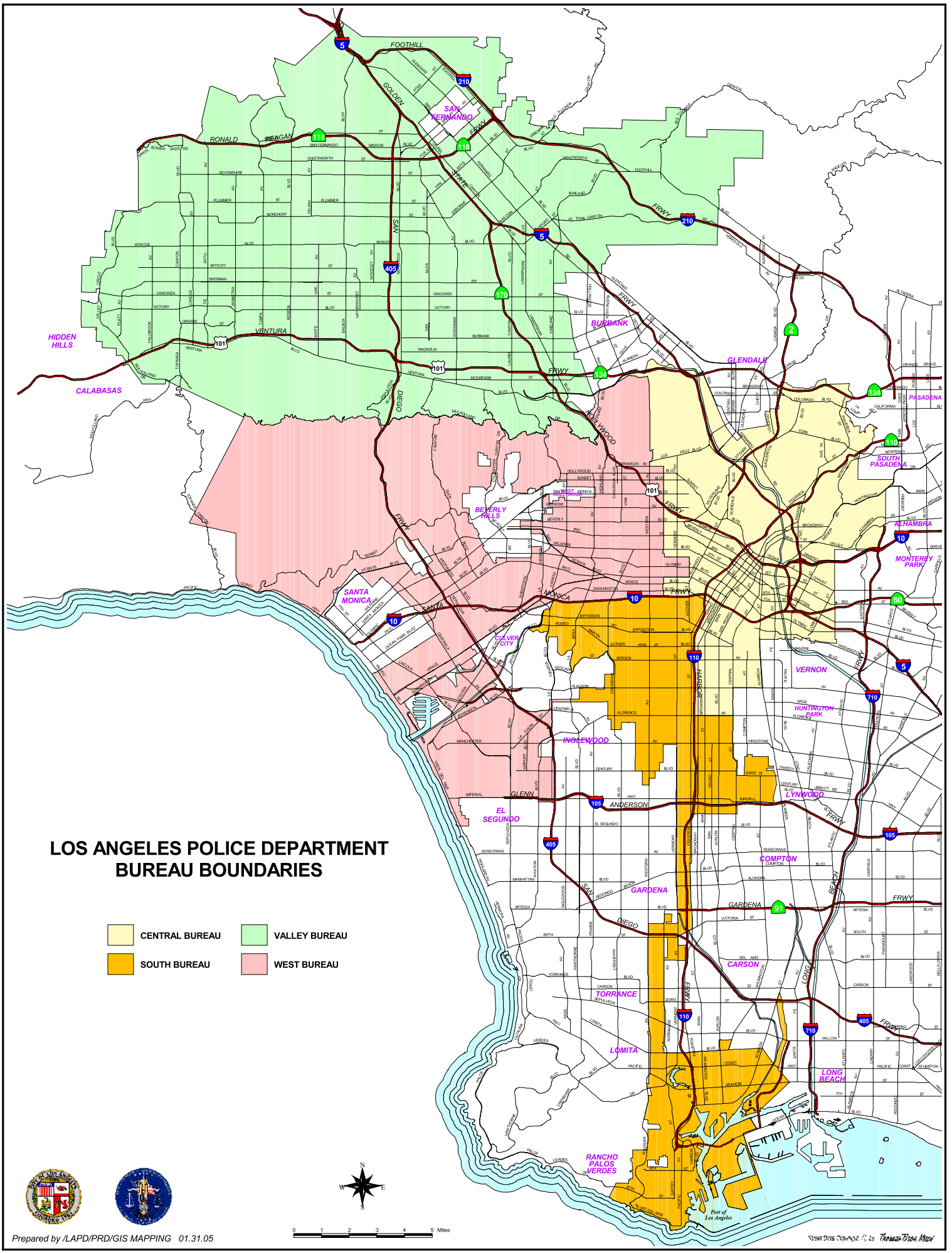
Notes:

1. Shaded region indicates that the variable is not used in the model for the stop outcome.
2. Model excludes pedestrian and passenger records and also excludes "Pedestrian Indicator" and "Passenger Indicator" variables because the stop outcome only applies to drivers.
3. The models for Higher Discretion Searches and No Action Taken could not be estimated due to low frequency of higher discretion searches and no post-stop outcomes by the officer, respectively. Less than 0.1% of the stops resulted in a higher discretion search and less than 0.3% of the stops resulted in the suspect not being subject to a post-stop action by the officer.

APPENDIX I: MAPS OF THE CITY OF LOS ANGELES BY LAPD GEOGRAPHIC AREAS (BUREAU AND DIVISION)

(see the following pages)


LOS ANGELES POLICE DEPARTMENT
BUREAUS and AREAS
CENTRAL BUREAU
1 Central Area
2 Rampart Area
4 Hollenbeck Area
11 Northeast Area
13 Newton Area
VALLEY BUREAU
9 Van Nuys Area
10 West Valley Area
15 North Hollywood Area
16 Foothill Area
17 Devonshire Area
WEST BUREAU
6 Hollywood Area
7 Wilshire Area
8 West Los Angeles Area
14 Pacific Area
SOUTH BUREAU
3 Southwest Area
5 Harbor Area
12 77Th Street Area
18 Southeast Area
Police Stations
N
W
E
S
0 1 2 3 4 5 Miles
Prepared by /LAPD/MSD/GIS 01.07.02


LOS ANGELES POLICE DEPARTMENT
BUREAU BOUNDARIES
CENTRAL BUREAU
VALLEY BUREAU
SOUTH BUREAU
WEST BUREAU
FOOTHILL
SAN FERNANDO
RONALD REAGAN
GOLDEN STATE
SAN DIEGO
VENTURA
HIDDEN HILLS
CALABASAS
BURBANK
GLENDALE
PASADENA
SOUTH PASADENA
ALHAMBRA
MONTEREY PARK
BEVERLY HILLS
HOLLYWOOD
SANTA MONICA
CULVER CITY
VERNON
HUNTINGTON PARK
INGLEWOOD
LYNWOOD
EL SEGUNDO
COMPTON
GARDENA
CARSON
TORRANCE
LOMITA
LONG BEACH
RANCHO PALOS VERDES
Port of Los Angeles
Prepared by /LAPD/PRD/GIS MAPPING 01.31.05
0 1 2 3 4 5 Miles

APPENDIX J: BIOGRAPHIES OF ANALYSIS GROUP PROJECT TEAM MEMBERS

(see the following pages)

Geoffrey P. Alpert, Ph.D.

Academic Affiliate, Analysis Group, Inc.
Professor, Department of Criminology & Criminal Justice, University of South Carolina
Ph.D. Sociology, Washington State University; M.A., B.A., University of Oregon

Dr. Alpert is a nationally recognized expert on police violence, pursuit driving, and training. He is a professor of Criminal Justice and the Department Chair for the Department of Criminology and Criminal Justice at the University of South Carolina. He teaches courses in research methods and policing.

For the past 20 years, Dr. Alpert has concentrated his research and training on the evaluation of high-risk police activities, including the use of force, deadly force, pursuit driving, and accountability systems. Dr. Alpert is currently researching police use of force to control suspects and is evaluating criminal domestic violence courts. Both endeavors are funded by the National Institute of Justice. He is also directing a study of racial profiling in Miami-Dade County, Florida. He has recently completed a national study on pursuit driving, also funded by the National Institute of Justice. Dr. Alpert also assists police departments by writing and evaluating policies, training, and accountability systems.

Elizabeth Becker, Ph.D.

Managing Principal, Analysis Group, Inc.

Ph.D., M.A., Applied Economics, Clemson University; B.A. Economics and Political Science, University of Wisconsin-Madison

Dr. Becker's main area of expertise is employment-related litigation support and consulting. She has prepared economic and statistical analyses in numerous class action matters involving allegations of age, sex, race, and national origin discrimination in a wide variety of employment practices. Dr. Becker also assists clients with the preparation of pay equity studies in response to OFCCP glass ceiling audits, with quantitative assessments of FLSA compliance, and with adverse impact analyses of workforce reductions.

Dr. Becker has also applied sophisticated statistical techniques to questions of fair lending and police race profiling. Prior to joining Analysis Group, Dr. Becker was Principal and Director of the Employment Economics practice at PricewaterhouseCoopers. While at PricewaterhouseCoopers, she coordinated a review and critique of the New York State Office of Attorney General's study of the stop-and-frisk practices of the New York City Police Department.

Her research on labor economics, public finance, and gender differences in compensation has been presented at regional, national, and international professional conferences, and has been published in several peer-reviewed journals.

Mark A. Gustafson, M.P.P.

Manager, Analysis Group, Inc.

M.P.P., Kennedy School of Government, Harvard University; B.A. Business Economics and Political Science-International Relations, University of California, Los Angeles

Mr. Gustafson applies his expertise in economics, econometrics, and modeling to litigation, complex business issues, and analysis of public policy issues. He has worked extensively in the areas of insurance, health care, intellectual property, and finance across a broad range of industries. In addition, Mr. Gustafson has extensive experience assembling and analyzing large, proprietary datasets. Mr. Gustafson's recent work includes contributing to the California State Auditor's review of CalPERS' decision to implement an exclusive provider network for CalPERS Blue Shield members and co-authoring an analysis of Proposition 79 considered on California's November 2005 ballot.

Prior to joining Analysis Group, Mr. Gustafson worked in Tokyo, Japan as the business manager for an international non-profit.

Mr. Gustafson holds a M.P.P. from the Kennedy School of Government, Harvard University and a B.A. in Business Economics and Political Science-International Relations from the University of California, Los Angeles where he graduated *cum laude* and *Phi Beta Kappa*.

Alan P. Meister, Ph.D.

Manager, Analysis Group, Inc.

Ph.D., M.A., B.A., Economics, University of California, Irvine

Dr. Meister is an economist specializing in the application of economics to complex business issues and commercial litigation. His areas of expertise include economic impact analyses, market and feasibility analyses, economic planning and policy, antitrust, regulation, statistics, and the calculation of economic damages in commercial litigation.

Dr. Meister has extensive experience conducting economic impact studies. He combines his expertise with impact analysis, economics, planning, market analysis, statistics, and survey analysis to identify and measure the effects of changes in economic activity, including introductions, expansions, and closures of businesses and industries, the infusion of capital into an area, and the occurrence of events. His projects have involved casinos, hotels, resorts, sporting and entertainment events, retail establishments, medical research, publicly-funded projects, and ballot initiatives. Most notable has been his authoritative research on Indian gaming. He has received national recognition for his annual studies on Indian gaming. His work is regularly cited by the press and relied upon by the gaming industry, governments, and the investment community. Dr. Meister's research and analyses have also been relied upon before the United States Supreme Court and a panel of the World Trade Organization. Furthermore, he has written extensively on the subject and presented his work at various academic, professional, and industry conferences. In addition, he has testified before the California State Senate regarding Indian gaming issues.

With regards to his statistics work, Dr. Meister has conducted sophisticated regression analysis, statistical testing, and survey analysis. He has served as an expert regarding the use of statistics in forensic analysis and skill versus chance assessments of amusement games. Dr. Meister also has designed and implemented surveys. Prior to joining Analysis Group, Dr. Meister worked for a market research firm that implemented surveys for the motion picture industry. In addition, he was a teaching assistant for five years at the University of California, Irvine, where he taught courses on statistics, probability, econometrics, and survey design.

Dr. Meister has broad experience providing litigation consulting services. Specifically, he has provided assistance to attorneys on all phases of pretrial and trial practice, including assistance with discovery, development of economic, financial, and statistical models, expert testimony, and critique of analyses by opposing experts. Dr. Meister has conducted damages assessments in a wide variety of cases, including anticompetitive conduct, patent, trademark, and trade dress infringement, misappropriation of trade secrets, breach of contract, fraud, and business interruption. Dr. Meister's experience encompasses numerous industries, including gaming, sports and entertainment, hospitality, real estate, telecommunications, computer hardware, software, and maintenance, pharmaceuticals, tobacco, automotive, food processing, paper products, specialty retail products, electronics, and policing.

Michael R. Smith, Ph.D., J.D.

Academic Affiliate, Analysis Group, Inc.

Associate Professor and Graduate Program Director, Department of Criminology & Criminal Justice, University of South Carolina

Ph.D. School of Justice Studies, Arizona State University; J.D. University of South Carolina School of Law; B.S. Administration of Justice, Virginia Commonwealth University

Dr. Smith is an Associate Professor in the Department of Criminology and Criminal Justice at the University of South Carolina, where he serves as the Graduate Program director. He teaches courses on policing, criminal law and procedure, and civil liberties. Dr. Smith is also a former police officer.

Dr. Smith's primary areas of expertise include racial profiling, police use of force, pursuits, and civil rights. He has participated in a variety of police-related research and evaluation projects, including racial profiling studies for the Miami-Dade Police Department (Florida), the Washington State Patrol (Washington), the Spokane Police Department (Washington), and the Richmond Police Department (Virginia). In addition, Dr. Smith serves as a consultant to the United States Justice Department on racial profiling-related matters and has provided racial profiling methodology training to law enforcement executives from across the nation. His recent publications have appeared in Police Quarterly, Journal of Criminal Justice, and Justice Quarterly.

Bruce A. Strombom, Ph.D.

Managing Principal, Analysis Group, Inc.

Ph.D. Economics, University of California, Irvine; B.A. Economics, San Jose State University, San Jose

Bruce Strombom is an expert in applied microeconomics and statistics. He specializes in the application of economics and econometrics to a range of legal and public policy issues. He provides assistance to attorneys in all phases of pretrial practice, prepares economic models, assesses questions of liability, estimates damages, provides expert testimony and critiques the analyses of opposing experts. Dr. Strombom has conducted analyses in cases involving antitrust, intellectual property, fraud, securities valuation, and contract issues. He has valued privately held companies and ownership interests in firms in a range of industries for both litigation and mergers and acquisitions. Within the health care sector, Dr. Strombom has broad experience in litigation support and policy analysis. He has examined the competitive impact of mergers in markets for hospital and medical testing laboratory services, analyzed the impact of managed care on markets for medical services, and evaluated the medical billing and claims payment practices of health care providers and insurers.

Prior to joining Analysis Group, Dr. Strombom was Executive Vice President of a middle-market merger and acquisition firm. Previously, he was Consulting Manager at Price Waterhouse, where he provided litigation support and value enhancement consulting services, and Senior Financial Analyst at the Tribune Company, where he evaluated capital projects and acquisition candidates. Dr. Strombom holds a Ph.D. in economics from the University of California, Irvine, and a B.A. degree from San Jose State University.