Traffic Stops in the Pacific Northwest: Competing Hypotheses About Racial Disparity

Richard G. Greenleaf
Wesley G. Skogan
Arthur J. Lurigio

ABSTRACT. This study examines the distribution of police traffic warning citations in a large northwestern city. Warning tickets were instituted to document the exercise of police discretion in the disposition of traffic stops. The paper tests three competing hypotheses about how these citations are distributed: law enforcement, traffic enforcement, and group threat. The findings show greater support for the group threat explanation. African Americans were disproportionately ticketed in the more affluent areas of the city with a higher per capita income and a higher percentage of home ownership. The data also demonstrated that traffic officers were more active than patrol officers in predominately white beats while patrol officers concentrated more on African American and Asian areas of the city. doi:10.1300/J222v06n01_02

Richard G. Greenleaf is affiliated with Department of Sociology and Criminal Justice, State University of New York-Plattsburgh.

Wesley G. Skogan is affiliated with Political Science Department, Northwestern University.

Arthur J. Lurigio is affiliated with College of Arts and Sciences, Loyola University, Chicago.

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INTRODUCTION

The exercise of discretion infuses virtually every aspect of law enforcement in the United States. Decisions to intervene in a situation or not, cite, arrest, or not, and to prosecute, or not, are all greatly discretionary. The police are obviously not the sole agents of the criminal justice system with the authority to make discretionary decisions; however, they are the most recognized and their decisions are the most numerous. The decision to make a traffic stop, issue a ticket, or issue a verbal warning, is in the hands of the police officers on the street.

The problem is that everything about policing makes the exercise of discretion hard to monitor and control. Most officers operate alone or perhaps with a partner, not under the constant scrutiny of their superiors (Famega, Frank, & Mazerolle, 2005; Skogan & Meares, 2004). The situations that officers encounter may vary from area to area and their solutions may be highly contextual. Research indicates that most people who come into contact with the police are satisfied with their experience, even when they were on the receiving end of an investigation or citation (Walker, Spohn, & DeLone, 2000).

This study examines data that addresses one of the prominent downsides of the discretionary character of law enforcement, racial or ethnic profiling. In the context of law enforcement, racial profiling has been described as any officer-initiated practice that focuses on the driver's race or ethnicity rather than the driver's actual behavior (Ramirez, McDevitt, & Farrell, 2000). Profiling is presumably facilitated by the tremendous discretion exercised by officers, but its extent still remains an open question. This issue emerged on the nation's agenda beginning in 1995, when Lewis Henry Gates, Jr. chronicled the anguish expressed by prominent, law-abiding African-Americans who, nevertheless, had been stopped by police and subjected at times to humiliating treatment. He concluded that, "there's a moving violation that many blacks know as 'DWB'–Driving While Black" (Gates, 1995, p. 59).

Over time the terms of this discussion have shifted. Issues of the intent of officers and of their exclusive focus on race have been widely debated. There is disagreement over whether or not disproportionate outcomes can be construed as evidence of racial profiling. A great deal of effort has been put into the development of "denominators" that de-

fine populations that are at risk of being sanctioned, in order to clarify whether groups of citizens are sanctioned at appropriate rates, or if there are disproportional outcomes. It has become clear that the concept needs to be more clearly delineated, and that the data requirements for demonstrating most definitions of racial profiling are challenging. A recent report of the National Academy of Sciences even called for a moratorium on data collection in this area until the fundamental conceptual issues and research strategies are straightened out (Skogan & Frydel, 2004).

Consistent with this, this is an examination of the patterns of racial disproportionality in the outcomes of traffic enforcement in a northwest city. The reasons for this focus are clear. Like many studies, we do not have data on the officer's intent or the precise quality or quantity of the driving behavior of motorists in the city under study. Drivers are undoubtedly at a differential risk of being stopped by the police. For example, if they drive at certain hours of the day or night, they are at a greater or lesser risk of being stopped, and if they drive to particular areas of the city, they are probably at a differential risk of being stopped. We do not have independent information about the "actual offending rates" against which we could compare the traffic sanctioning patterns of officers. We also have no data on the full range of traffic-related activities of the police that could be tainted by racial profiling. For example, officers on patrol may decide to query about motorists via their patrol car computers or mobile data terminals (MDTs); they do not even have to stop drivers in order to profile them (Meehan & Ponder, 2002). We also do not have data on the most common outcome of traffic enforcement by the police, verbal warnings, which do not result in any paperwork and quickly disappear from view. However, the traffic warning citations which are the focus of this study were instituted in order to provide officers with a formalized alternative to verbal warnings, in order document the exercise of police discretion in the disposition of traffic stops.

Three hypotheses are presented in this paper. They include the law enforcement hypothesis, a traffic enforcement hypothesis, and the group threat hypothesis. The first hypothesis proposes police focus their resources in higher crime neighborhoods, which in the city examined here were disproportionately home to racial minorities, and that one consequence of targeting higher-crime areas was the disproportionate allocation of traffic warnings there. The second hypothesis is that police make a greater number of traffic stops in parts of the city where more traffic problems occur. This aggressive enforcement is linked to the need for public safety, but it generates disproportionate racial out-

comes. The final hypothesis is often referred to as the conflict hypothesis. Police are the "guardians of the gate" and they are charged with protecting the "haves" from the "have-nots." Keeping the so-called "dangerous classes" from driving or walking around the neighborhood of the most affluent is the job of the police department. Thus, officers make more pretext stops in these areas in order to warn interlopers that they are in hostile territory and are unwelcome. The racial distribution of traffic warning citations, which are a highly discretionary tool, may provide the clearest test of this proposition.

LITERATURE REVIEW

In a recent study, Lange, Johnson, and Voas (2005) cautioned, "[b]enchmarks for measuring racial profiling (comparing with police stop rates) should be based on estimates of traffic violations rather than on geographic census counts" (Lange et al., 2005, p. 219). To accomplish this they surveyed about 4,000 motorists at tollbooths in New Jersey, and observed (and photographed) drivers on the turnpike. The researchers compared their findings with the race distribution of police traffic stop data. Based on the tollbooth findings, blacks were over-represented as motorists stopped by approximately 13%. However, according to observations, blacks were more likely than whites to exceed the posted speed limit (particularly at night). As a result, Lange et al. (2005) suggest that racial distribution of traffic stops may be related to the racial distribution of overt speeders. This study focused just on speeding offenses, ignoring the many other reasons why police may stop motorists–including the highly discretionary category "equipment violations." In their study, the reliability of observer ratings of speeders was also fairly low (66 percent), and their cameras had difficulty capturing drivers' race when they were in speedier traffic lanes.

Greenwald's (2003) study of police vehicle stops in Sacramento, CA. found blacks were disproportionately stopped compared to their representation in the city population. The benchmark Greenwald used was the 2000 Census data. Twenty-six percent of motorists stopped were African American, however, blacks comprised 14% of city residents. The largest overrepresentation of blacks occurred between the hours of 9 PM and 5 AM. Asians and Pacific Islanders were significantly under-represented in traffic stops compared to their population. Approximately 10% of the stops were of Asians and Pacific Islanders, although they accounted for 17% of city residents. No difference was found in the

stop rates of Whites or Hispanics. Officers were provided with machine scan forms and instructed to complete them after each stop.

A multiple year study of traffic stops in Providence, Rhode Island found non-whites were stopped disproportionately to their percentage in the driving-age population (McDevitt, Farrell and Yee, 2003). While approximately 32% of the Providence drivers were non-white, approximately 55% of traffic stops made by the police were of non-white drivers. Non-whites were also more likely than white drivers to be stopped for equipment violations (McDevitt et al., 2003).

Using information from police vehicle mobile data terminals (MDTs), Meehan and Ponder (2002) found traffic stops were sensitive to both race and place, or had an ecological component. "Being African American and out of place is noticed" (Meehan & Ponder, 2002, p. 426). Since data on race was unavailable, Meehan and Ponder coded motorists as white if they resided in a community whose population was at least 97% white and black if the community was at least 75% black. While some whites may live in predominately black neighborhoods and vice versa (resulting in a serious coding error), these researchers claim that blacks were more likely to be undercounted or miscoded as white using residence as a proxy for race. They also presuppose that the registered owner of the vehicle in question was actually driving the vehicle, and if they let somebody else use their car, the person was of the same race. Meehan and Ponder (2002) conclude that race profiling significantly increases as African American motorists travel farther from black neighborhoods and into white neighborhoods.

Smith and Petrocelli (2001) examined police practices in Richmond, Virginia by comparing traffic stops with census data of the driving age population. Consistent with the majority of other studies, blacks were disproportionately stopped. "Blacks comprise 51% of the city's 16-and-over population but accounted for 64.2% of motorists stopped" (Smith & Petrocelli, 2001, p. 12). However, Smith and Petrocelli did not possess demographic information at the beat level. "Determining whether more patrol officers are assigned to predominately minority areas of Richmond than to predominately White areas would require accurate demographic data at the police beat level. Unfortunately, these data do not exist" (Smith & Petrocelli, 2001, p. 13).

In Wichita, Kansas, Withrow (2004a) found police traffic stops were in proportion to the racial breakdown of the police beats. Thirty-six beats were examined in this midwestern study. "As the number of Black residents increases within a beat, the number of stops involving non-Black citizens decreases. Similarly, as the number of non-Black residents in-

creases within a beat, the number of stops involving Black residents decreases" (Withrow, 2004a, pp. 352-53). However, when the most racially segregated white beats were evaluated, black motorists were stopped at a higher rate than they were represented in the beat. Withrow (2004a) refers to "contextual attentiveness," a process in which police officers are differentially attentive toward individuals or actions incongruent with what they expect or what is typical. Furthermore, police may engage in pretext stops in order to justify encounters with certain kind of citizens.

Based on the above research from across the nation, there is abundant evidence of racial disparity. However, most existing studies have endured methodological limitations. One of the more evident problems has been the complexity and expense of devising benchmarks or denominators. Some researchers have elected to use citywide census data or population-based denominators (Greenwald, 2003; Smith & Petrocelli, 2001), although it is one of the least dependable benchmarks. Moreover, police researchers frequently must rely upon official documentation (e.g., warning tickets, vehicle search consent forms), even though police regularly do not record all of their interactions with the public.

METHODOLOGY

Data were collected from a large municipal police department in a Pacific northwestern state. Seventy-four percent of the city's residents were White, 8% African American, 13% Asian and 5% Hispanic. Fifty-three percent of the citizens possessed a college degree or better, while only 4% of the population never completed high school. Seventeen percent of the residents were born outside of the United States and 48% were homeowners.

In response to concern about racial profiling, the city and the police department implemented a new strategy to increase police responsibility and accountability and improve police-citizen relations. This included the creation of a new written warning ticket that was to be used to document any traffic stop not resulting in a regular citation or an arrest. This was intended to monitor the exercise of police discretion in cases where officers decided not to issue a formal citation, and to produce documentation for all police-citizen traffic encounters.

Our research strategy was to test law enforcement, traffic enforcement, and race threat hypotheses at the police beat level. Aggregating all study material to this level allowed us to examine the "race and place" effects so important in law enforcement (Meehan & Ponder,

2002). Hard copies of 3,060 warning tickets issued during the period December 2002 to October 2003 were collected from the Records Unit of the police department with the assistance and cooperation of the Deputy Chief of Police. These tickets were coded and aggregated to the police beat level. The 2000 Census was used to construct small-area beat and precinct level information on the number of persons age 16 or older, using the Census Bureau's STF-3 file for the state. Beat and precinct rime data for 2002 was obtained from the police department, as was aggregated information on police dispatches. The department's CAD (Computer Assisted Dispatch) system was used to generate beat-level measures of the frequency of formal traffic citations, follow-up investigations, arrests and other enforcement activities, as well as counts of non-enforcement activities such as lending aide and assistance. Importantly, the CAD data enables us to examine how patterns of stops were related to officers' unit of assignment. In particular, we compared stops made by traffic officers and those initiated by regular patrol units. Traditionally, traffic officers have exercised less discretion than patrol officers, for it is not atypical for traffic officers to have daily or weekly citation quotas to achieve (Skolnick, 1994).

Spatial Distribution

There are a total of 64 beats in Northwest city. In 2000, they ranged in population from just over 1,000 to more than 23,000 residents. The city employs other geographic units for its record keeping and data analysis, but beats were the most appropriate unit for our investigation. The city's five police precincts were too large and too diverse to generate precise information. Moreover, many of the city's small Statistical Reporting Areas (SRAs) have too few residents and often not enough police activity to measure with any degree of accuracy. Of the 64 beats, 4 were deleted from the analyses because there was not enough law enforcement activity to characterize racial patterns.

Measuring Spatial Disproportionality

Our spatial disproportionality measure has two components. The numerator of the measure was the percentage of persons of a given race or ethnicity who received a traffic warning ticket between Dec. 2002 and Oct. 2003. This was generated using the warning ticket file received from the city, geo-coded to the police beat. The warning ticket file distinguished between persons of African American, White, Hispanic,

Asian, and other racial designations. For this study, the small number of Hispanics was combined with persons of other races (they comprised only 1% of the population). Based on our racial categories, warning tickets in the 60 police beats ranged from 0 to 70% for African Americans, 0 to 63% for Asians, and 0 to 38% drivers for other races.

The denominator of the measure was the percentage of individuals of a given race or ethnicity residing in the beat, as assessed by the 2000 Census. Because this is a study of traffic enforcement, we computed the measure by using block-level data disaggregated by age, to yield a measure of the racial distribution of the driving population. These age-specific figures were calculated using the Census Bureau's STF-3 method. From the census data we created a combined "other race" population figure by merging persons classified as "Native Indian and Alaska Native," "Native Hawaiian and Other Pacific Islanders," and the Census Bureau's own "Some Other Race" (after deleting Hispanics who gave this response), and those Census classified as "Hispanics of all races." Based on driving-age information, the city's 64 beats ranged from 1 to 31% African American, 2 to 47% Asian, and 1 to 16% persons of other races.

Dividing the distribution of warning tickets by the distribution of the driving population yielded beat-level disproportionality measures for the racial groups. If groups received warning tickets in exact relation to their proportion in the population, a beat's measure would be 1.0. Values below 1.0 indicate that a racial group was under-represented among warning ticket recipients. For example, if police beat X's driving age population in 2000 was 8.3% African American, and in 2003 approximately 4% of the warnings distributed there went to blacks; this resulted in a disproportionality score of 0.48. On the other hand, values above 1.0 on this measure indicate beats in which groups were over-represented among ticket recipients. For example, beat Y's driving age population in 2000 was 3% African American but in 2003, 23% of the tickets distributed in that beat went to blacks; this yielded a disproportionality score of 7.7. These measures can be viewed as multipliers so in the case of beat Y, blacks were almost eight times more likely to receive warning tickets from the police. In beat X, they were about one-half as likely.

FINDINGS

Table 1 compares the percentage of warning tickets by race and gender with the 2000 census results for the city. While 74% of city residents

TABLE 1. Descriptive Statistics for Driver Race and Gender and Warnings

Category	Percent 2000 Census (Total = 476,262)	Percent Warning Tickets (Total = 2,840)
Race		
White	74%	72%
Black	8	16
Asian	13	10
Other	5	2
Race and Gender		
White		
Male	51	62
Female	49	38
Black		
Male	51	70
Female	49	30
Asian		
Male	51	54
Female	49	46

were white, 72 percent of warning tickets were distributed to white motorists. Blacks made up 8 percent of city residents yet received 16 percent of these citations. Thirteen percent of residents were Asian and 10 percent of the tickets were given to Asian drivers. Lastly, while other racial groups accounted for 5 percent of the city population, two percent of the tickets were distributed to this group. Across all three racial groups, males were more likely than females to have received a warning ticket. When the allocation of tickets was examined by race and gender, we found that among tickets given to African American, 70% went to males. Among Whites, 62% went to males, and among Asians, 54% to males.

Table 2 describes the key features of warnings in the city. It compares the racial distribution of those who were ticketed by age, place of residence, first reason for which they were stopped, and number of reasons for which they were stopped (which could include up to three different justifications about which they were warned). Virtually everyone who was stopped and warned came from within the state. A slightly greater proportion of African Americans and Asians who were stopped lived within the city as opposed to out-of-town, while out-of-town whites

TABLE 2. Features of Warning Tickets and Recipients by Race

Features	Race of Recipient: Whites	African-Americans	Asians	χ^2
Age category				41.05*
15 to 25	20%	21%	35%	
26 to 39	39	38	37	
40 to 55	28	32	20	
56 and older	13	10	9	
License				
Of State:				16.8*
Yes	89	94	94	
No	11	6	7	
Of City:				32.6*
Yes	57	71	62	
No	43	29	38	
Reason for Stop				9.6
Seatbelt	5	5	3	
Equipment	33	34	38	
Traffic Violation	60	61	59	
Other	1	.5	--	
Number of warning items	%	%	%	24.4*
1	92	87	89	
2	8	12	8	
3	1	1	3	
Frequencies	2,024	442	277	

Note: A small number of Hispanic ticket recipients were excluded from this table. Frequencies are the average number of cases and vary due to missing data.
* $p < .05$

were most likely to be cited. The youngest Asians (15-25 years of age) were more likely to be ticketed than younger whites or African Americans. Otherwise, citation recipients of all races were warned at a similar rate and about comparable things.

Another factor that was linked to the racial distribution of tickets was officer assignment. Again, the question is the extent to which on-street discretion routinely exercised by officers could be connected to who they choose to warn. We anticipated that units on patrol and other general-purpose assignments exercise more discretion in this regard than do officers assigned to the traffic units, and that this exercise of discretion may produce disproportionate outcomes.

Table 3 examines some of the work of these different police units. It also includes data for a smaller number of warnings issued by other units (those on neither patrol or traffic assignments), but those will not be discussed here. As Table 3 illustrates, there is a large gap in their ef-

TABLE 3. Warning Tickets by Type of Unit

	Type of Unit		
Warning Tickets	Patrol Assignment	Traffic Assignment	Other Assignment
Number of officers active	303	90	37
Average tickets per officer	3.8	19.6	1.8
Percent of all warnings	39%	59	2
Percent of recipients			
State residents	67%	56	58
Warned for equipment	43%	27	29
Race distribution of recipients: Percent			
White	60%	79	70
Black	22%	12	25
Asian	14%	7	3
Other	4%	2	2
Percent of tickets to black males	16%	8	18
Number of warnings	(1163)	(1769)	(65)

forts. Over the time period considered, the 303 officers on patrol who handed out any warning tickets at all distributed an average of 3.8 tickets, whereas the 90 officers with the specialized traffic units handed out an average of 20 tickets. As a result, those 90 officers gave more warning tickets than all active patrol officers and almost 60 percent of the total. There were few differences in who was cited, and for what reason. Traffic officers more frequently cited non-residents (those who lived outside city limits), while officers on general patrol concentrated more on city residents. Patrol officers were also more likely to ticket persons for equipment violations, while traffic officers tended to focus more on moving violations.

The biggest difference between these units is in the race of the recipients of the warning tickets. Officers on general patrol were more likely to ticket African Americans and Asians. As Table 3 indicates, 40% of the tickets distributed by patrol officers went to non-whites, whereas the comparable figure for traffic units was only about one half that figure (21%). Officers within the patrol division were two times more likely as those in traffic assignments to issue warning tickets to African-American males.

These differences proved to be largely a function of where these units were active in the city. The next section examines the spatial distribution of warning tickets to identify possible area-based disproportionality. The data that are described in greater detail document that traffic units tended to be more active in predominately white areas of the city, while the patrol units focused more on African Americans and Asian segments of the city. For example, the larger the white proportion of the population in the beat, the more warning tickets handed out there were by traffic units (correlation = + .52). However, the percentage of warning tickets that were issued by patrol units was higher in predominately African American beats (correlation = + . 44).

Table 4 presents the overall distribution of traffic stops in the city's police beats. It divides the 60 larger beats into three categories. One includes beats that were within 10% of the proportionality in the distribution of warning tickets; a second is those in which groups were under-represented by more than that figure; and another is beats in which groups were over-represented among ticket recipients by more than 10%. The left hand findings reported in Table 4 gives each beat equal weight, while the right-hand findings weight the beats by their population.

Using the population-weighted data, Table 4 indicates that 12% of the city residents resided in beats where African Americans were proportionately represented in the distribution of tickets, and 84% lived in places where they were over-represented. Persons of other races were also over-represented among citation recipients by a wide margin; 76% of city residents lived in places where this was the case. Asians were somewhat better off. A total of 60% of city residents live in places where Asians were proportionately represented and "only" one-third in places where they were disproportionately ticketed.

Table 4 also illustrates the median disproportionality scores for the three groups. Median scores are presented because the disproportionality scores are significantly skewed; many beats have low to moderate scores, but a few have relatively high scores. Because of this, median values best represent the typical experience of residents. Disproportionality scores for the city's Asians were generally low. Their median score was below 1.0, and they were below that in 38 of the city's 60 beats. Only in three beats were scores for Asians above 2.0, a value indicating that they were ticketed at twice their numbers in t he driving-age population.

The findings were quite different for the other groups. For persons of "Other" races, the median disproportional score was 2.2, and they were

TABLE 4. Extent of Beat-Level Disproportionality in Warning Tickets

60 Beats with enforcement activity	Beat Disproportionality			Population-Weighted Estimate		
	African-Americans	Asians	Other	African-Americans	Asians	Other
Proportionate Warnings[1]	8%	63%	20%	12%	60%	23%
Under-represented	15	10	2	4	8	1
Over-represented	77	27	78	84	32	76
Median Score	2.1	0.6	2.2	2.4	0.7	2.2

[1] Within 10 percent of proportionate representation

above 2.0 in 35 of the city's 60 busy beats. For African Americans the median disproportional score was 2.1, on a beat-by-beat basis, and 2.4 when beats were weighted by population. African Americans were ticketed at twice their numbers in the population in 31 of the 60 beats. For both African Americans and persons of other races, high disproportionality scores were the norm.

Correlates of Disproportionality

Where were warning citations utilized disproportionately? To examine this, we created measures of beat-level factors that might explain disproportionality in assigning warning tickets. These are listed below as hypotheses. Each of these propositions has its advocates, and the first one has its defenders within the practitioner community. The fact that some of these hypotheses were unsupported is as important as the fact that some of them were. To test these hypotheses, we logged the disproportionality measures in order to correct for skewness. Plots and other analyses indicate that this did not alter
the substance of our conclusions.

Law Enforcement Hypothesis

A possible explanation for the disproportionality is that racial minorities are more closely targeted because they are concentrated in higher-crime neighborhoods where police in turn are more often on patrol. This is a common supposition. In recent history, concern about racial profiling emerged in response to evidence that the police were specifically targeting minority drivers passing along high-volume, drug-trafficking corridors. Defenders of the practice point to racial

disproportionalities in patterns of offending, and some also argue that in doing so they are giving extra effort to protecting residents of poor, high-crime areas.

To examine the contention that racial disproportionality is driven by law enforcement strategies, we created a diverse set of beat-level measures of offending and crime victimization. These included recorded crime and police activity measures for 2002. The crime measures included rates for Part I personal crimes (i.e., murder, rape, robbery, and aggravated assault), Part I property crimes, and drug offenses. Police activity measures included 2002 rates for on-view arrests and 911 dispatches. From the department's CAD system we calculated a rate for non-traffic criminal enforcement actions that initially began as traffic stops in order to measure the investigatory effectiveness of that kind of traffic enforcement.

Table 5 presents the findings. Separately for African Americans, Asians and people of other races, it presents correlations between beat measures of disproportionality and law enforcement related features of police beats. None were statistically significant. In fact, the pattern of stops was most often in the opposite direction, toward *less* disproportionality in beats with more crime and more police crime-related activity. However, as none of these correlations is significant, "no relationship" is the best description of the findings presented here.

Traffic Activity Hypothesis

The second hypothesis is that warning citations are given disproportionately in areas of the city where traffic enforcement is pursued more vigorously. There are good reasons to selectively target traffic enforcement–for example, because of road conditions or recent vehicle accidents or fatalities. However, it is possible that selective intensive enforcement techniques are implemented to meet quotas or are based on stereotyping. This could result in the disproportionate allocation of warning tickets, which became a formal workload monitor when they were instituted.

To test this proposition, we examined beat-level distribution of traffic enforcement activity measures. As Table 5 illustrates, none of the measures of traffic enforcement volume was significantly related to ticket disproportionality. Places with high stop rates and high warning ticket rates were not among the places where disproportionality occurred. Again, as with our measures of crime and law enforcement, the general pattern was even in the opposite direction.

TABLE 5. Testing Explanations for Disproportionality

	Race		
Correlation with logged disproportionality measure	African-Americans	Asians	Other Races
Law Enforcement			
Personal crime rate 2003	-.29	-.08	.09
Property crime rate 2003	-.28	-.03	.12
Drug crime rate 2003	-.27	-.06	.08
On-view arrest rate 2002	-.25	-.03	.06
911 dispatch rate 2002	-.29	-.02	.04
Traffic stops with arrest outcomes (rate)	-.22	-.09	.07
Traffic Activity			
Warning ticket rate 2003	-.24	-.02	.06
Traffic stop rate 2003	-.26	-.03	.07
Traffic citation rate 2003	-.25	-.01	.07
Percent by traffic units	-.19	.10	.09
Percent of cites warning tickets	.00	.10	-.14
Threat			
Percent home owners	.36*	-.05	-.15
Per capita income	.35*	-.04	-.07
Percent white	.09	.07	.02

* $p < .05$

Two additional traffic enforcement possibilities were considered. The first is the effect of special traffic units. These are formed for the express purpose of detecting and sanctioning traffic offenders, and in some jurisdictions, ticket quotas are used to encourage an appropriate level of enforcement aggressiveness. We anticipated that the routine discretion that accompanies traffic ticketing by units on preventive patrol and other general-purpose assignments would more greatly affect their activities. That is, when special units see violations, they *will* stop and cite, doing their assigned job and meeting their quotas. On the other hand, when officers on other assignments observe violations, they *may* stop and cite, perhaps exercising greater discretion that could lead to disproportionate outcomes. At first glimpse, this would appear to be the case.

During 2003, 79% of the warning tickets, which were distributed by all traffic units, went to White motorists and 12% went to African American drivers. Among units with patrol assignments, 60% of warning tickets went to Whites, and 22% to African Americans. We have seen, however, that there is a tremendous variation among beats in the rate at which tickets are given, so *where* units are assigned is one of the variables that might account for this difference. Hence, our area-level disproportionality measures standardized beats for characteristics of the

people who live there. To examine the special unit hypothesis, we calculated the percentage of warning tickets in each beat that were given by units of specialized traffic assignments, anticipating that this factor would be linked to the extent of disproportionality. However, as Table 5 indicates, this factor proved unrelated to disproportionality in the distribution of warning citations.

The final traffic enforcement proposition tested here is also tied to discretionary decisions made by officers in the field. It explores whether they still chose to use verbal warnings in place of written warning tickets or regular citations. A potential source of enforcement disproportionality was the continued practice of officers to issue verbal warnings in lieu of a warning tickets *or* regular citations. The CAD data indicated that this was the most common outcome in encounters that were initiated as traffic events; officers gave a verbal warning 45% of the time. At the beat level, we calculated a measure of this discretionary activity as the percentage of all traffic outcomes (the sum of warning tickets, regular citations, and stops for which officers indicated by a radio code that they had issued a verbal warnings) that were verbal warnings. This measure of the extent of officer discretion in traffic events varied significantly across the beats, from 24% to 62% of stops. However, as Table 5 shows, this was unrelated to the extent of racial disproportionality in any meaningful way.

Group Threat Hypothesis

This hypothesis is commonly discussed in sociology and criminology. Conflict theory views crime control as an instrument used by powerful groups to regulate threats to their interests and to maintain the existing social structure (Turk, 1976). The proposition is that some fraction of the enforcement activity of the police is directed at protecting higher-status persons from those below them in the social hierarchy. This is sometimes called the "race threat" hypothesis, but frequently the concept encompasses the presumed insulation of upper status households from threats from the lower classes as well. In this view, police routinely help "wall off" the rich from the poor, particularly in larger cities, where people of different races and classes live in close proximity. In this case, the threat hypothesis anticipates that traffic stops are literally used to "warn off" apparent interlopers edging too close to places where higher-status people reside.

Table 5 tests this proposition, using the warning ticket data. It is the only instance in which the hypothesis examined here are supported, and

then only involving African Americans. Across the 60 beats, blacks were disproportionately warned in higher-income, home-owning beats. Note that the correlations presented in Table 5 are not very large. However, these correlations are statistically significant, and they are consistent with the inference that the police were acting as if they were protecting better off enclaves of the city. The simple correlations between the percentage of beat residents who were White and enforcement disproportionality were small and nonsignificant. However, as Table 6 indicates, in combination the effect of neighborhood race emerged more clearly.

Table 6 presents a multiple regression analysis of an affluence measure–the percent of residents who were home owners–plus the percent of each police beat's residents who were White. In combination, both factors were significant, and they explain 28% of the variation in African American disproportionality. None of the law enforcement or traffic activity measures described above affected these relationships, or entered into the equation. Based on all of the beat-level factors we examined, police act as if both the race and class of neighborhood residents matter in the disproportionate use of warning tickets, to the apparent advantage of Whites and better-off households.

SUMMARY AND CONCLUSION

This study examined the extent of racial disproportionality in the distribution of police warning citations. It examined three hypotheses concerning disproportionality, dubbed the law enforcement hypothesis, the traffic enforcement hypothesis, and the race threat hypothesis. The analyses of roughly 3,000 warning tickets provide support for the group threat hypothesis. African American motorists were at a greater risk of receiving a traffic ticket while driving in the most affluent beats of the

TABLE 6. Multivariate Test of Threat Hypothesis

	African-American Disproportionality Scores	
Beat Demography	Coefficient	Significance
Constant	-3.34	.02
Percent of Home Owners	.05	.00
Percent White	.07	.00

$R^2 = .28$
N = 60

city. These more privileged neighborhoods had a greater percentage of home ownership and higher per capita income than other areas. On the other hand, beats with highest crime rate and the most calls for service showed little race disparity, and measures of the extent of traffic-related enforcement efforts similarly were unrelated to disproportionality. Our findings instead are consistent with the view dominant groups in society see the police as an institution consistent with their interests (Weitzer & Tuch, 2005).

Of course, there were limitations to the study. None of our analyses could shed light on the issue of verbal warnings, because where, when and why they take place and who they involve continues to be shielded from monitoring. We had no data on which drivers "received a pass" after they were stopped. Since these stops generated no paper trail, we had no data about the characteristics of these drivers, or why they were stopped.

We also had no independent data from which to construct a reliable benchmark or denominator reflecting in detail the attributes of the driving population and who among them was breaking the law (Withrow, 2004b). We instead denominated police stop rates by race using the driving-age population of each beat level, but as Harris (2003) points out, a major traffic artery may flow through a predominately white neighborhood. Like virtually every study relevant to racial profiling, we had no information on the motives or views of the police officers involved. Were they racially motivated when they stopped a disproportionate number of black drivers in predominately white areas? Is it rather the routines of "good police work" that produce these outcomes? It is commonly believed that new officers are initially trained and afterward socialized by older officers to look for individuals who appear to be "out of place" (Skolnick, 1994; Wilson, 1978) although this may result in questionable or even unconstitutional police actions (see for example, *Kolender v. Lawson*, 1983).

We also found that it is important for future researchers studying racial profiling to detach stops initiated by patrol officers and stops initiated by traffic officers. While it seemed chiefly due to *where* they were working, we found officers in the patrol division were significantly more likely to ticket African Americans, Asians, and persons who lived inside the city. Patrol officers issued 16% of their warning tickets to African American males while traffic officers issued only 8% of their ticket total to this group. We hypothesize that this difference was made possible by the differential imperatives of the two assignments–that

traffic officers *will* stop traffic offenders, while patrol officers *may* stop traffic offenders.

It is obvious that stopping citizens based on their race or other extra-legal factors reduces the legitimacy of the police and diminishes public support, particularly among young African Americans. The perception of evenhandedness and police impartiality is even more essential for the success of community policing programs. Police administrators, first line supervisors, and researchers need to work with each other to try to minimize the abuse of discretion and grow public trust. However, given the decentralized nature of policing and officer autonomy, internal accountability is commonly hard to achieve. In a recent study in Baltimore, researchers found seventy-five percent of officer's patrol time was unassigned and undirected (Famega et al., 2005). While the simple presence of field supervisors (i.e., sergeants and lieutenants) may not thwart patrol officers from using racial profiles (particularly if supervisors give praise to their subordinates for high ticket output and aggressiveness), it seems to be a sensible step in the right direction.

The public also must have confidence the police department will respond to their complaints about officer misconduct. However, this is not always the case. In a series of focus groups held in Omaha, Nebraska, the majority of citizens were fatalistic about the complaint process, and they believed that filing a police complaint would have no marked effect (Walker, 2001). The city of Omaha is most likely not unique in this regard.

Based on our study in this one large municipality, officer discretion was linked to the demographics of the neighborhood or police beat. Prior studies have found that aggressive patrol strategies were more widespread in the mixed race neighborhoods (Brooks, 1993). That may be just half of the story. We found that patrol officers working in the more affluent, homogeneous white areas were highly attentive to black motorists. This finding is consistent with the group threat hypothesis or race-place effect.

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