Title
Racial and Identity Profiling act (RIPA) in the Los Angeles Police Department

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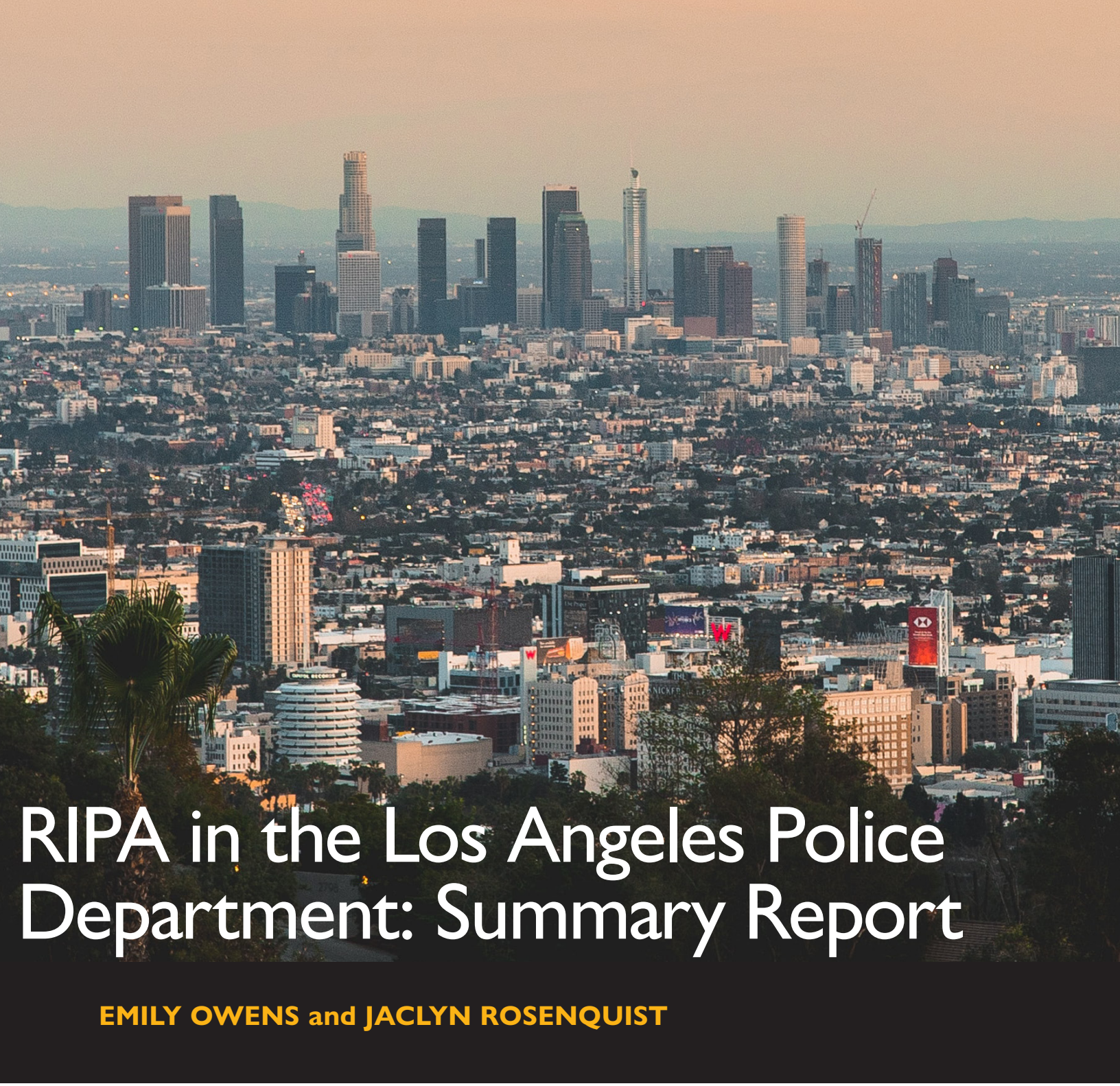

RIPA in the Los Angeles Police Department: Summary Report

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CALIFORNIA POLICY LAB

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The Racial and Identity Profiling Act (RIPA) of 2015 was enacted in order to better identify and mitigate race-based and identity-based bias in policing. The law requires California police departments to record data on stops made by police officers, including fields such as perceived identity and demographics, reasoning for stops and searches, and the outcome of each encounter. RIPA does not explicitly distinguish between vehicle or pedestrian stops. In December of 2019, the Los Angeles Police Department (LAPD) RIPA Board (the Board) requested that Dr. Emily Owens of the California Policy Lab (CPL) conduct an analysis of the RIPA data and provide a report to the Board, in order to better understand any patterns that the data revealed. The following report provides a place-based analysis of all stops made by the LAPD from July 2018 – October 2019.

What We Did

CPL received access to "Wave I" RIPA data, including scrambled officer identification numbers and point-specific geographic information on where 939,074 individuals were stopped between July 2018 and October of 2019. We were able to geocode the location for 87% (820,254) of these observations. Using the geocoded identifiers, we merged the RIPA data with data from four sources: (1) The American Community Survey (ACS), which is Census survey data that provides information on neighborhood demographics at very local levels (frequently a few city blocks) over five-year periods; (2) Publicly available data on the location of crimes known to the LAPD and victimization, by race and ethnicity, downloaded from Data.LAcity.org; (3) Station-level data on the racial and ethnic identity of criminal suspects known to the LAPD, reported in Vernon (2020); and (4) Officer-level information on incidents reported in the LAPD's "TEAMS" data, provided to CPL by the LAPD.

This report aims to provide actionable insights on the existence and sources of any disparities that emerge from analyzing RIPA data. We first look to identify whether any disparities exist; we then drill deeper to try and identify potential sources of disparate outcomes. We analyzed the data using a variety of methods in order to answer these questions. First, we created geographic visuals by mapping income, violence, and stops in Los Angeles. Next, we developed graphs that show how disparities vary across LAPD stations, using multiple "benchmarks" against which we compare the number of RIPA

events across identity groups. We also conducted multivariate statistical tests of RIPA events to test and identify the source of identity group disparities. Finally, we compare the magnitude of station-level disparities in RIPA events to records in TEAMS, which is currently used to monitor officer actions, in order to assess how existing LAPD oversight infrastructure may already incorporate some RIPA metrics. This summary report presents a snapshot of some of our more impactful findings. An accompanying technical report presents a more comprehensive analysis, including multiple geographic levels of aggregation and additional outcomes (e.g. the relationship between the percentage of a neighborhood that is White and the number and type of RIPA events).

What this Report Contains

In 2020, the state RIPA Advisory Board released its third annual report, available here. The 2020 board report's primary analysis uses benchmarking techniques to identify sources of bias, focusing on aggregate outcomes across the state of California as well as within each agency (i.e. the LAPD). This report differs from the 2020 RIPA board report in two ways: 1) by focusing on comparing stops that occur within similar places; and 2) by examining the role of local violent crime in explaining racial disparities in police contact.

The first way this analysis builds on the RIPA Board report is by analyzing the frequency of, and outcomes associated with, stops that occur across different Los Angeles neighborhoods rather than describing stops at the agency level. The demographic and socioeconomic characteristics of Bel Air and Boyle Heights are quite different, so examining the racial disparities in policing within each neighborhood separately, rather than averaging the two, allows for a more accurate description of policing in Los Angeles. Analyzing stop patterns across neighborhoods or stations can provide actionable insight into ways in which any police practices implemented at the station level may be related to racially disparate outcomes in police-public contact. In addition, it can clarify whether observed agency level disparities are the result of actions by a few officers in a few stations, or are more prevalent across the department.

The second way this analysis adds to the RIPA Board report is by examining if violence within a neighborhood plays a role in observed racial disparities in police-public

contact.[1] To the extent the LAPD directs resources to neighborhoods with more violent crime, this may be an important factor in understanding racial disparities. In addition to overall violent crimes known to the LAPD, we use two strategies to measure identity-specific participation in violence within a place. One is looking at victimization rates by identity group. While this is not a direct measure of the offending population, according to the National Crime Victimization Survey (NCVS), violent crime is perpetrated by someone of the same race or ethnicity as the victim in 70% of incidents involving Black victims and 62% of incidents involving White victims (Morgan and Oudekerk 2019). We also use the number of suspects known to the LAPD by identity group. This measure describes criminal perpetrators known to the LAPD. It consists of offenders who are described to the LAPD by witnesses or victims. Therefore, the process by which suspect records are created may not be identity-neutral.

Both victim and suspect descriptions are imperfect measures of the true criminal population, and may be subject to implicit bias (if witnesses or victims are more likely to note the racial identity of a particular group in police reports), recall error (witnesses or victims are incorrect in their identification in either data source), or classification error (in the case of cross-identity group victimization in Census surveys). However, to the extent that both provide an estimate of the relative participation of different groups in violent crime, differences across neighborhoods in each measure should reflect differences in the population of people "at-risk" of being stopped by the LAPD.

What We Found

A. Overview of RIPA Stops, Searches and Hit Rates in Los Angeles

1) Using data from the Census Bureau, LAPD crime reports, and RIPA data, we created maps that visualize poverty, neighborhood change ("gentrification"), and violence in LA. We focused on these three metrics because of their association in

[1] We focus on three racial and ethnic identity groups in this report: Black, White, and Latinx. We do this for reasons of sample size; while a large fraction of Los Angeles residents are Asian people they make up a very small component of RIPA stops, making means and changes in this group difficult to compare to the larger number of stops of Black, Latinx, or White people. In our data, the full racial and ethnic breakdown of stops is: Asian: 3.31%; Black: 27.13%; Latinx: 47.03%; Middle East/South Asian: 3.35%; Native American: 0.07%; Pacific Islander: 0.25%; White: 18.26%; Multiracial: 0.59%.

popular culture with police activity. These maps show that income (Figure 1s), gentrification (Figure 2s), and violence (Figure 3s) are concentrated in two distinct LA regions in the northern and southern parts of the city. RIPA stops are also high in these areas (Figure 4s), but RIPA stops are more geographically dispersed across the city.

2) Relative to the local population, White people are stopped less often than their Black neighbors in the jurisdictions of all police stations, and less often than their Latinx neighbors in 71% of stations. (see Figure 5s and Figure 6s).

3) Racial and ethnic disparities in searches are more common in traffic than pedestrian stops. Black drivers are more likely to be searched than White drivers in 70% of neighborhoods (Figure 15s) whereas Black pedestrians stopped by the LAPD are more likely to be searched than White pedestrians in 57% of LA neighborhoods (Figure 13s). Latinx drivers are more likely to be searched than White drivers in 82% of neighborhoods (Figure 16s), and Latinx pedestrians are more likely to be searched than White pedestrians in 67% of neighborhoods (Figure 14s).

B. Racial and Ethnic Identity of RIPA Stops Compared to Participation in Crime

1) When the racial and ethnic composition of violent crime victims is used as a benchmark for the composition of stops, White people are stopped less often than Black people in 71% of stations, and less often than Latinx people in 52% of stations. However, when suspects, as recorded by the LAPD, are used as a benchmark, White people appear to be stopped more frequently than Black people in all stations, and more frequently than Latinx people in 81% of stations (see Figures 7s – 10s).

2) At the neighborhood level, on average there are small disparities in the expected number of times Black, Latinx, or White people are stopped, relative to their population. When neighborhoods are summed up to the station level (on average, there are 61 Census tracts, or neighborhoods, per LAPD station), there are much larger disparities - 12.4 Black people are stopped per 100 Black

residents, compared to 4.3 Latinx people per 100 Latinx residents and 4.0 White people per 100 White residents (see Figure 18s). If there were an equal number of suspects across identity groups and stations, we would expect 7.5 Black people stopped per 100 Black residents, 7 Latinx people per 100 Latinx residents, and 6.1 White people per 100 White residents.

3) Neighborhood differences in violent crime rates or differences, in the racial composition of crime victims or suspects, do not appear to contribute to disparities in post-stop actions. We find relatively small disparities in use of force (UOF) which occurs in 1.6% of stops for Black people, 1.5% of stops for Latinx people, and 1% of stops for White people. Accounting for these measures in a multivariate statistical analysis, at the neighborhood or station level, does not reduce the unexplained racial disparity in UOF rates among people who are stopped (see Figure 19s and Figure 20s).

4) At the neighborhood level, Black and Latinx people who are stopped are more likely to be searched than White people (in 29.5%, 30%, and 22.8% of stops, respectively, see Figure 21s). Hit rates (rate of contraband found per search) are lower for Black people than for Latinx and White people (23.5%, 26.4% and 26.3% of searches, respectively). As in use of force rates, accounting for where the stop occurs does not lead to substantive changes in these disparities, at both the neighborhood and station level.

5) The use of suspect, as opposed to victim, identities as a benchmark dramatically affects estimated disparities in our benchmarking and multivariate analyses of stops. Further investigation into how suspect identities are reported to, and used by, the LAPD is likely warranted in order to better understand the role of these reports in officer actions for two reasons. First, the racial composition of suspects known to the LAPD diverges from the racial composition of victims in ways that are unexpected, given national survey data from the Census Bureau, although victimization patterns in LA may differ from national patterns. Second, "Matched Suspect Description" is cited as a reason for making a stop in only 6% of RIPA events, meaning that it is unclear how frequently officers are using active suspect information during RIPA stops. Understanding the process by which people are

identified as suspects, and carefully scrutinizing whether any disparities in reported suspects are warranted, is an important next step in understanding the source of disparities in who is stopped by the LAPD (see the section on benchmarking pg. 9).

C. Officer Driven Discretionary vs. Policy Driven Non-Discretionary Searches

1) We find that differences in who is subject to a policy driven, "non-discretionary" search, by which we mean a search required, e.g. because it was made pursuant to an arrest, or, in the case of people under parole or probation, broadly allowed by LAPD policy, is an important contributor to the overall disparity in who is searched. Of all searches made by the LAPD during the study period, 99,465 (49%) were non-discretionary searches, and 103,722 (51%) were "discretionary" or officer-driven.

   Specifically, in a hypothetical "average" LA neighborhood, a Black person stopped would be subject to a non-discretionary search 15.4% of the time (14% of the time in an "average" station). A Latinx person would be subject to a non-discretionary search 13.3% of the time (11.7% of the time in an "average" station) and a White person would be subject to a non-discretionary search 11.4% of the time (9.4% of the time at the station level). Accounting for differences in suspect identity does not substantively change these predicted search rates (See Figure 21s and Figure 22s).

2) Non-discretionary searches of Black people in a hypothetical neighborhood would yield contraband 20.6% of the time (21.7% of the time at the station level), compared with 21.6% of the time for Latinx people (20.8% of the time at the station level) and 23.4% of the time for White people. Adjusting for suspect identity does not substantially alter these predictions.

   In discretionary searches, the identity group specific hit rates are 18.1%, 19.5% and 18.9% for Black, Latinx, and White people searched, respectively. If one were to create composite LAPD stations that also had equal representation of suspects

across identity groups, the Black, Latinx and White hit rates in non-discretionary searches would be 22.3%, 20.5% and 23.8%, respectively, and 17.0%, 20.1% and 19.4%, in discretionary searches respectively. (See Figure 23s and Figure 24s).

D. RIPA Stops and Officer Oversight

1) Preliminary analysis suggests that existing TEAMS data identifies officers who have particularly high rates of racially disparate contact with civilians. Officers who are in the top 25th percentile of TEAMS incidents, within their station, also appear to have higher rates of RIPA stops of Black people than White people (See Figure 25s and Figure 26s).

Some useful geographic definitions & police activity measures:

Census Block Group: 600-3,000 people; contains 39 Census blocks on average (a Census block can generally be compared to a city block).

Census Tract: 2,500- 8,000 people; made up of about 4 block groups. Census tracts are defined by the Census Bureau to be relatively homogeneous demographic units.

Station: One of the 21 divisions defined by the LAPD

Stop Rate: The number of stopped individuals (of a particular racial or ethnic group) within a particular area divided by the population (of that same racial or ethnic group) residing within that area. Stopped individuals come directly from LAPD RIPA data while population data is obtained from the American Community Survey.

Search Rate: The number of searched individuals (of a particular racial or ethnic group) divided by the number of stopped individuals (of that same racial or ethnic group) within a particular area. Both stopped and searched individuals come directly from LAPD RIPA data. In cases where contraband is found on an individual, but no search was recorded in the RIPA data, these are recorded as a search.

Discretionary Search Rate: Calculation is the same as the search rate above; excludes any search where the reason for search includes the following: (1) searches conducted pursuant to arrest, (2) condition of parole or probation, (3) as part of a vehicle inventory.

Hit Rate: The number of stops where contraband is found on a suspect (of a particular racial or ethnic group) divided by the number of searched individuals (of that same racial or ethnic group) within a particular area. Both stopped and searched individuals come directly from LAPD RIPA data. In cases where contraband is found on an individual, but no search was recorded in the RIPA data, these are recorded as a search.

Discretionary Hit Rate: Calculation is the same as the hit rate above; excludes any search where the reason for search includes the following: (1) searches conducted pursuant to arrest, (2) condition of parole or probation, (3) as part of a vehicle inventory.

Use of Force Rate: The number of stops where any use of force is recorded (of a particular racial or ethnic group) divided by the number of stopped individuals (of that same racial or ethnic group) within a particular area. Both stops and use of force come directly from LAPD RIPA data.

Mapping RIPA Stops in the LAPD and Neighborhood Characteristics

Overall, we find that geographic patterns of stops appear to be closely linked, but not perfectly coincident, with patterns of poverty, gentrification, and violent crime in Los Angeles (Figures 1s – 4s; note that stops and violent crime graphs are broken into quartiles such that an equal number of Census block groups are in each group). Notably, however, areas with high numbers of stops are not as concentrated as income, gentrification, or violence in LA. When displayed at the block group level, these figures show that places with the highest number of stops extend beyond block groups where household income is below average, where violent crime is particularly high, or where neighborhoods are rapidly changing or "gentrifying." An association between gentrification and a high rate of police activity is a concern frequently raised by community advocates (e.g. "Gentrification and Policing: Los Angeles" UCLA Big Data for Justice Institute, 2019).

FIGURE 1s. Median Income by Block Group

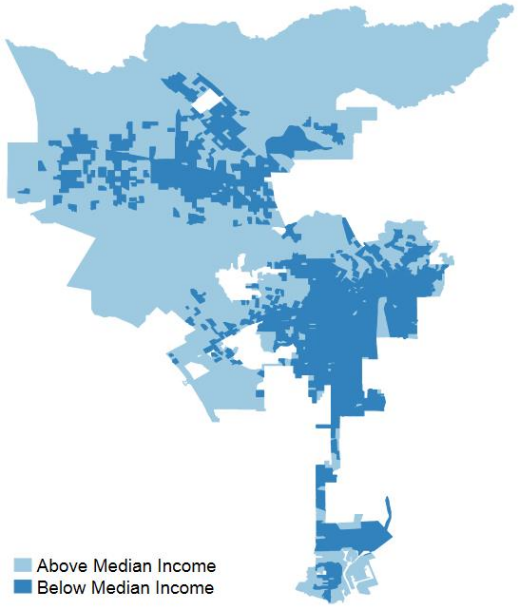


FIGURE 2s. Gentrification by Block Group

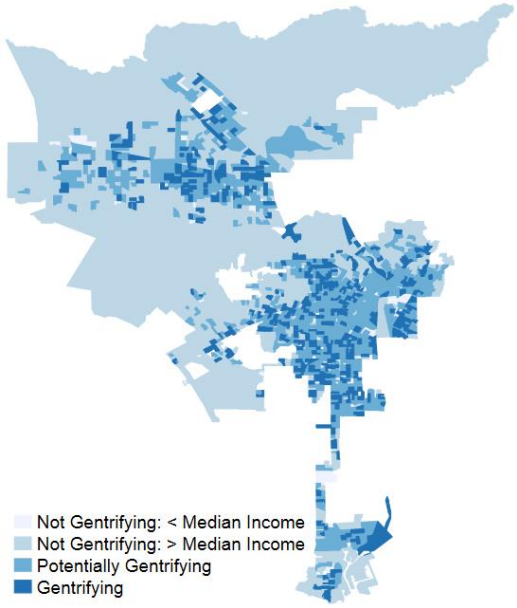


FIGURE 3s. Violent Crime by Block Group (Quartiles)

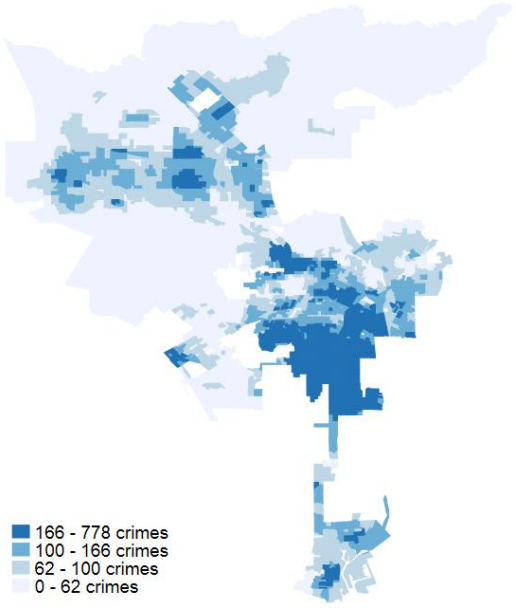
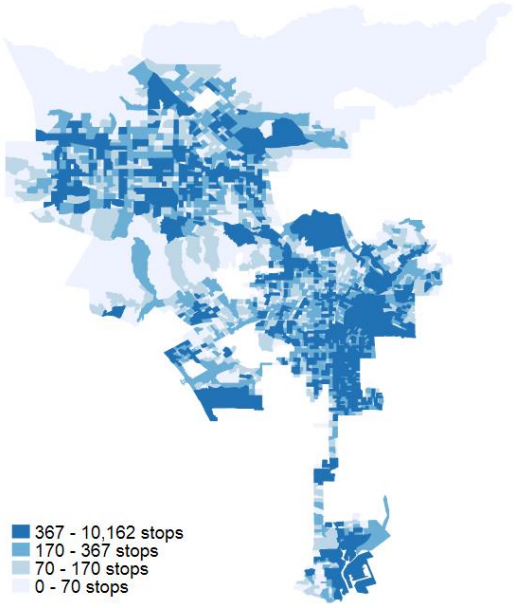


FIGURE 4s. Stops by Block Group (Quartiles)



Graphical Benchmarking of RIPA Stops by Station

"Benchmarking" is a common strategy used to compare the frequency of stops across groups, when there are differences in the number of people in each group "at-risk" of being stopped. An ideal benchmark is one that is perfectly correlated with the differences in "risk" across groups. For example, if LAPD officers working in the field had individualized, articulable suspicion that 6 people in group A and 60 people in group B had engaged in criminal activity, a perfect stop benchmark would be one where the ratio of that benchmark for groups A and B was equal to 1/10.

Benchmarks that overestimate or underestimate this "perfect" ratio will either underestimate or overestimate the amount of bias in an officer's decision. Population counts generally overestimate bias in stop decisions, as differences in poverty, education, and labor market opportunities vary across identity groups in the U.S. Because education and employment affect criminal behavior, disparities along these dimensions will lead to disparities in who commits crime. In this way, pre-existing social disparities will tend to make the fraction of Black or Latinx people in the population

smaller than the fraction of Black or Latinx people who are potentially subject to being stopped, overestimating any bias in a stop decision. In contrast, incarceration rates generally underestimate bias in stop decisions, as any racial disparities in, for example, the use of incarceration, will lead to there being fewer White people relative to Black or Latinx people in this benchmark than there are in the group of people an LAPD officer would potentially consider stopping.

Figure 5s through 10s compare stops of Black, Latinx, and White people made by officers in the same station relative to different possible benchmarks – residents, victims, and suspects, by identity group (station-level values that correspond to these graphs can be found in Appendix Table A2). The magnitude of any disparity is represented by how far a station is from the indicated 45-degree line. If benchmarked stop rates are equal across groups, stations would fall exactly on the 45-degree line. The further away the station is from the 45-degree line, the larger the disparity across identity groups.

FIGURE 5s. White-Black Stops Per 100 Residents (Population) by LAPD Station

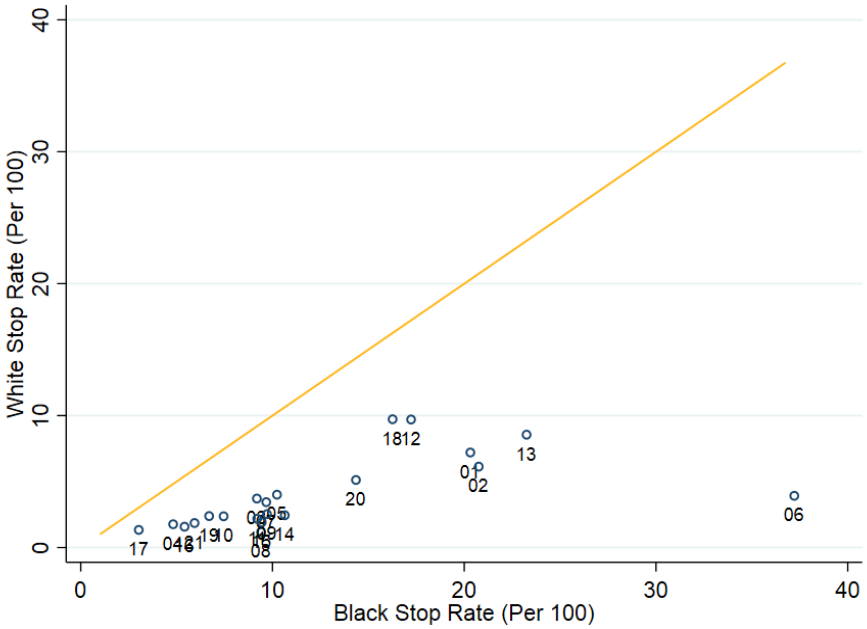


FIGURE 6s. White-Latinx Stops Per 100 Residents (Population) by LAPD Station

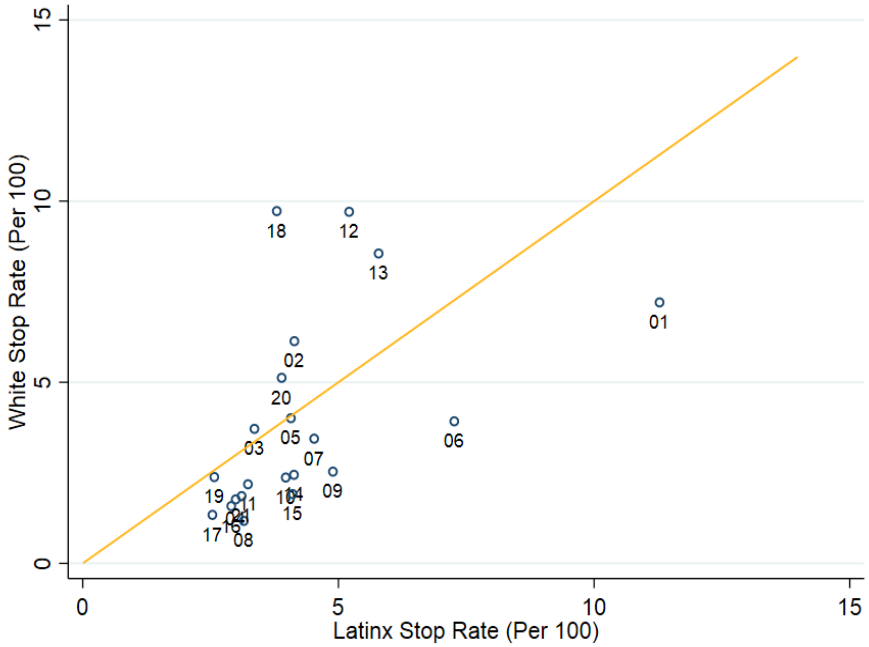


FIGURE 7s. White-Black Stops Per Violent Victimization by LAPD Station

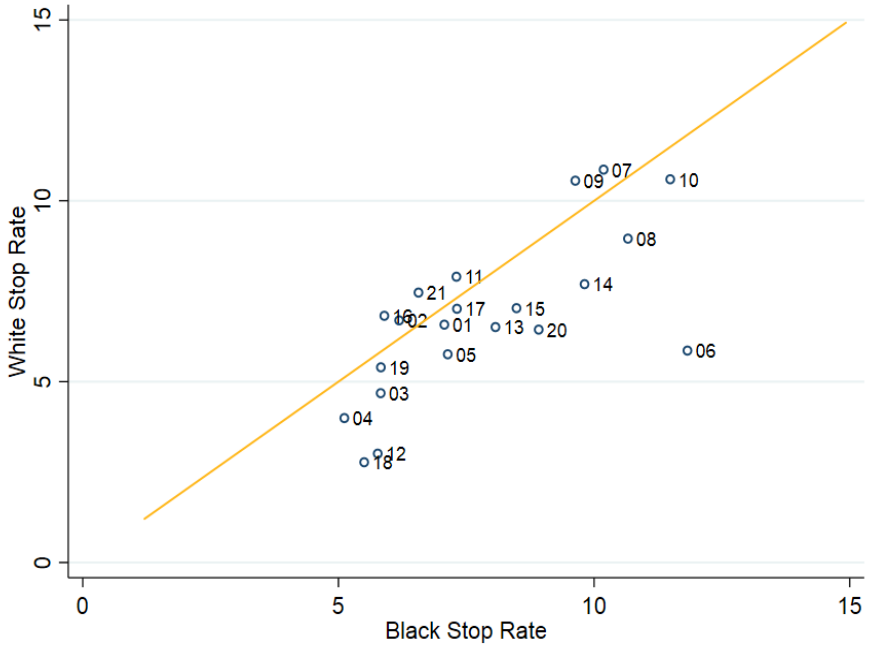


FIGURE 8s. White-Latinx Stops Per Violent Victimization by LAPD Station

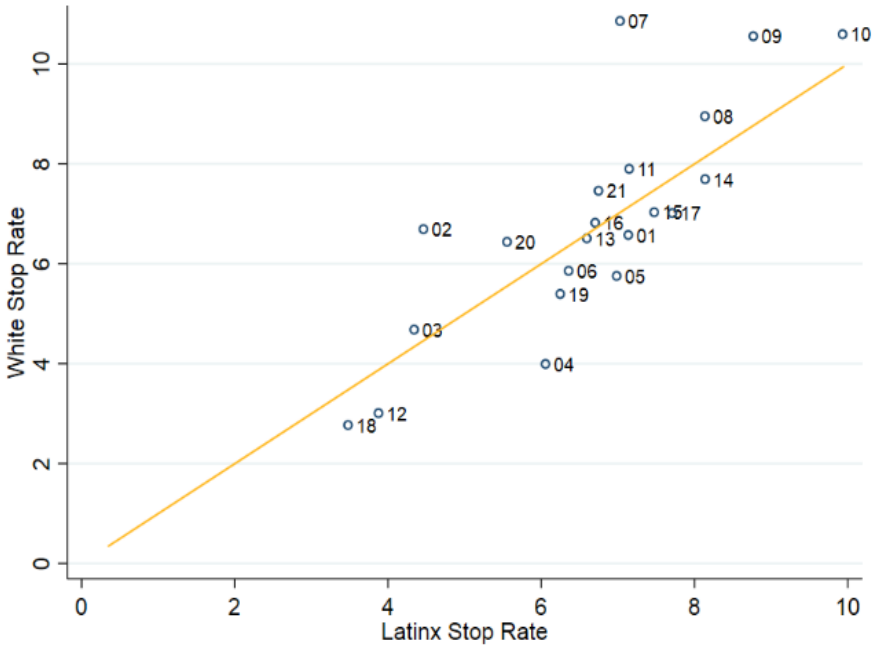


FIGURE 9s. White-Black Stops Per Suspects by LAPD Station

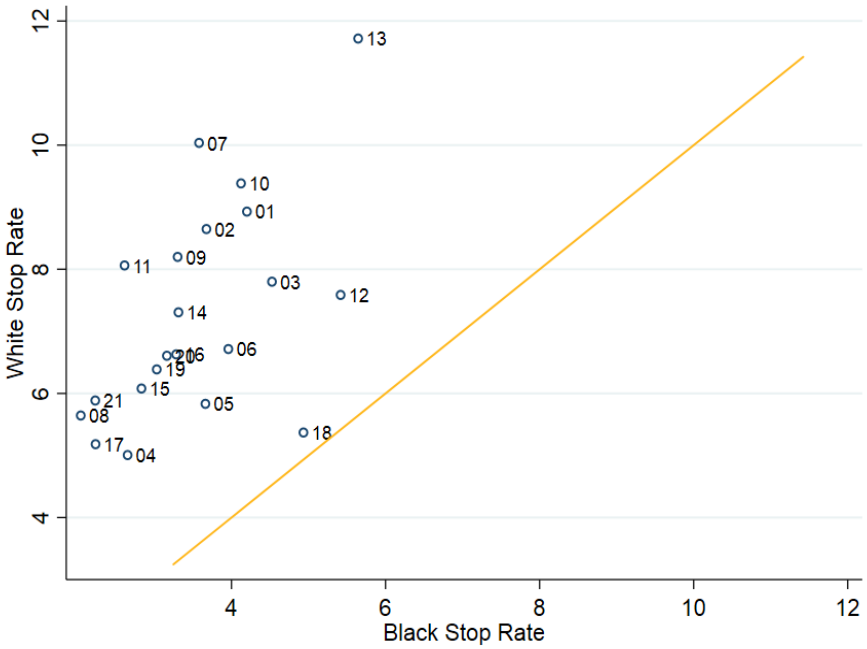
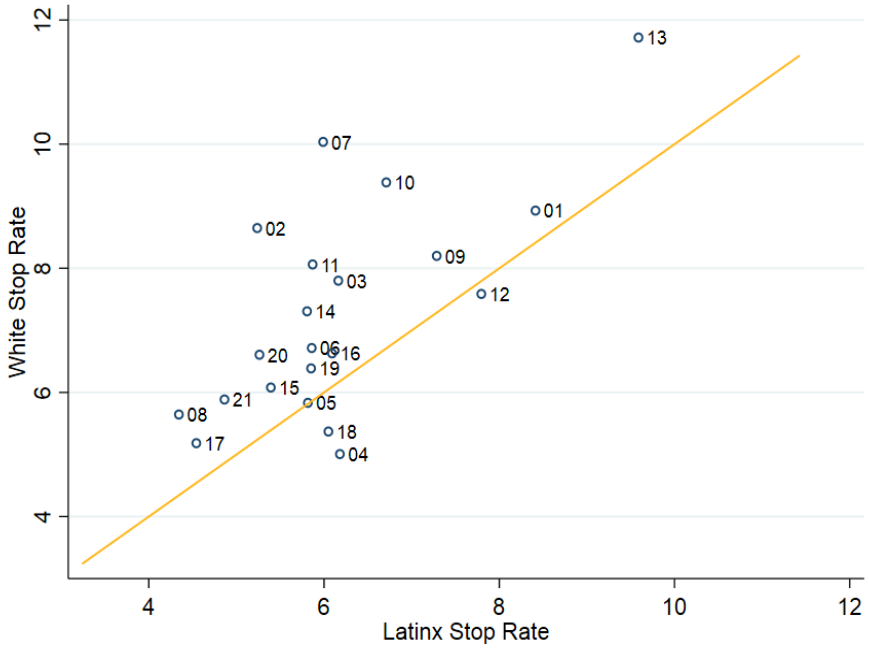


FIGURE 10s. White-Latinx Stops Per Suspect by LAPD Station



Relative to the population in a given station, Black people are stopped more frequently than White people across LAPD stations. In three stations (3, 5 and 19), the benchmarked number of White and Latinx people stopped are essentially equal. There are stations (2, 12,13 18, and 20) where more White people are involved with the LAPD than Latinx people. In the remaining stations, LAPD-citizen interactions tend to disproportionately involve Latinx people relative to their population.

Comparing the number of stopped people to the number of crime victims in a particular station reduces, but does not eliminate, stop disparities; note that almost all stations fall closer to the 45-degree line in Figures 7s and 8s than in Figures 5s and 6s. This is consistent with there being different levels of participation in crime across racial groups, leading to population-based benchmarks overstating any disparity introduced by the LAPD making the stop.

FIGURE 11s. White-Black Stops (Matched Description) Per 100 Suspects by LAPD Station

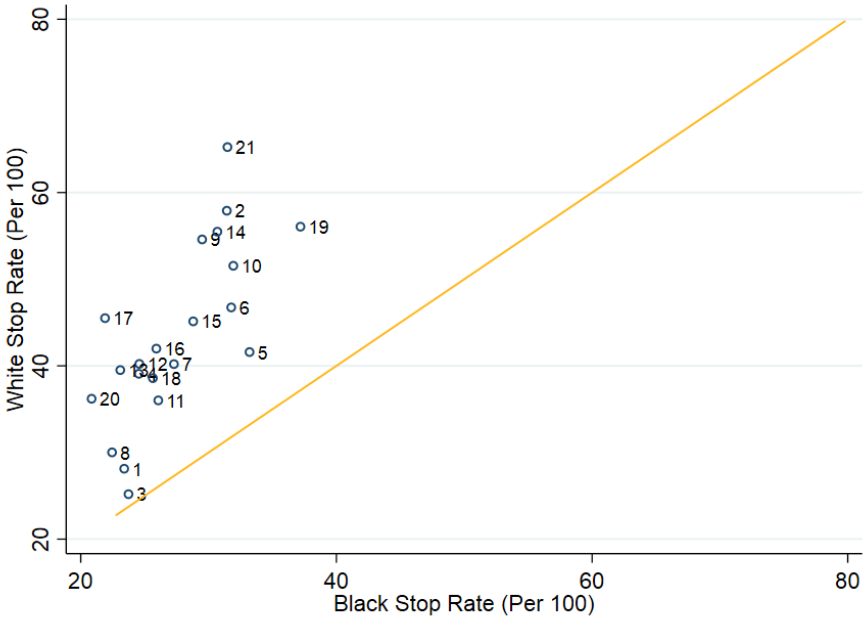
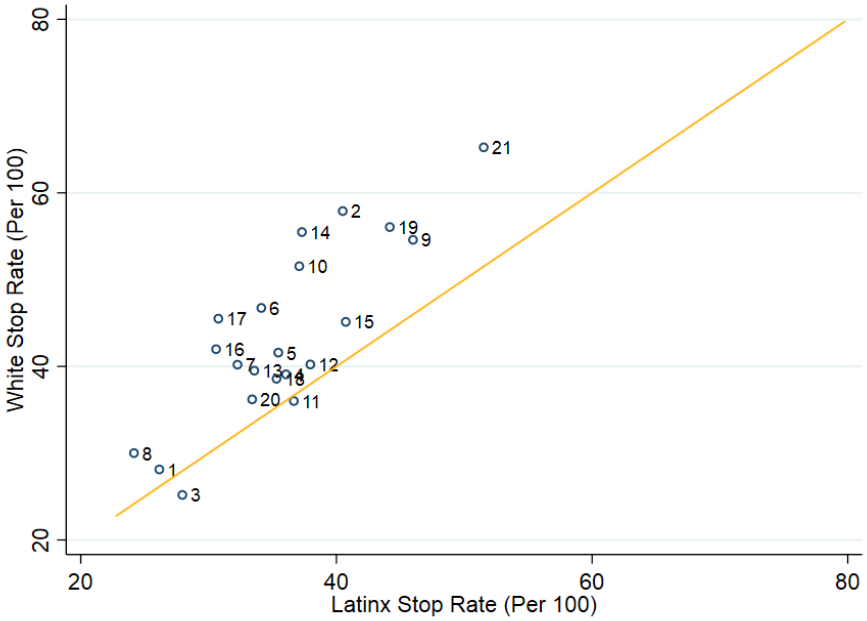


FIGURE 12s. White-Latinx Stops (Matched Description) Per 100 Suspects by LAPD Station



In Figures 9s and 10s, we compare the stop rate to the relative number of suspects known to the LAPD, per station. These figures suggest a very different pattern of identity group bias; LAPD stations stop more White people per White suspects than Black or Latinx people per Black or Latinx suspects in most places. When we focus only on the 6% of people stopped in the RIPA data where the officer reported that "Matched Suspect Description" was the basis for the stop (Figures 11s and 12s), we observe more stations falling closer to the 45-degree line of "equal treatment." There still appears to be relative over-policing of White people relative to Black people, but these results are more in line with victim benchmarking.

To provide a specific example, we consider Station 1 (see Appendix Table A1). According to 2018 RIPA and ACS data, there were 7.2 people stopped per 100 White residents, 20.3 people stopped per 100 Black residents, and 11.3 people stopped per 100 Latinx residents. Using violent victimization as a benchmark, we calculate that there were 6.6 stops of White people per White crime victim, 7.1 stops of Black people per Black crime victim, and 7.1 stops of Latinx people per Latinx crime victim.

Suspect benchmarking yields a different conclusion about relative disparities, although this is moderated when we focus on a subset of stops; 8.9 White people are stopped per White suspect, 4.2 Black people are stopped per Black suspect, and 8.4 Latinx people are stopped per Latinx suspect. When considering stops because the person "matched the suspect description," there are 28 White people stopped per 100 White suspects, 23 Black people stopped per 100 Black suspects, and 26 Latinx people stopped per 100 Latinx suspects. Suspect benchmarking for stops that occur when an officer references suspect information generates results that look more similar to victim benchmarking.

Since most violence occurs between members of the same racial or ethnic group, we would expect the racial composition of suspects and victims to be similar. However, the use of suspect, rather than victim, as a benchmark reverses the direction of Black-White and Latinx-White disparities in overall stop rates. A-priori it was not obvious that the choice of victims or suspects as a benchmark would be so influential in estimating the magnitude and direction of racial disparities in stop rates.

This unexpected result led us to further explore the data on suspect identity, which was taken from Vernon (2020). Using Census data on crime and victimization, we found that White offenders are potentially underrepresented in LAPD suspect data.

The National Crime Victimization Survey (NCVS) has been conducted by the Census Bureau, for the National Institute of Justice, since 1973. It is based on a nationally representative sample of 160,000 people (14 and over) in roughly 95,000 households. The NCVS is currently the primary source of information available on victimization in the United States. In addition to asking people about their experiences with crime, the NCVS field representatives ask carefully worded questions about the relationship between the victim and offender, injuries sustained, and reporting to police. Additional facts about the NCVS can be found *here*. Based on the 2018 NCVS, in the United States, most violent criminal victimization occurred within racial and ethnic groups. Specifically, the NCVS reports the percent of violent crimes occurring within each offender and victim race/ethnicity pair. This allows us to construct a likely description of the "predicted" offender pool, based on the number of victims, by racial and ethnic group.

Table 1s displays the expected racial composition of violent offenders in LA, based on victimizations reported by the LAPD and NCVS reports of the identity of the offender, as perceived by the victim (specifically NCJ 253043, table 14).

TABLE 1s. Victim-Offender Race/Ethnicity

	Victims in 2019	Expected White Offenders	Expected Black Offenders	Expected Latinx Offenders
White	4091	2540.5	625.9	417.3
Black	6386	676.9	4489.4	504.5
Hispanic	12499	3524.7	1912.3	5674.5
Total Expected Offenders		6742.1	7027.6	6596.3
Percent of Total		33.10%	34.50%	32.40%

Based on this table, we expect that the composition of suspects known to the LAPD would be roughly evenly distributed across identity groups, if the suspect pool perfectly reflected participation in crime, all victims were equally likely to contact the LAPD, and interracial violence in LA reflected that in the national population. However, we observe

that in 2019, 15% of suspects included in LAPD crime reports were White, 39% were Black, and 45% were Latinx.[2] While the patterns in the nationally representative NCVS data may be very different from the victimization patterns of people in Los Angeles, the difference between the expected offender pool and observed suspect pool is notable.

There are many possible explanations for this difference, including disparities in victim or witness reporting, differences in officers' decisions to file a crime report, and differences in the composition of offenders observed by the LAPD in the act of committing a crime (which we understand would not necessarily lead to a record of a criminal suspect being created). It is also possible that some officers are making stops based on suspect descriptions but neglecting to document this in the RIPA data. Any of these issues could mean the official records of suspects could be an incomplete picture of offending criminals.

Because the suspect pool is substantially less White than the predicted offender pool, to the extent that officers are using suspect identity in their decisions to make stops, this would lead to the LAPD stopping more Black and Latinx people relative to the true number of Black and Latinx criminals, even if the subsequent decisions made by each LAPD officer were unbiased. Of course, suspect identity provided to the LAPD is information that officers should use in their investigations. However, it is possible that relying only on suspect data, as currently collected, to benchmark LAPD actions may place the LAPD in the position of perpetuating, rather than mitigating, racial disparities in society. Further investigation into how suspect information is generated, which requires using data currently not available to CPL, is warranted.

Graphical Analysis of RIPA Searches by Type of Stop

Not all stops are made with the same information, at the same decision point. Figures 13s through 16s compare searches that occur during traffic stops and non-traffic stops made by officers within the same neighborhood (Census tract). We define a traffic stop

[2] Note: the Latinx population is referred to as "Hispanic" in the NCVS.

as one where a traffic violation was listed as the stop reason, and exclude all stops made in response to a call for service.

While an officer may not directly observe the race or identity of an individual before pulling them over, this information is available when an officer decides whether or not to conduct a search. During the majority of pedestrian stops, however, officers can directly see an individual prior to making a stop decision.

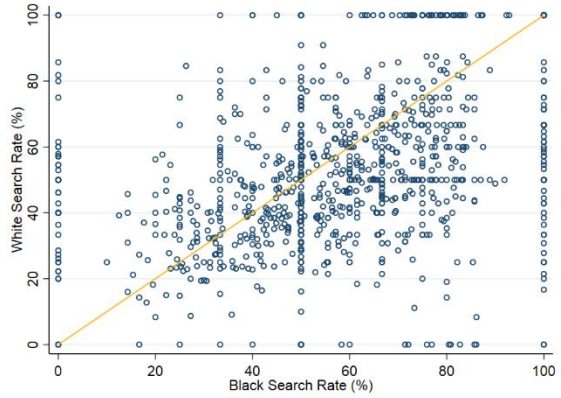
If racial and ethnic identity affects LAPD-civilian interactions, we might expect to see different patterns of disparities in search behavior during stops where officers learn a civilian's identity at different times. The intuition here is similar to that of benchmarking. Suppose that officers use identity in making both their stop and search decisions, either directly or while implementing policies that disproportionately affect people based on their race or ethnicity. In most cases, officers have better information about someone's racial identity prior to making a pedestrian stop than a traffic stop, so we might expect larger disparities in pedestrian stops. Conditional on being stopped, we might expect larger search disparities in vehicle stops, as officers may end up pulling over White drivers who they would not have deemed worth stopping (or searching) if they had been pedestrians on the sidewalk.

This neighborhood-level analysis also highlights how frequently residents may observe LAPD officers behaving in ways that, to a bystander, may appear to be driven by racial bias - would these bystanders observe disparities in all neighborhoods, or only in a few?

The graphs show that while search rates are lower in traffic stops vs pedestrian stops for all groups, Black drivers are searched more frequently than White drivers in more than 70% of Census tracts, and Latinx drivers are searched more frequently than White drivers in 82% of Census tracts. In pedestrian stops, we observe a more equal distribution of search rate disparities across neighborhoods; White people are less likely to be searched, conditional on being stopped, than Black people in 57% of Census tracts, and less likely to be searched than Latinx people in 67% of Census tracts.

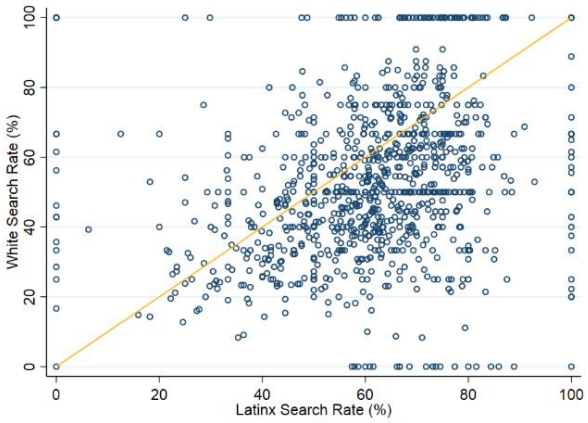
These graphs highlight the need to consider all levels of police-civilian contact when creating policies or training aimed at reducing racial disparities, with attention to the varying roles that race and ethnicity may play in different types of encounters. These relationships are explored more thoroughly in the accompanying technical report.

FIGURE 13s. White-Black Search Rate: Non-Service Calls, Non-Traffic Stops



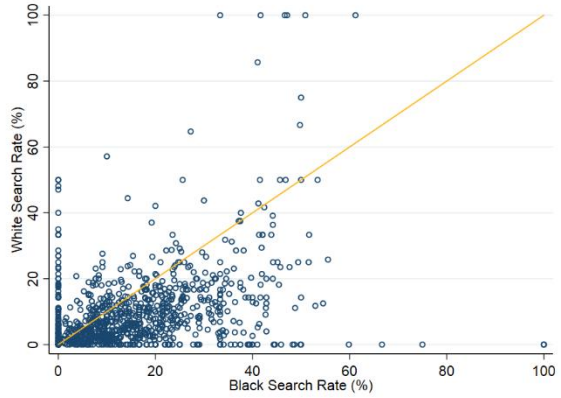
57% of observations fall below the 45 degree line.

FIGURE 14s. White-Latinx Search Rate: Non-Service Calls, Non-Traffic Stops



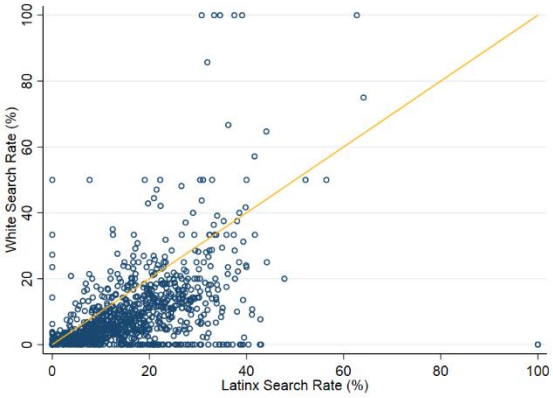
67% of observations fall below the 45 degree line.

FIGURE 15s. White-Black Search Rate: Non-Service Calls, Traffic Stops



70% of observations fall below the 45 degree line.

FIGURE 16s. White-Latinx Search Rate: Non-Service Calls, Traffic Stops



82% of observations fall below the 45 degree line.

Multivariate Analysis of RIPA Events

Figures 17s through 24s present the results of our multivariate analysis of LAPD-civilian interactions at the Census tract and station level. We present stop rates, use of force rates, search rates, and hit rates in two ways (Refer to Appendix Table A5 and Table A6

for full results). First, we show the expected "unadjusted" number of times a particular interaction occurs within each identity group. Second, we show the "adjusted" expected number of times someone in each group would have that interaction if local violent crime rates, and the racial composition of crime victims, were equal across all of Los Angeles. The difference between these two expected stop rates is how much of the disparity in LAPD-civilian contacts can be explained by differences in the local criminal environment where the stops occur.

This analysis is related to, but distinct, from the earlier benchmarking exercise. Stop benchmarking compares the number of people stopped to different hypothetical populations of people "at-risk" of being stopped. Multivariate analysis estimates how much larger the number of people stopped per Black, Latinx or White resident is, on average, when there is one additional violent crime per resident where the stop occurred (e.g. 13 violent crimes per 100 residents vs 12 violent crimes per 100 residents), and when one percentage point more of all local violent crime victims are in that particular identity group (e.g. 21% of violent crime victims are Black vs 20% of violent crime victims are Black).

We also break out our analysis of searches and contraband discovery into what we call discretionary and non-discretionary searches. Non-discretionary searches include (1) searches conducted pursuant to arrest, (2) because the stopped individual was known to be on probation or under parole supervision, or (3) as part of a vehicle inventory (which occurs after a driver is arrested and a vehicle cannot be safely left on scene). By separating these two types of searches, we aim to identify disparities that are driven by more systemic policies which the command staff has the direct ability to address (nondiscretionary searches) as compared to disparities driven by individual decision-making on the part of the officer (discretionary searches).

We see in Figure 17s that Black people are stopped an average of 2.2 times per Black resident, there is 1 Latinx person stopped for each Latinx resident, and 1.9 White people stopped per White resident. We then adjust our estimates to reflect differences in the crime and victimization rates where Black, Latinx, and White people live, and predict the hypothetical stop rate for Black, Latinx, and White people if all Census tracts had the same "average" violent crime rate and racial composition of victims. This adjustment narrows stop disparities, but only slightly - in a hypothetical composite neighborhood,

there would be 2.1 Black people stopped per Black resident, 1.2 Latinx people stopped per Latinx resident, and 1.8 White people stopped per White resident.

FIGURE 17s. Predicted Mean Stops Per Resident (Census Tract)

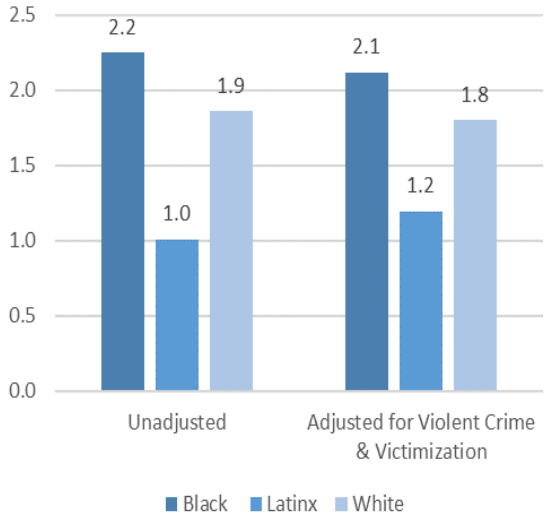
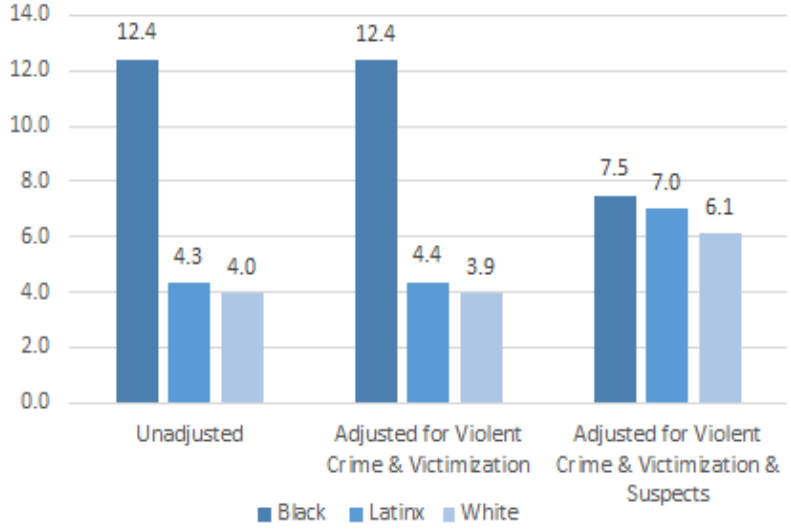


FIGURE 18s. Predicted Mean Stops Per 100 Residents (Station)



When these Census tracts are aggregated to the station level (Figure 18s), we observe very large differences in predicted stop rates; 12.4 Black people are stopped per 100 Black residents, 4.3 Latinx people are stopper per 100 Latinx residents, and 4 White people are stopped per 100 White residents. As in the Census tract analysis, adjusting

for violent crime and victimization rates does not substantively change the predicted number of stops. However, adjusting for differences in the number of suspects known to the LAPD, per station, does reduce the difference in predicted stops across groups. In a hypothetical L.A. neighborhood with an average rate and composition of violence, we would expect 7.5 Black people per Black resident to be stopped, 7 Latinx people per Latinx resident to be stopped, and 6.1 White people per White resident to be stopped.

As in benchmarking, variation in the composition of suspects known to the LAPD appears to be central in understanding identity group disparities in stop rates. Ensuring that variation in the suspect pool is an objective and accurate measure of criminal participation, and minimizing the influence of bias on the part of victims or witnesses, may be an effective way for the LAPD to reduce introducing, or perpetuating, unwarranted disparities in criminal justice contact.

Use of force is rare, and occurs in less than 2% of all stops. However, it is less likely to occur when the person stopped is White as compared to Black or Latinx (1.4% of the time vs. 1.8% of the time – see Figure 19s). Notably, once we adjust our estimates for variation in violence, and instead predict use of force in a hypothetical composite L.A. neighborhood, we still predict qualitatively the same use of force rates; 1.4 out of every 100 stops of a White person will involve force, versus 1.8 out of every 100 stops of a Black or Latinx person. Places with more violence have higher rates of use of force, but not clearly larger disparities in uses of force.

FIGURE 19s. Predicted Mean Force Rate (Census Tract)

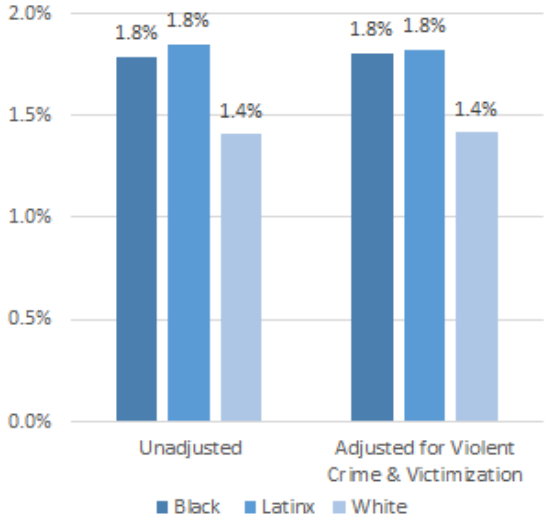
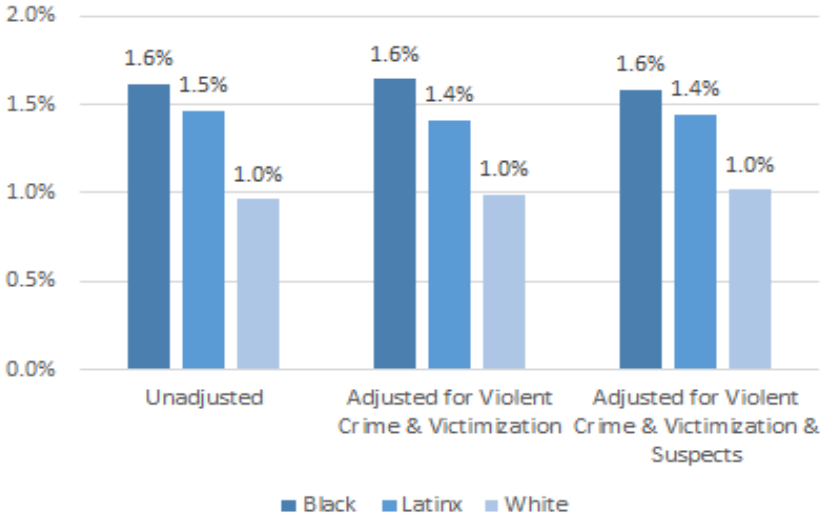


FIGURE 20s. Predicted Mean Force Rate (Station)



Conducting this analysis at the station level (Figure 20s), and incorporating information on suspect identity, suggests that disparities in suspect identities are less important as a source of disparities in use of force rates than it is in initial stop decisions. Including differences in suspects known to the station makes qualitatively no difference in the predicted number of times someone stopped in a hypothetical composite LA station would have force used against them.

FIGURE 21s. Predicted Mean Search Rate (Census Tract)

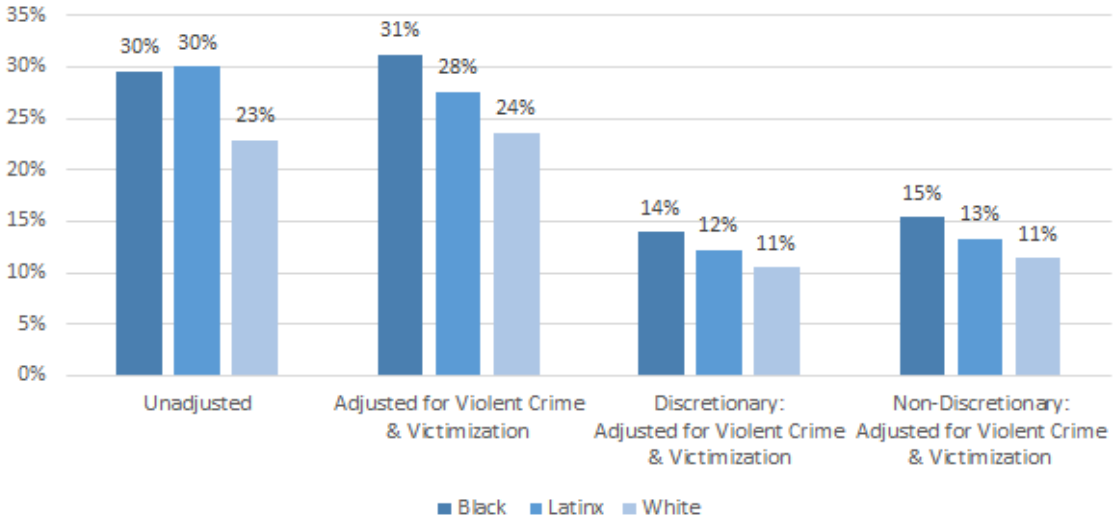
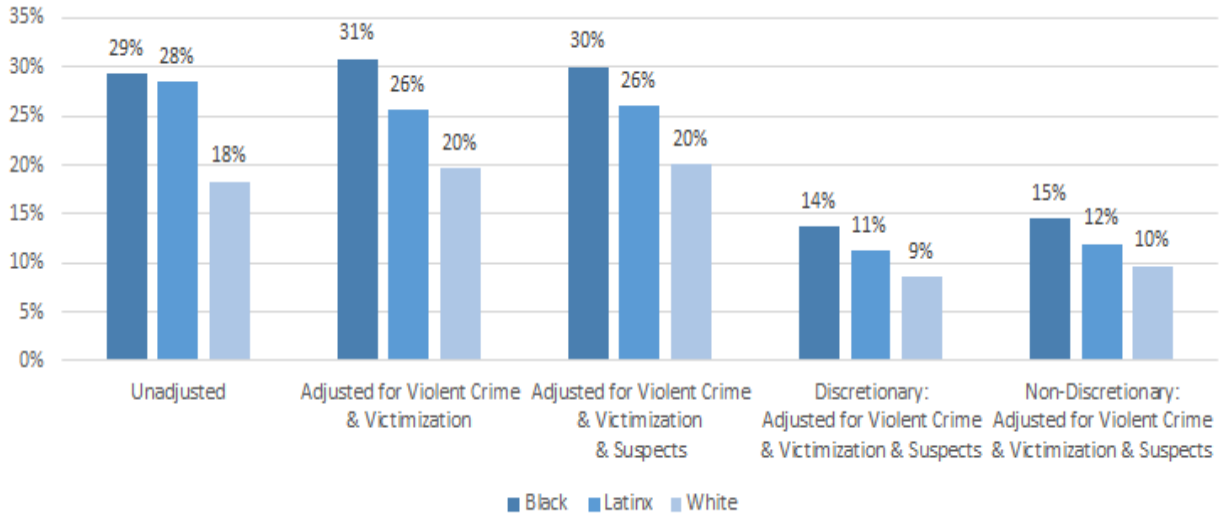


FIGURE 22s. Predicted Mean Search Rate (Station)



In Figure 21s we see that local crime and victimization explains 42% of the observed 7 percentage point (30% - 23% = 7 , and 3 / 7 = 0.42) Latinx-White disparity in search rates; in a hypothetical "average" LA neighborhood, 28% of stopped Latinx people would be searched, as would 24% of White people. Accounting for crime differences does not explain the difference in search rates for Black individuals, who would be searched in 29-31% of all stops.

We then examine the types of searches officers are conducting, specifically focusing on searches officers are conducting for policy driven, "non-discretionary" reasons and officer-driven "discretionary" reasons. In a hypothetical composite L.A. neighborhood, 14% of Black people, 12% of Latinx People, and 11% of White people stopped would be searched for a discretionary reason.

In contrast, 15% of Black people, 13% of Latinx people, and 11% of White people stopped are searched for non-discretionary, policy-driven, reasons. This means that three people stopped in neighborhoods with the same violent crime rates, who were equally likely (based on victimization patterns) to "look like" a violent offender would not be equally likely to be subject to non-discretionary searches. In addition, the size of the difference in policy-driven searches is essentially equal to the difference in discretion-driven searches. Aggregating to the station level (Figure 22s), and including controls for the composition of suspects, yields the same finding: non-discretionary searches are at least as important as officer discretion in contributing to racial disparities in searches.

We also find that pre-existing, "structural," differences in criminal justice contact are the source of disparities in contraband discovery. The predicted hit rates based on adjusted and unadjusted models are similar. This means that variation in violent crime rates may explain the overall frequency with which contraband is discovered, but local differences in crime are not strongly predictive of identity group differences in hit rates.

At the station level (Figure 24s), hit rates are higher in non-discretionary vs discretionary searches for all groups, but conditional on suspect identity, Black-White disparities are slightly smaller and Latinx-White disparities are slightly larger. Discretionary searches of Latinx and White people are equally likely (20.1% and 19.4%) to yield contraband, slightly more than the 17% hit rate for discretionary searches of Black people. However, there is a 1.5 percentage point difference in Black-White hit rates, and 3.3 percentage point Latinx-White disparity in hit rates for searches that officers conduct when dictated by LAPD policy.

As a general rule, non-discretionary searches are non-discretionary in order to protect officer safety. However, the data suggest that allowing officers more discretion in instances where LAPD policy currently requires or allows them to conduct a search may also be an effective way to substantially reduce disparities in police-citizen contact. For

example, official guidance could emphasize that, despite the "structural" circumstances, officers have the option not to conduct a search if they believe doing so is unlikely to increase officer safety, based on the context of the specific encounter.

FIGURE 23s. Predicted Mean Hit Rate (Census Tract)

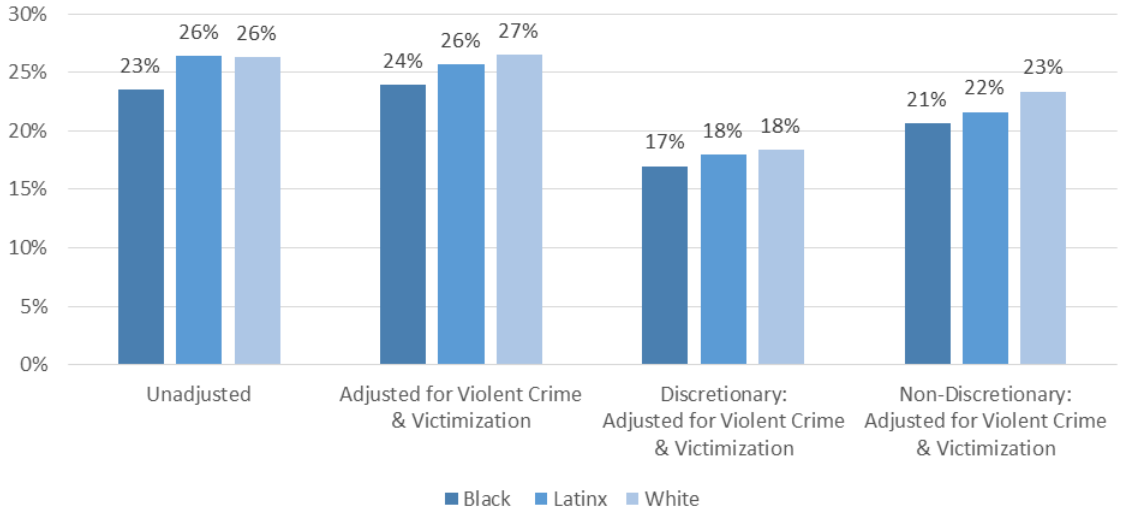
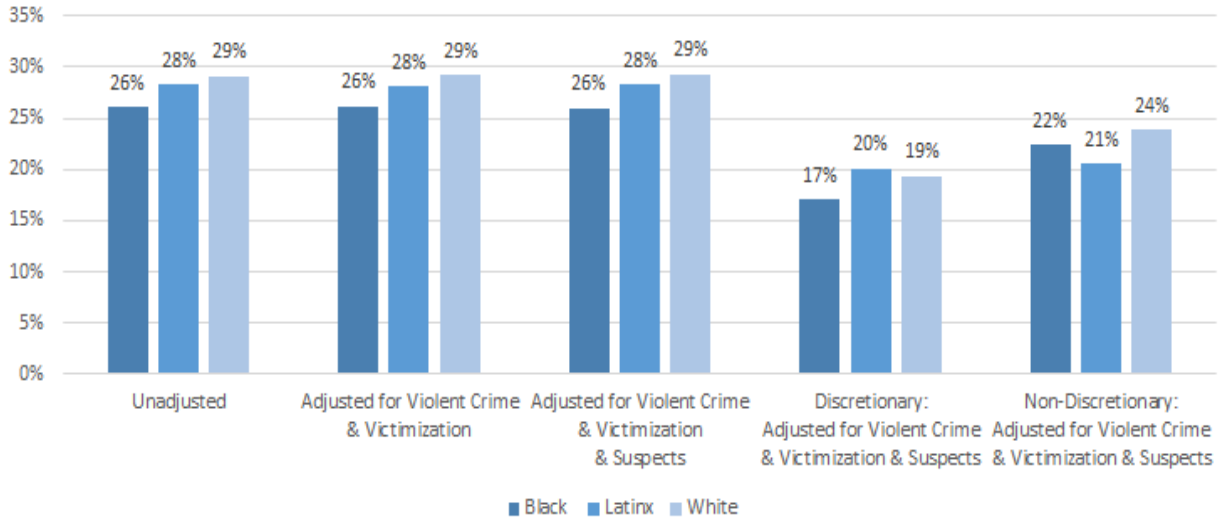


FIGURE 24s. Predicted Mean Hit Rate (Station)



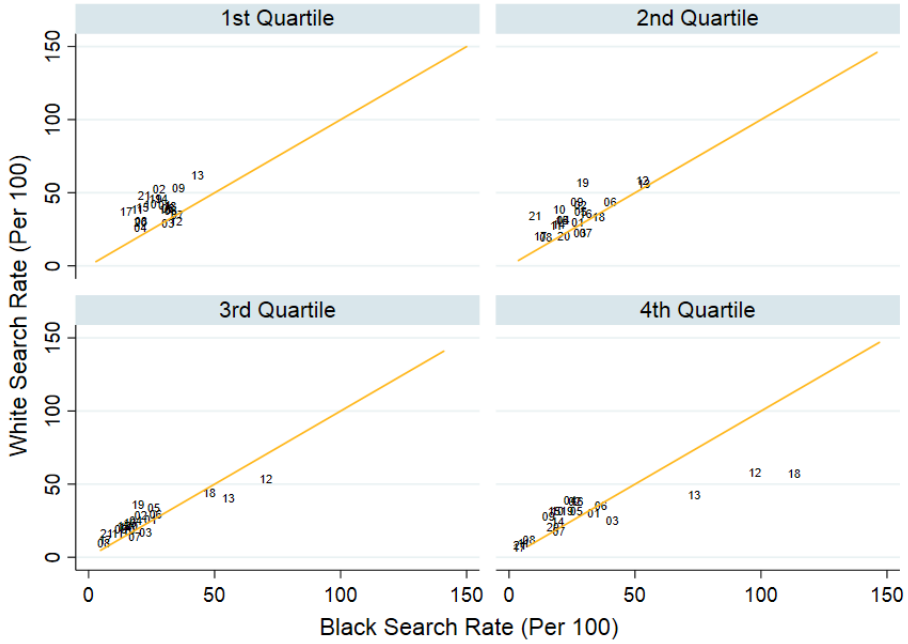
Graphical Comparison of Disparities in RIPA and TEAMS Oversight

Our comparison of RIPA and TEAMS data suggest that existing LAPD oversight infrastructure may also help to address Black-White disparities in RIPA search rates. Figures 25s – 26s present search rates within a station, dividing officers into four quartiles of TEAMS activity (the first quartile containing officers never, or rarely flagged in TEAMS and the fourth quartile containing officers with the most TEAMS events). As in the previous graphical analysis, points that are further from the 45 degree line are points with the largest disparities. One difference in this analysis is that we are plotting the total number of searches per 100 suspects, meaning that search frequencies are, in essence, "benchmarked" to differences in the suspect population.

Each graph contains the average disparities in the total number of searches conducted, per suspect known to the LAPD, calculated based on searches conducted by officers who have increasingly higher numbers of TEAMS.

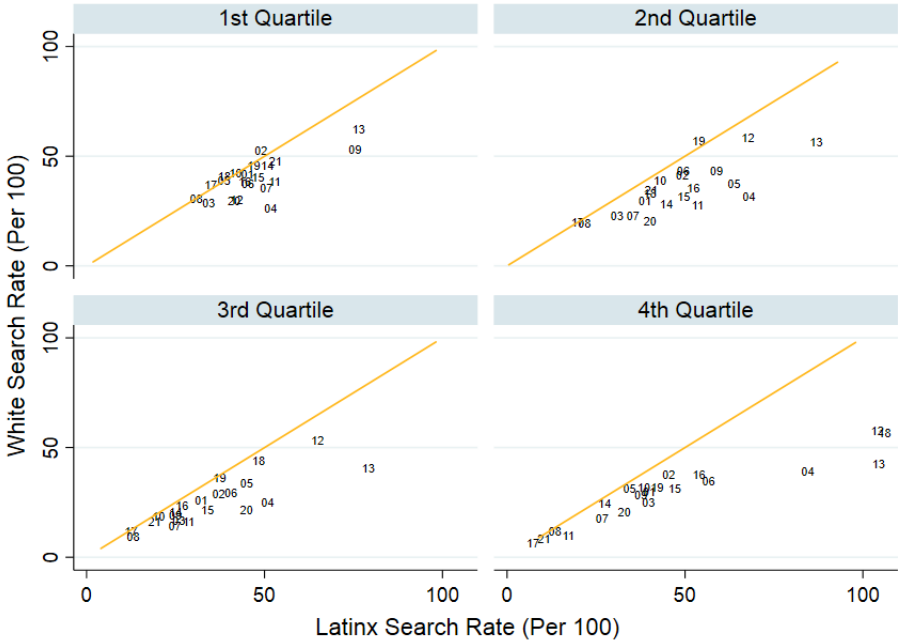
We find that, within a station, officers who are more frequently flagged by TEAMS tend to also have more unequal search frequencies across White and Latinx people, as indicated by the increasing distance of stations from the 45-degree line as we compare officers who have a higher and higher rate of TEAMS incidents. There is a particularly strong relationship between TEAMS activity and disparate searches for officers in stations 12, 13 and 18.

FIGURE 25s. White-Black Searches Per 100 Suspects by TEAMS Quartile



To provide the specific example of station 12, officers with the lowest number of TEAMS events search 30 White people for every 100 White suspects, 35 Black people for every 100 Black suspects, and 42 Latinx people for every 100 Latinx suspects. Officers in the 2nd TEAMS quartile search 58 White people for every 100 White suspects, 53 Black people for every 100 Black suspects, and 68 Latinx people for every 100 Latinx suspects. In the 3rd TEAMS quartile, the corresponding number of people searched for every 100 suspects is 53 for White people, 71 for Black people, and 65 for Latinx people. Officers who have the highest frequency of TEAMS events search 58 White people for every 100 White suspects, 98 Black people for every 100 Black suspects, and 104 Latinx people for every 100 Latinx suspects known to the LAPD (recall that suspect information is not based on RIPA stops). To our knowledge, TEAMS does not track the race or ethnicity of civilians that officers encounter, and RIPA is not intended as an oversight tool for the LAPD. However, there does appear to be a relationship between officers identified as engaging in potentially problematic behavior in the two data sets.

FIGURE 26s. White-Latinx Searches Per 100 Suspects by TEAMS Quartile



Appendix A: Detailed Tables

Table A1. Stop Rates by Station, Race/Ethnicity & Benchmark

	Per Population			Per 100 Violent Victims		
Station	**White**	**Black**	**Latinx**	**White**	**Black**	**Latinx**
1	7.20%	20.30%	11.30%	6.60%	7.10%	7.10%
2	6.10%	20.80%	4.10%	6.70%	6.20%	4.50%
3	3.70%	9.20%	3.40%	4.70%	5.80%	4.30%
4	1.80%	4.80%	3.00%	4.00%	5.10%	6.10%
5	4.00%	10.20%	4.10%	5.80%	7.10%	7.00%
6	3.90%	37.20%	7.30%	5.90%	11.80%	6.40%
7	3.40%	9.70%	4.50%	10.90%	10.20%	7.00%
8	1.20%	9.40%	3.10%	9.00%	10.70%	8.10%
9	2.50%	9.70%	4.90%	10.60%	9.60%	8.80%
10	2.40%	7.40%	4.00%	10.60%	11.50%	9.90%
11	2.20%	9.20%	3.20%	7.90%	7.30%	7.10%
12	9.70%	17.20%	5.20%	3.00%	5.80%	3.90%
13	8.60%	23.20%	5.80%	6.50%	8.10%	6.60%
14	2.40%	10.60%	4.10%	7.70%	9.80%	8.10%
15	1.90%	9.40%	4.10%	7.00%	8.50%	7.50%
16	1.60%	5.40%	2.90%	6.80%	5.90%	6.70%
17	1.30%	3.00%	2.50%	7.00%	7.30%	7.70%
18	9.70%	16.30%	3.80%	2.80%	5.50%	3.50%
19	2.40%	6.70%	2.60%	5.40%	5.80%	6.20%
20	5.10%	14.40%	3.90%	6.40%	8.90%	5.60%
21	1.90%	5.90%	3.10%	7.50%	6.60%	6.70%

Table A1. Stop Rates by Station, Race/Ethnicity & Benchmark *continued*

	Per 100 Suspects			Per Suspect (Matched Description)		
Station	**White**	**Black**	**Latinx**	**White**	**Black**	**Latinx**
1	8.90%	4.20%	8.40%	28.10%	23.40%	26.10%
2	8.60%	3.70%	5.20%	57.90%	31.40%	40.50%
3	7.80%	4.50%	6.20%	25.20%	23.70%	27.90%
4	5.00%	2.70%	6.20%	39.10%	24.50%	36.10%
5	5.80%	3.70%	5.80%	41.60%	33.20%	35.50%
6	6.70%	4.00%	5.90%	46.70%	31.80%	34.10%
7	10.00%	3.60%	6.00%	40.20%	27.30%	32.30%
8	5.60%	2.00%	4.30%	30.00%	22.40%	24.20%
9	8.20%	3.30%	7.30%	54.60%	29.50%	46.00%
10	9.40%	4.10%	6.70%	51.50%	31.90%	37.10%
11	8.10%	2.60%	5.90%	36.00%	26.10%	36.70%
12	7.60%	5.40%	7.80%	40.20%	24.60%	38.00%
13	11.70%	5.60%	9.60%	39.50%	23.10%	33.60%
14	7.30%	3.30%	5.80%	55.50%	30.70%	37.30%
15	6.10%	2.80%	5.40%	45.10%	28.80%	40.70%
16	6.60%	3.30%	6.10%	42.00%	25.90%	30.60%
17	5.20%	2.20%	4.50%	45.50%	21.90%	30.80%
18	5.40%	4.90%	6.00%	38.60%	25.60%	35.30%
19	6.40%	3.00%	5.90%	56.10%	37.20%	44.20%
20	6.60%	3.20%	5.30%	36.20%	20.80%	33.40%
21	5.90%	2.20%	4.90%	65.20%	31.50%	51.50%

Table A2. Search Rates by Station, Race/Ethnicity & Benchmark

	Per Population			Per 100 Violent Victims			Per 100 Suspects		
Station	**White**	**Black**	**Latinx**	**White**	**Black**	**Latinx**	**White**	**Black**	**Latinx**
1	14.20%	27.70%	18.60%	0.90%	2.00%	1.30%	1.30%	1.20%	1.60%
2	18.50%	28.20%	34.60%	1.20%	1.70%	1.50%	1.60%	1.00%	1.80%
3	11.90%	27.30%	21.30%	0.60%	1.60%	0.90%	0.90%	1.20%	1.30%
4	24.30%	32.20%	41.30%	1.00%	1.60%	2.50%	1.20%	0.90%	2.60%
5	24.20%	30.90%	31.30%	1.40%	2.20%	2.20%	1.40%	1.10%	1.80%
6	21.60%	34.40%	32.90%	1.30%	4.10%	2.10%	1.40%	1.40%	1.90%
7	8.90%	29.10%	23.00%	1.00%	3.00%	1.60%	0.90%	1.00%	1.40%
8	12.60%	24.40%	18.30%	1.10%	2.60%	1.50%	0.70%	0.50%	0.80%
9	17.50%	27.70%	27.10%	1.80%	2.70%	2.40%	1.40%	0.90%	2.00%
10	14.00%	19.40%	21.50%	1.50%	2.20%	2.10%	1.30%	0.80%	1.40%
11	11.40%	21.20%	26.00%	0.90%	1.60%	1.90%	0.90%	0.60%	1.50%
12	26.20%	47.30%	35.80%	0.80%	2.70%	1.40%	2.00%	2.60%	2.80%
13	17.20%	40.10%	36.20%	1.10%	3.20%	2.40%	2.00%	2.30%	3.50%
14	16.20%	25.00%	25.50%	1.20%	2.50%	2.10%	1.20%	0.80%	1.50%
15	20.40%	26.40%	33.30%	1.40%	2.20%	2.50%	1.20%	0.70%	1.80%
16	20.30%	31.90%	29.20%	1.40%	1.90%	2.00%	1.30%	1.00%	1.80%
17	14.50%	17.20%	16.50%	1.00%	1.30%	1.30%	0.70%	0.40%	0.80%
18	32.60%	46.50%	38.60%	0.90%	2.60%	1.30%	1.70%	2.30%	2.30%
19	26.60%	32.60%	30.90%	1.40%	1.90%	1.90%	1.70%	1.00%	1.80%
20	13.90%	24.50%	30.40%	0.90%	2.20%	1.70%	0.90%	0.80%	1.60%
21	18.10%	19.90%	25.40%	1.30%	1.30%	1.70%	1.10%	0.40%	1.20%

Table A3. Hit Rates by Station & Race/Ethnicity

Station	White	Black	Latinx
1	31.00%	35.20%	32.70%
2	30.30%	29.10%	34.10%
3	27.60%	21.20%	26.70%
4	26.40%	26.60%	26.30%
5	27.40%	23.10%	24.60%
6	36.90%	30.70%	42.50%
7	23.80%	27.40%	28.50%
8	32.20%	25.90%	28.90%
9	35.10%	31.50%	28.20%
10	29.50%	25.00%	27.10%
11	28.60%	25.60%	36.10%
12	26.40%	26.00%	25.40%
13	27.70%	18.80%	19.40%
14	34.30%	29.30%	32.10%
15	29.50%	24.70%	28.60%
16	27.60%	29.50%	24.40%
17	24.90%	21.10%	22.90%
18	22.50%	23.80%	21.90%
19	32.00%	26.80%	29.70%
20	24.10%	22.50%	28.20%
21	33.20%	23.70%	25.00%

Table A4. Force Rates by Station & Race/Ethnicity

Station	White	Black	Latinx
1	0.50%	0.90%	0.60%
2	0.70%	1.10%	1.40%
3	0.70%	1.70%	1.10%
4	1.30%	1.60%	1.90%
5	0.80%	1.20%	1.80%
6	1.10%	1.90%	1.40%
7	0.40%	1.60%	1.00%
8	0.40%	1.10%	0.60%
9	0.80%	1.40%	1.50%
10	1.00%	1.90%	1.40%
11	0.60%	1.20%	1.90%
12	1.80%	2.00%	1.90%
13	1.10%	1.70%	1.30%
14	0.70%	1.00%	1.30%
15	0.90%	1.60%	1.60%
16	1.30%	2.10%	1.80%
17	0.90%	1.40%	0.90%
18	1.20%	1.80%	1.60%
19	2.20%	2.50%	2.30%
20	0.90%	2.30%	1.80%
21	1.00%	1.80%	1.60%

TABLE A5. Predicted Mean Outcomes at Census Tract Level

		Adjusted for Violent Crime and Victimization		
	Total Disparity	**All**	**Discretionary**	**Non-Discretionary**
Stops Per Residents of Same Race or Ethnicity				
Black	2.2	2.1		
(Margin of Error)	(0.8)	(1.1)		
Latinx	1.0	1.2		
(Margin of Error)	(0.9)	(1.0)		
White	1.9	1.8		
(Margin of Error)	(1.2)	(1.5)		
Percent Stopped that are Searched				
Black	29.5%	31.2%	13.9%	15.4%
(Margin of Error)	(0.9)	(1.0)	(0.7)	(0.7)
Latinx	30.0%	27.6%	12.2%	13.3%
(Margin of Error)	(0.9)	(1.1)	(0.6)	(0.7)
White	22.8%	23.6%	10.5%	11.4%
(Margin of Error)	(0.9)	(1.1)	(0.7)	(0.6)
Percent Searched that Reveal Contraband				
Black	23.5%	24.0%	17.0%	20.6%
(Margin of Error)	(1.1)	(1.3)	(1.4)	(1.5)
Latinx	26.4%	25.7%	17.9%	21.6%
(Margin of Error)	(0.8)	(1.3)	(1.4)	(1.5)
White	26.3%	26.5%	18.3%	23.4%
(Margin of Error)	(1.1)	(1.3)	(1.5)	(1.6)
Percent of Stops where Force is Used				
Black	1.8%	1.8%		
(Margin of Error)	(0.2)	(0.2)		
Latinx	1.8%	1.8%		
(Margin of Error)	(0.2)	(0.2)		
White	1.4%	1.4%		
(Margin of Error)	(0.2)	(0.2)		

Note: Predicted values are obtained by running a linear probability model and then using these estimates to calculate the mean predictions for all observations, holding all else constant. For example: the average predicted number of Black people stopped per 100 Black residents is calculated by treating all stops as if the race or ethnicity of the stopped individual was Black, obtaining a prediction for each Census tract, and then taking the average of all predictions. The margin of error is calculated at the 95% confidence level.

TABLE A6. Predicted Mean Outcomes at LAPD Station Level

		Adjusted for Violent Crime and Victimization		
	Total Disparity	**All**	**Discretionary**	**Non-Discretionary**
Stops Per 100 Residents of Same Race/Ethnicity				
Black	12.4	12.4		
(Margin of Error)	(3.5)	(2.9)		
Latinx	4.3	4.4		
(Margin of Error)	(0.8)	(1.7)		
White	4.0	3.9		
(Margin of Error)	(1.2)	(1.4)		
Percent Stopped that are Searched				
Black	29.2%	30.8%	13.8%	14.9%
(Margin of Error)	(3.5)	(3.1)	(2.4)	(1.4)
Latinx	28.5%	25.5%	11.1%	11.7%
(Margin of Error)	(3.0)	(3.3)	(2.2)	(1.3)
White	18.3%	19.6%	8.5%	9.4%
(Margin of Error)	(2.6)	(3.3)	(2.3)	(1.4)
Percent Searched that Reveal Contraband				
Black	26.1%	26.2%	18.1%	21.7%
(Margin of Error)	(1.7)	(2.6)	(2.0)	(2.3)
Latinx	28.2%	28.1%	19.5%	20.8%
(Margin of Error)	(2.3)	(3.1)	(2.2)	(2.2)
White	29.1%	29.2%	18.9%	24.1%
(Margin of Error)	(1.7)	(2.4)	(2.0)	(2.9)
Percent of Stops Where Force is Used				
Black	1.6%	1.6%		
(Margin of Error)	(0.2)	(0.3)		
Latinx	1.5%	1.4%		
(Margin of Error)	(0.2)	(0.3)		
White	1.0%	1.0%		
(Margin of Error)	(0.2)	(0.3)		

TABLE A6. Predicted Mean Outcomes at LAPD Station Level *Continued*

	Adjusted for Violent Crime & Victimization & Suspects		
	All	**Discretionary**	**Non-Discretionary**
Stops Per 100 Residents of Same Race or Ethnicity			
Black	7.5		
(Margin of Error)	(3.9)		
Latinx	7.0		
(Margin of Error)	(3.3)		
White	6.1		
(Margin of Error)	(3.1)		
Percent Stopped that are Searched			
Black	30.1%	13.7%	14.5%
(Margin of Error)	(4.1)	(2.8)	(2.2)
Latinx	26.0%	11.2%	12.0%
(Margin of Error)	(3.8)	(2.5)	(1.6)
White	20.0%	8.6%	9.6%
(Margin of Error)	(3.5)	(2.4)	(1.6)
Percent Searched that Reveal Contraband			
Black	25.9%	17.0%	22.3%
(Margin of Error)	(3.6)	(2.7)	(3.5)
Latinx	28.2%	20.1%	20.5%
(Margin of Error)	(3.7)	(2.8)	(2.9)
White	29.3%	19.4%	23.8%
(Margin of Error)	(3.0)	(2.4)	(3.5)
Percent of Stops Where Force is Used			
Black	1.6%		
(Margin of Error)	(0.4)		
Latinx	1.4%		
(Margin of Error)	(0.3)		
White	1.0%		
(Margin of Error)	(0.3)		

Note: Predicted values are obtained by running a linear probability model and then using these estimates to calculate the mean predictions for all observations, holding all else constant. For example: the average predicted number of Black people stopped per 100 Black residents is calculated by treating all stops as if the race or ethnicity of the stopped individual was Black, obtaining a prediction for each station, and then taking the average of all predictions. The margin of error is calculated at the 95% confidence level.

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