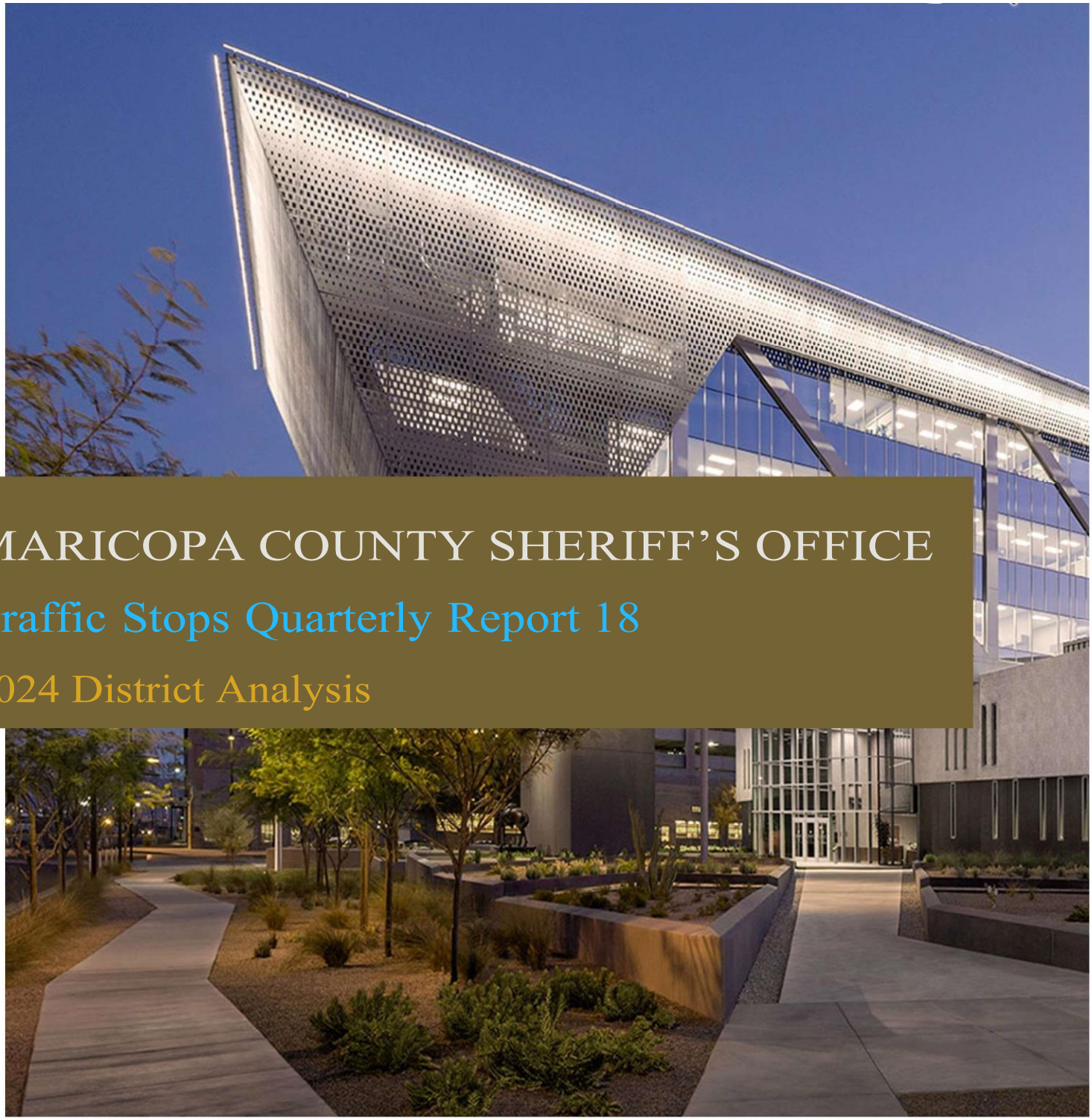

MARICOPA COUNTY SHERIFF'S OFFICE

Traffic Stops Quarterly Report 18

2024 District Analysis

Authors: Andrew J. Prelog, MA, PhD | David Redpath, MA | Cara Stevens, MA
Kristen McCowen, MS, PhD | Kim-Chi Pham, MA

June 2024

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Traffic Stops Quarterly Report: District Analysis

June 2025

This study was developed and conducted by the Maricopa County Sheriff's Office (MCSO) Traffic Stop Analysis Unit and Research and Reporting Unit. The developed methodology was approved by the Court Monitoring Team and Parties on May 13th, 2024. This report is intended to meet the requirements of Paragraph 65 and Paragraph 70 of the First Order, as Traffic Stop Quarterly Report for Quarter 2, 2025.

Principal Investigator

Andrew J. Prelog, MA, PhD

Researcher

andrewprelog@MCSO.Maricopa.gov

Co-Investigator

David Redpath, MA

Research Director

davidredpath@MCSO.Maricopa.gov

Co-Investigator

Kristen McCowan, MS, PhD

Researcher

Kristen.McCowan@mcso.maricopa.gov

Co-Investigator

Cara Stevens, MA

Researcher

carastevens@mcso.maricopa.gov

Co-Investigator

Kim-Chi Pham, MA

Kim-Chi.Pham@mcso.maricopa.gov

Executive Summary

The purpose of this quarterly report was to investigate disparate outcomes of traffic stops at the district level. To investigate district-level disparate outcomes from traffic stops, MCSO analyzed the 2024 traffic stop data[1] in five ways. First, we describe general patterns of traffic enforcement for each district (we classify the Motors Unit as District 6). Second, we determined whether districts differed from one another in average stop lengths and stop outcomes of citations, searches, and arrests, irrespective of race/ethnicity. Third, we utilized propensity score matching to identify within-district racial/ethnic disparity for these outcomes comparing White drivers to Hispanic, Black and Minority drivers (Asian, Black, Hispanic, and Native American drivers combined). Fourth, we compared between-district levels of disparity for White drivers to Hispanic, Black and Minority drivers to determine whether districts differed from one another in their levels of racial/ethnic disparity. Finally, we analyzed search and seizure activity for each district to determine whether different racial/ethnic groups experienced seizures following discretionary searches at different rates.

Descriptive Analysis of Differences Among Districts

Descriptive analyses identified differences in traffic stop activity among districts:

- District 6, the Motors Unit, had the fewest traffic stops of any district (N = 1,320); District 3 had the second fewest stops of any district (N = 1,722); District 5 had the most traffic stops of any district (N = 5,196).
- District 5 had the largest number (N = 1,098) and percentage of stops (21%) made while working special assignments (DUI taskforce, Aggressive Driving, and Click-it-or-Ticket). District 5 also made the most stops of drivers for criminal traffic violations (8.8% of District 5 traffic stops).
- District 2 had the highest stop rate of Hispanic drivers (47.0%) and the lowest stop rate for White drivers (35.6%); District 4 Had the lowest stop rate of Hispanic drivers (11.7%) and the Highest stop rate for White drivers (83.5%).
- District 6 (the Motors Unit) had the highest citation rate for all drivers (69.8%) and District 2 had the lowest citation rate for all drivers (41.3%).
- District 6 (the Motors Unit) had the highest citation/warning rate for speeding (63.9%) and District 1 had the lowest citation/warning rate for speeding (29.4%).

[1]Data used for the analyses in this report were the same data used to produce the TSAR 10 annual report which was released June 30th, 2025. The data were also used for the TSQR 17 report on extended stop indicator use, released March 31, 2025.

- The highest rate of citations or warnings issued for driving documentation (license/insurance/registration) was in District 1 (42.0%); District 6 (the Motors Unit) had the lowest rate of citations or warnings issued for driving documentation (19.3%).
- District 2 had the highest proportion of stops that included an equipment violation (10.7%) and District 6 (the Motors Unit) had the lowest proportion of stops with equipment violations (2.7%).
- District 1 had the highest number (N = 51) and proportion (1.8%) of stops with discretionary searches and District 6 (the Motors Unit) had the fewest (N = 0) discretionary searches.
- District 2 had the longest average stop lengths (20.6 minutes), and District 6 (the Motors Unit) had the shortest average stop lengths (12.3 minutes).
- The most common reason stops were extended for all districts was for driving documentation issues (36.8%). These delays were most common in District 2 (52.6% of stops) and the least common in District 7 (15.6% of stops).
- The highest rate for custodial arrests during traffic stops was in District 1 (2.3% of stops); The lowest rate for custodial arrests during traffic stops was in Districts 6 (0.5% of stops).
- The highest rate for non-custodial arrests during traffic stops was in District 5 (6.9% of stops); The lowest rate for non-custodial arrests during traffic stops was in District 4 (1.3% of stops).

District Differences in Benchmark Measures (stop length, citations, arrests, and searches)

Comparing differences between districts on benchmark measures, MCSO identified statistically significant differences among districts for all measures.[2]

Stop Length

- In comparing differences in stop length, we found that all districts differed from one another. District 1 had longer average stop lengths than Districts 5 and 6, but lower average stop lengths than Districts 2, 3, or 4. In general, District 2 had longer average stop lengths compared to all other districts. District 3 had longer average stop lengths when compared to Districts 1, 5, 6, or 7, but shorter average stop lengths when compared to District 2. District 4 had shorter average stop lengths when compared to Districts 1, 5, 6, or 7. District 5 had shorter average stop lengths when compared to Districts 1, 2, 3, 4, or 7. District 6 (the Motors Unit) had shorter average stop lengths when compared to Districts 2, 3, 4, or

[2]Note that results differ from the descriptive analysis because multiple statistical controls are utilized in modeling comparisons among districts. For a list of statistical controls utilized in all analyses, consult the methods section of this report.

7. Finally, District 7 had shorter average stop lengths when compared to Districts 2, 3, or 4, and longer average stop lengths when compared to Districts 5 or 6.

Citations

- District 2, the district with the highest proportion of Hispanic drivers, has the lowest citation rate. Conversely, District 6 (The Motors Unit) has the highest citation rate, but the lowest levels of disparity and minimizes the levels of disparity for the office.
- Analysis comparing citation activity among districts identified differences across all districts. We found that drivers stopped by District 1 deputies were more likely to be issued a citation when compared to drivers stopped by deputies from Districts 2, 4, 5, or 7, but were less likely to be issued a citation by deputies assigned to Districts 3 or 6. Drivers stopped by District 2 deputies were less likely to receive a citation than drivers stopped by deputies from Districts 1, 3, or 6. We identified that drivers stopped by District 3 deputies were more likely to receive a citation than drivers stopped by deputies from Districts 1, 2, 4, 5, or 7 but were less likely to receive a citation than drivers stopped by deputies from District 6 (the Motors Unit). Drivers stopped by District 4 deputies were less likely to receive a citation than drivers stopped by deputies from Districts 1, 3, or 6. Drivers stopped by deputies from District 5 were less likely to receive a citation than drivers stopped by deputies from Districts 1, 3, or 6. Deputies stopped by deputies from District 6 (the Motors Unit) were more likely to receive a citation when compared to all other districts. Finally, drivers stopped by deputies from District 7 were less likely to receive a citation when compared to drivers stopped by deputies from Districts 1, 3, or 6.

Searches

- Our analysis comparing discretionary search activity identified that the likelihood of a search was higher in District 1 when compared to Districts 2, 4, 5, or 7. The likelihood of a discretionary search was lower in District 2 when compared to District 1 but higher when compared to Districts 4 or 5. The likelihood of a discretionary search for drivers stopped by District 3 deputies was higher when compared to drivers stopped by deputies from Districts 4, 5, or 7. Drivers stopped by District 4 deputies had a lower likelihood of a discretionary search than drivers stopped by deputies from Districts 1, 2, or 3. There were no discretionary searches during traffic stops by deputies from District 6 (the Motors Unit). Finally, drivers stopped by District 7 deputies were less likely to experience a discretionary search during the traffic stop when compared to drivers stopped by deputies from District 1.

Arrests

- Analysis of arrest activity in the districts found significant differences in the likelihood of arrest across all districts. We identified that drivers stopped by District 1 deputies were more likely to experience an arrest than drivers stopped by deputies from Districts 2, 3, 4,

6, or 7 but were less likely to experience an arrest when compared to drivers stopped by deputies from District 5. Drivers stopped by District 2 deputies were less likely to be arrested than drivers stopped by deputies from Districts 1 or 5 but were more likely to be arrested than drivers stopped by deputies from Districts 4 or 6. Drivers stopped by deputies from District 3 were less likely to be arrested than drivers stopped by deputies from Districts 1 or 5, but were more likely to be arrested than drivers stopped by deputies from Districts 4 or 6. Drivers stopped by deputies from District 4 were less likely to be arrested than drivers from all other districts. Drivers stopped by District 5 deputies were more likely to be arrested when compared to all other districts. Drivers stopped by District 6 deputies were less likely to be arrested than drivers stopped by deputies from Districts 1, 2, 3, 5, or 7 but were more likely to be arrested than drivers stopped by deputies from District 4. Finally, drivers stopped by deputies from District 7 were more likely to be arrested than drivers stopped by deputies from Districts 4 or 6 but were less likely to be arrested than drivers stopped by deputies from Districts 1 or 5.

Results of Propensity Score Matching Analysis of District Racial/Ethnic Disparity

MCSO used propensity score matching to compare stops of White drivers to Hispanic, Black, and Minority (Hispanic, Black, Native American, and Asian drivers combined) drivers for each district. This analysis identified within-district disparity.

Stop Length

- We found that District 3 had statistically significant disparity in stop length for Black drivers when compared to White drivers. Stops of Black drivers by District 3 deputies averaged about 70 seconds longer than stops of White drivers.
- Black drivers stopped by District 5 deputies experienced stops that averaged approximately 54 seconds less than stops of White drivers in District 5.
- There were no other statistically significant differences in stop length for any group in any other district.

Citations

This research identified disparity in citation outcomes in two districts.

- We identified disparity in citation outcomes between Hispanic and White drivers in District 3. In District 3 Hispanic drivers were cited at a rate of 8 percent higher than White drivers.
- In District 5 Hispanic drivers were issued citations at a rate of 5.4 percent higher than White drivers.
- There were no other statistically significant differences in citation rates for any racial/ethnic group for any district.

Searches

In examining searches, we found statistically significant disparity in one district.

- In District 5, Minority drivers were searched 0.54 percent more often than White drivers.

Arrests

We identified five statistically significant differences in arrest rates across four districts.

- In District 1, Hispanic drivers were arrested at a rate 3.75 percent higher than White drivers.
- In District 5, Minority drivers were arrested at a rate 3.08 percent higher than White drivers.
- In District 6, the Motors Unit, Black drivers were arrested at a rate 9.73 percent higher than White drivers.
- The Motors Unit arrested Minority drivers at a rate 4.47 percent higher than White drivers.
- Black drivers stopped by District 7 deputies were arrested at a rate 8.8 percent higher than White drivers.

Analysis of Differences in Disparity Levels among Districts

In the fourth analysis, we identified district-level differences in racial/ethnic disparity comparing districts to one another on the benchmarks of stop length, citations, arrests, and searches. We identified several pairwise district-level differences in disparity but did not identify simultaneous district-level differences in disparity for any benchmark (stop length, citations, arrests, and searches) or group (Hispanic v. White, Black v. White, and Minority v. White).

Stop Length

- District 1 had higher levels of disparity in stop length between Hispanic and White drivers than Districts 5 or 7.
- District 6 had lower levels of Black/White disparity in stop length when compared to Districts 1, 3, or 5.
- District 1 had higher levels of Minority/White disparity in stop length than Districts 5 or 7.
- There was insufficient evidence to suggest any one district contributes to the Office-level disparity in stop length for Hispanic, Black, or Minority drivers.

Citations

We found some differences in disparity levels for citations among districts

- District 6 had lower levels of Hispanic/White citation disparity than all other districts.
- We identified evidence to suggest the activity of the Motors Unit reduces Hispanic/White disparity in citation outcomes for the Office.
- We identified that District 6 had lower levels of Black/White citation disparity when compared to District 5.
- District 6 had lower levels of Minority/White citation disparity than all other districts.
- We identified evidence to suggest the activity of the Motors Unit reduces Minority/White disparity in citation outcomes for the Office.

Searches

Analyses of searches found few differences among districts for Hispanic and Minority drivers.

- District 5 had higher levels of Hispanic/White disparity in searches when compared to District 1.
- District 5 had higher levels of Minority/White disparity in searches when compared to District 1.

Arrests

We identified no statistically significant differences in arrest disparity among districts for any racial/ethnic group (Hispanic, Black, or Minority).

Seizures

In our analysis of seizures following searches, we found one statistically significant difference in the distribution of searches with and without seizures in District 1, however, data indicated that seizures following searches were lower for White drivers.

Response to the findings in this report

MCSO investigates all disparities identified by analyses conducted for the Traffic Stop Annual Report, the Traffic Stop Quarterly Reports, and Traffic Stop Monthly Report. We identify disparity in traffic stop outcomes as indicia of potential bias. Because of this, MCSO identifies stops, deputies, and units that are associated with the inequality we measure and investigate whether bias played a role in creating inequality.

In response to this research (and all MCSO research), MCSO's Traffic Stop Analysis Unit continues to investigate and document the sources of the observed disparity. The Traffic Stop Analysis Unit also confers with the Internal Review Group to identify possible agency- or unit-level solutions to any disparity that exists as a result of possible agency policies or practice.

Following publication of this report, MCSO will conduct district and agency-wide internal town halls to explain results to command and line-level supervisors. MCSO will also convene an internal review group to develop and recommend actions based on these results to Executive Command. This review group will also consider any actions suggested by Parties, Monitoring Team or Community following the publication of this report. This plan will include items that were considered and accepted as well as those considered and rejected. Any rejected recommendations will include an explanation as to why the actions were not recommended.

Introduction

MCSO evaluates disparities in traffic stop length and outcomes for the office annually and reports the results of that analysis in the Traffic Stop Annual Report (TSAR). MCSO also analyzes individual deputy stop activity monthly for disparity in the Traffic Stop Monthly Report (TSMR). The TSMR process allows MCSO to evaluate racial/ethnic disparities in traffic stop outcomes at an individual level to determine if deputies could be making decisions influenced by bias. Traffic Stop Quarterly Reports (TSQR) usually dive deeper into office-wide data to identify if any actionable insight can be gained into the causes of disparities identified in the TSAR reports. The MCSO last published an analysis of district-level disparities in June of 2024 for the Traffic Stop Quarterly Report 14 (TSQR14). In TSQR14, MCSO evaluated traffic stop data from 2023 to determine whether different districts had different levels of disparity in stop lengths and traffic stop outcomes (citations/warnings, arrests, and searches) and whether districts differed from one another in their levels of disparity. In that analysis, MCSO utilized the methods approved by the Monitor's team for the TSAR9 and applied them to individual districts.

This quarterly report revisits racial/ethnic disparity at the district level. Three questions are explored. First, how do districts differ in the average stop length during traffic stops and do different districts cite/warn, search, and arrest drivers at different rates? Secondly, what, racial/ethnic disparities do each district have when analyzed using the propensity score matching method employed in the TSAR annual analysis? Finally, do the districts differ from one another in their levels of disparity on the benchmarks of stop length, citation rate, arrest rate, and search rates?

The organization of this report is as follows. We begin with a description of the districts describing their geographic boundaries and influences on traffic enforcement activity such as MCSO-city contracts or DUI patrols. We include maps of all traffic stops made by deputies assigned to the different districts, highlighting that while districts generally conduct traffic enforcement in their geographic boundaries, others make traffic stops across the County. Following the description of the districts, we provide the methodology used to produce the findings in this report and include a listing of the variables used in the analyses presented in this report.

Analyses are then presented in five phases. In phase one, we provide rich descriptive information about traffic stops for both MCSO as a whole and disaggregated by district. In phase two, we provide results modeling MCSO's major benchmarks used in the TSAR and TSMR (stop length, citation rate, arrest rate and search rate) to determine if districts differ from one another on the traffic stop metrics. In phase three, we present results from the Propensity Score Matching analysis to identify racial/ethnic disparity specific to districts. In the fourth phase we report our analysis of inter-district racial/ethnic disparities, identifying whether certain districts have higher or lower disparities when compared to one another. In the fifth and final phase MCSO conducted district level chi-square analyses for seizures after searches and included a robustness check using the Fischer's exact test to account for small cell counts for Asian and Native American drivers.

Following the results section, we provide a summary of notable findings from this research and conclude with a discussion of the actions MCSO has taken and will consider based on the findings from the research.

Information About MCSO and its Districts

MCSO has six administrative districts that manage deputy activity.[3] While most of the districts have geographic boundaries (excluding District 6: Motors Unit), deputies assigned to individual districts often make traffic stops in other districts for a variety of reasons. For example, when deputies work on DUI special assignments, they make stops across the county. Deputies might also work in an off-duty capacity monitoring special events such as golf tournaments or auto races. Deputies may cross district boundaries when assisting other police agencies in Maricopa County, e.g., municipal police departments, or may transfer to other districts mid-shift to meet MCSO staffing and public safety needs. Deputies may also change assignments during an individual shift for staffing reasons but retain a specific district-level designation. In this section, we provide profiles of the geography of each district and provide mapping of the stops made by deputies assigned to each district.

MCSO Traffic Enforcement

Traffic control by MCSO deputies follows several notable enforcement patterns within the districts and across Maricopa County. First, within certain districts, communities have contracted with MCSO to meet their policing and emergency response needs. In 2023, there were 13 diverse communities within the county for which MCSO acts as the local law enforcement.[4] Some are historically retirement communities such as Sun City and Sun City West, while others are affluent predominantly White communities such as Fountain Hills, Cave Creek, Carefree, and Anthem. There are also several ethnic enclaves, with a majority-minority population composition such as Gila Bend which is centered on two interstates and several state highways and Guadalupe which is home to a branch of the Yaqui tribe, originally from Mexico.

Second, MCSO also acts as the police force for "county islands" throughout the Phoenix metropolitan area. These are regions that are surrounded by municipalities with their own police forces, but for which the MCSO must provide public safety. Notable examples of county islands include a four square-mile area, adjacent to the east of Luke Air Force Base and is largely composed of housing for members of the military, and a similarly sized county island directly

[3]Note that District 6 is no longer in operation. This district was formerly the city of Queen Creek, which MCSO contracted with to act as its municipal police force. Beginning in January of 2022, Queen Creek ended its contract with MCSO and hired its own police force. The geographic boundaries of District 6 were absorbed into District 1.
[4]This includes Anthem, Carefree, Cave Creek, Fountain Hills, Gila Bend, Guadalupe, Litchfield Park Youngtown, Sun City, Sun City West, Whittman, Anthem, Desert Hills, and New River.

between the cities of Mesa and Apache Junction. Other county islands pepper Maricopa County.

Third, MCSO acts as the rural police force for nearly all the desert land and much of the agricultural land in Maricopa County, but which is outside of the Phoenix metropolitan area. This includes major outdoor recreation areas associated with local lakes and the Salt River recreation area, thoroughfares through sparsely populated regions of the county, and both industrial and family-owned farmland.

Fourth, MCSO deputies aid state and local police in traffic control on local state highways (such as the Loops 101, 202, and 303), other state highways (SR–74, SR–84, SR–85), and local federal highways (Interstates 8, 10, and 17). Other traffic enforcement activities occur on local thoroughfares that bisect or intersect communities such as Shea Boulevard, the Carefree Highway, New River Parkway, Lake Pleasant Parkway, Grand Avenue, and Hunt Highway.

In Table 1 below, we present general information about the districts, highlighting their geographic size and estimated population characteristics based on U.S. Census estimates.[5] Caution should be taken inferring Maricopa County driving population characteristics from Maricopa County Census population information.[6] This is especially true for the Sheriff's Office as they are not the primary police agency for much of the population within each district.

Table 1: District Information

District	Size (Square Miles)	Population (Approx.)	Deputies[7]	District Demographics (Approx.)	
1	558	1,618,105	65	Asian	6%
				Black	5%
				Hispanic	24%
				Native American	2%
				White	58%
2	5,216	1,232,768	79	Asian	3%
				Black	9%
				Hispanic	55%
				Native American	2%
				White	27%
3	1,632	849,312	63	Asian	4%
				Black	4%
				Hispanic	22%
				Native American	1%
				White	64%
4	668	944,556	39	Asian	5%
				Black	4%
				Hispanic	18%
				Native American	2%
				White	66%
5 (Lakes)	1,089	35,926	71	Asian	2%
				Black	1%
				Hispanic	8%
				Native American	5%
				White	80%
7	124	41,454	26	Asian	3%
				Black	1%
				Hispanic	5%
				Native American	4%
				White	83%

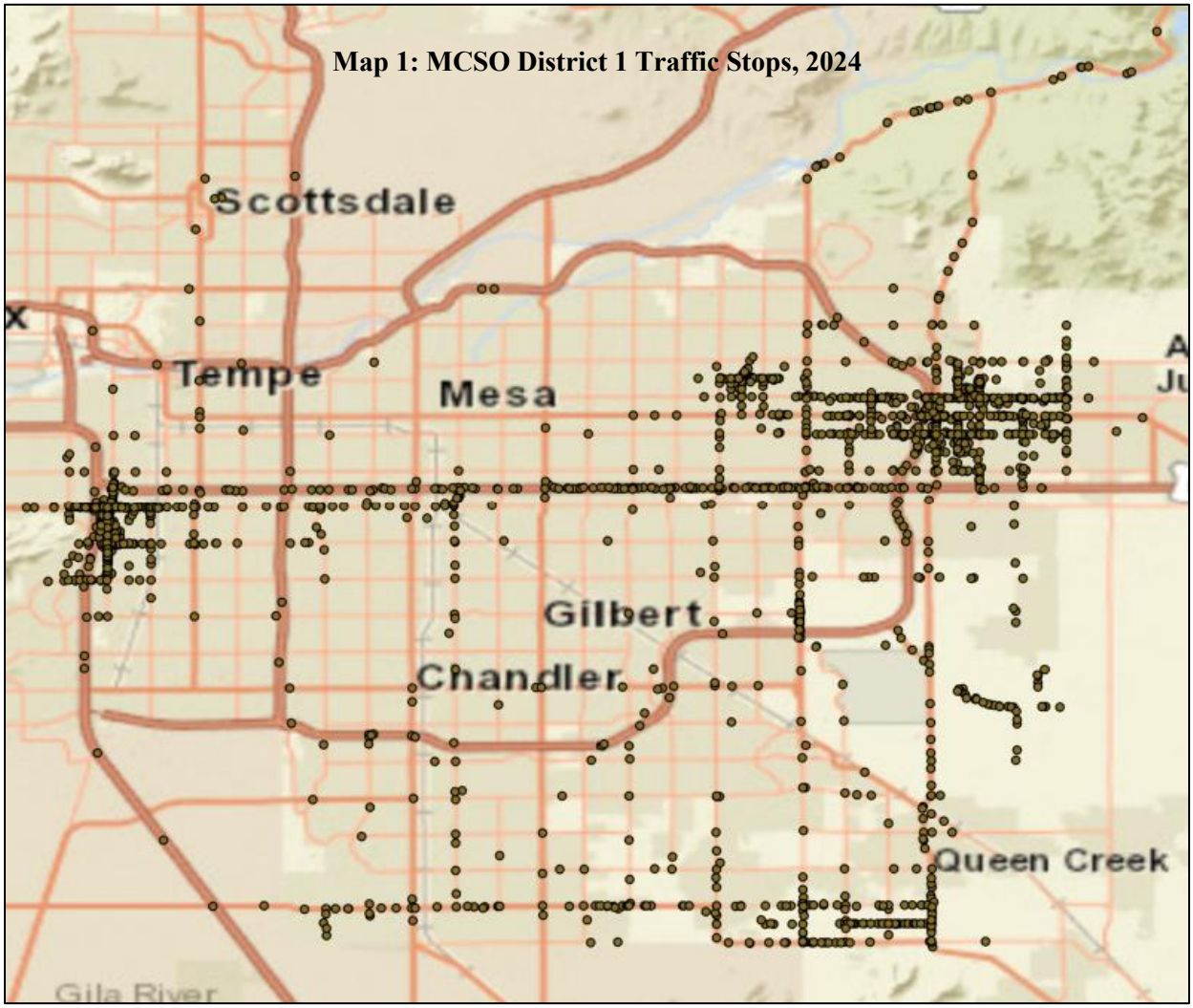
[5]To derive district population estimates, MCSO used GIS to overlay MCSO District borders with Census block group estimates for 2020.

[6]Scholars have long recognized the severe limitations of census data for use in estimating the driving population. Limitations include who drives, where they are driving, and important for MCSO's research, who is violating the law. For a comprehensive review of these limitations, see the U.S. Department of Justice-funded research Fridell (2004) "By the Numbers: A Guide for Analyzing Race Data from Vehicle Stops."

[7]This number represents the number of deputies that made traffic stops while assigned to the district in 2022. Because deputies could move districts throughout the year, they may be enumerated in more than one district.

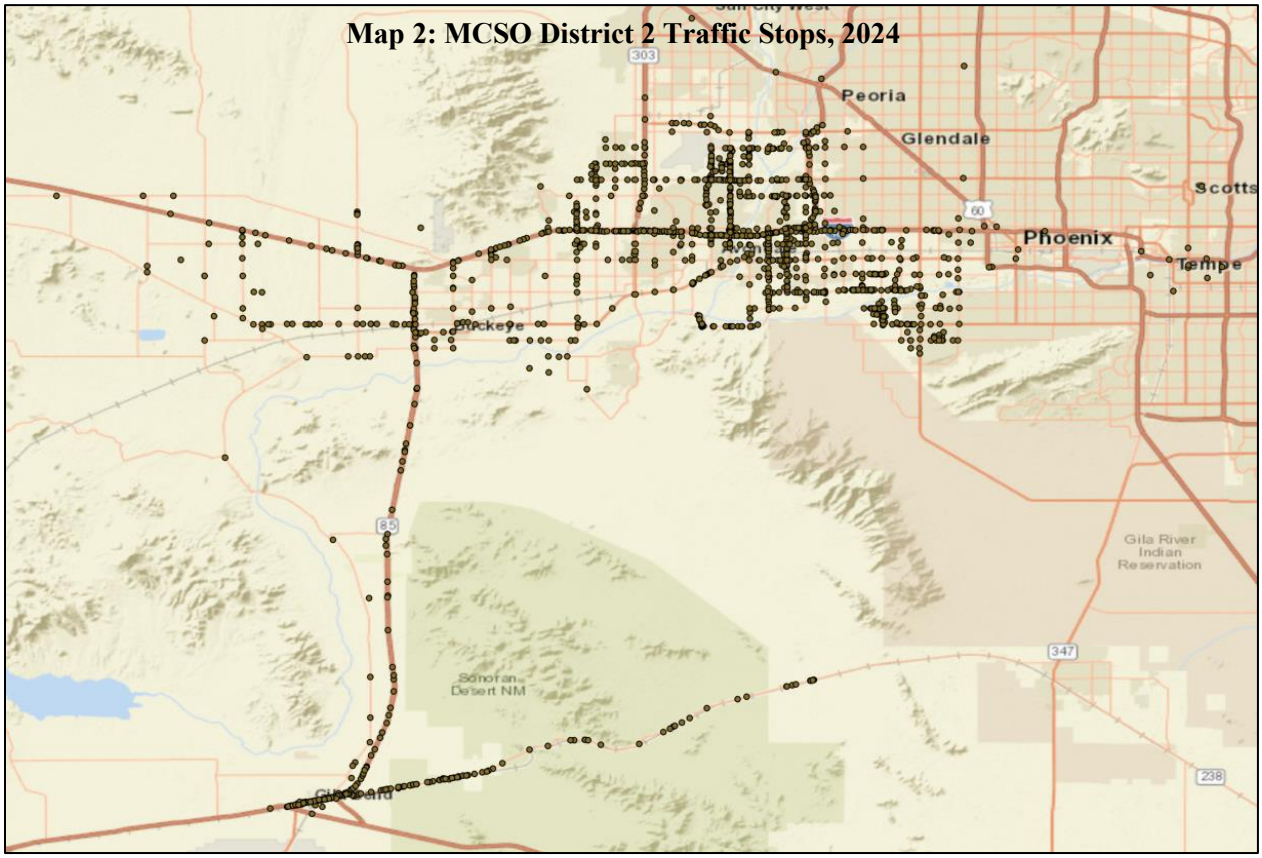
District 1 is in southeastern Maricopa County and primarily provides law enforcement for county islands and the Town of Guadalupe. The district also serves as back-up law enforcement to Apache Junction, Chandler, Gilbert, Mesa, Tempe, South Scottsdale, and Queen Creek. The district covers over 500 square miles, and communities in District 1 are very diverse, including retirement communities, a major university, a historical settlement of the Yaqui Native American tribe, new suburban development, and farmland. In Map 1 below, we provide the geographic distribution of traffic stops from deputies who were assigned to District 1 when the stop was made. District 1 deputies generally make traffic stops within the district boundaries. The greatest concentration of stops by District 1 deputies include the contracted Town of Guadalupe, on US 60 (The Superstition Freeway), in rural-urban areas in the southern portion of the district along Hunt Highway and in county islands east of the City of Mesa and west of Apache Junction.

Map 1: MCSO District 1 Traffic Stops, 2024



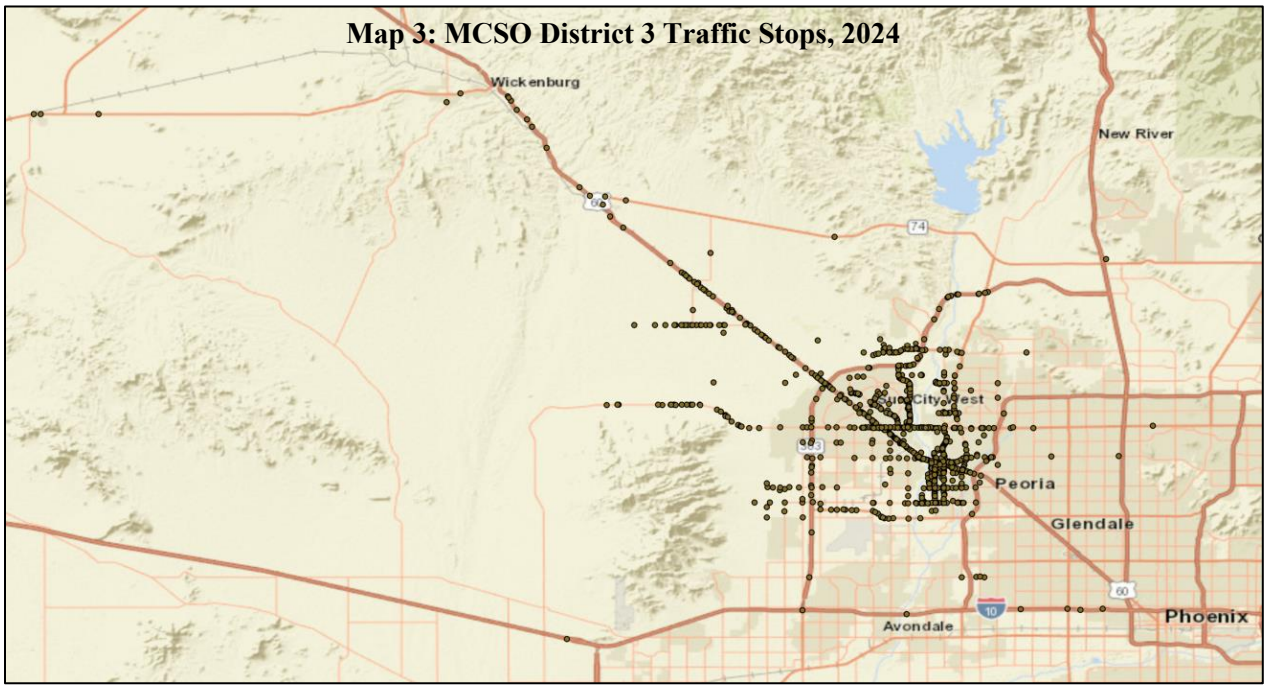
District 2 is in southwestern Maricopa County and is the largest MCSO district by land area. It includes the southwestern Phoenix metropolitan area and wide swaths of rural spaces. The district has the highest proportion of Hispanic driver within-district traffic stops, as well as the highest Hispanic population residing in any district's geographic boundaries. Gila Bend is one community in District 2 that contracts MCSO for law enforcement needs; highways in and out of Gila Bend are often patrolled by MCSO. Other notable cities in District 2 include Buckeye, Goodyear, Litchfield Park, cities adjacent to the western I–10 corridor, and downtown Phoenix. MCSO contracts with the city of Goodyear for patrol of certain areas within the city boundaries. District 2 also includes two Maricopa County parks — Estrella Mountain Regional Park and Skyline Regional Park. The highest concentration of traffic stops by MCSO deputies in District 2 include the Town of Gila Bend, rural county islands in and around Buckeye and Goodyear and a four square-mile county island adjacent to Luke Air Force Base.

Map 2: MCSO District 2 Traffic Stops, 2024



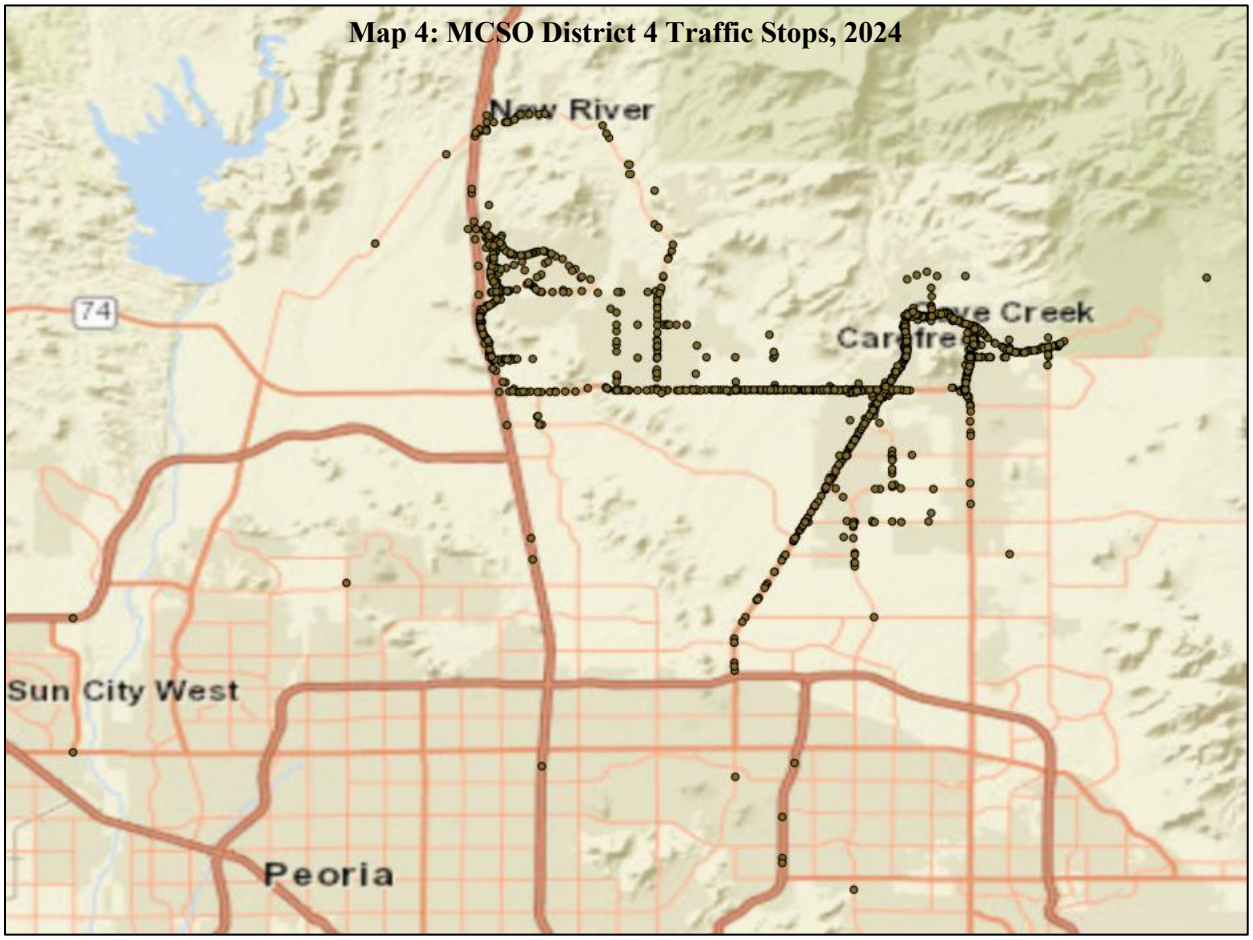
District 3 covers an area of 1,631 square miles in the northwestern quadrant of Maricopa County and MCSO is the primary law enforcement agency for several small towns and unincorporated communities, as well as large rural and agricultural spaces in the district. MCSO carries contracts for policing several cities in District 3 including Youngtown, Whittman, Sun City, and Sun City West. District 3 has several major state and US highways on which MCSO deputies often make traffic stops. These include US 60, Loop 303, Loop 101, and State Route 74. Traffic stops within the boundary of District 3 are concentrated in the cities of Sun City, Sun City West, Wittmann, and Youngtown. Other notable concentrations of traffic stops in District 3 include rural areas west of the Pheonix metropolitan area, Morristown, along Sun Valley Parkway, and on US 60. Like District 1, District 3 deputies generally make stops within the district's geographic borders.

Map 3: MCSO District 3 Traffic Stops, 2024



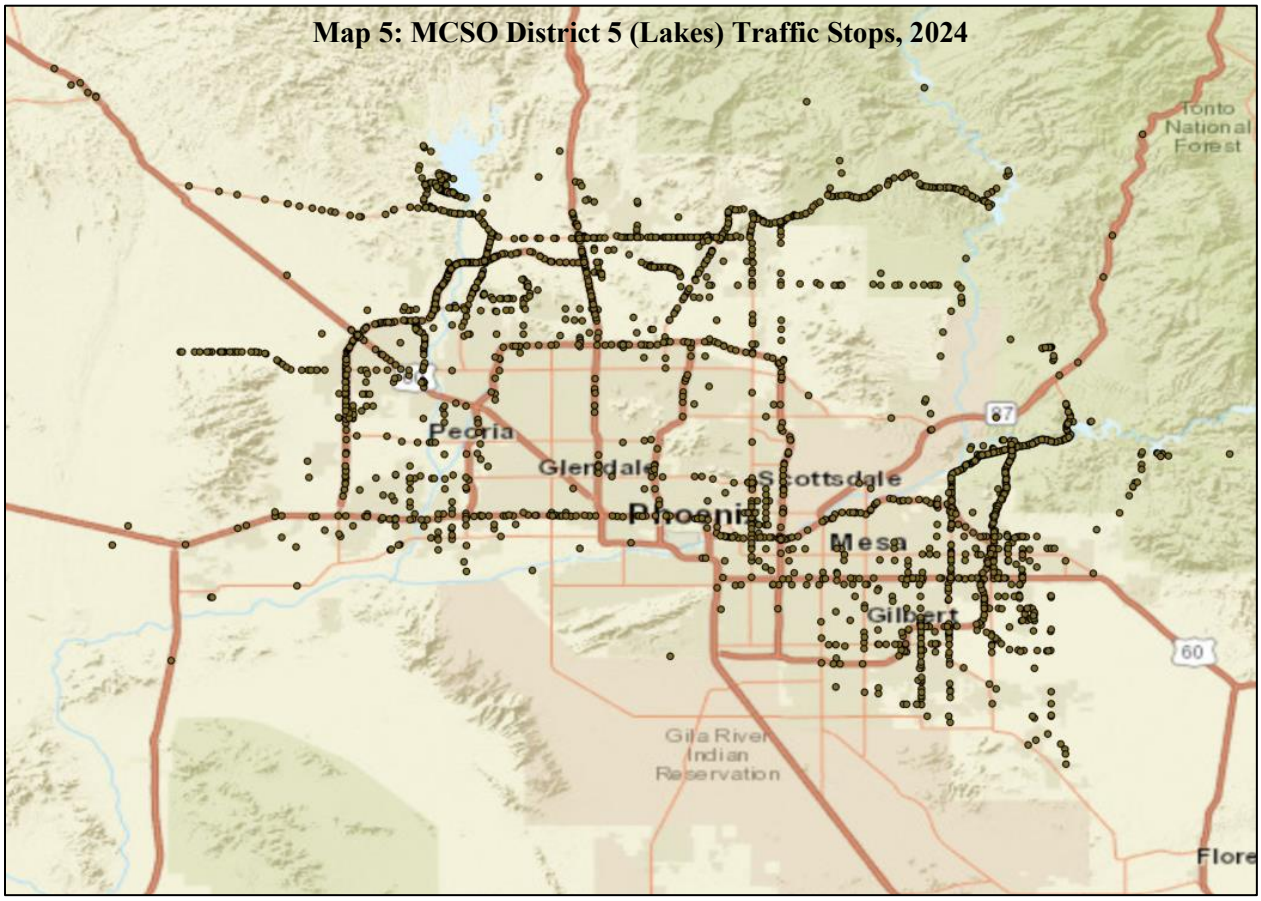
District 4 covers an area of approximately 668 square miles in the north-central quadrant of Maricopa County. This district includes northern areas of Phoenix and Scottsdale, parts of Peoria, and unincorporated Maricopa and Yavapai County land. Deputies primarily serve the communities of Anthem (officially Phoenix), Carefree, and Cave Creek in these areas although other municipal police departments utilize MCSO deputies as supplemental law-enforcement in the district. I-17 borders the western edge of District 4, and the Carefree Highway is a major thoroughfare through the district. District 4 deputies make a number of stops outside District 4 boundaries; these stops are generally made on major freeways, arterial streets, and along Rio Verde Drive. The highest concentration of stops in District 4 occur in the towns of Anthem (Phoenix), Cave Creek, Carefree, and along the major thoroughfares of I-17, Carefree Highway, and Cave Creek Road. Finally, District 4 had the highest number of traffic stops (N=2,313) by deputies assigned to traffic enforcement in the county. Traffic stops by deputies assigned to traffic enforcement in District 4 accounted for 57 percent of all stops in District 4.

Map 4: MCSO District 4 Traffic Stops, 2024



District 5, Lake Patrol, is a specialized division consisting of many units that safeguard the lakes, rivers, and wilderness areas of Maricopa County. Of particular interest to this analysis, the majority of special assignment patrols (DUI Taskforce and Aggressive Driver Patrol) are assigned through District 5 Command. Deputies assigned to District 5 make the most stops of any district outside their geographic boundaries. District 5 is bifurcated geographically, with patrol units working in the northeastern and northwestern recreational areas in Maricopa County, and different legal frameworks—federal, county, municipal, and state—may apply, depending on the area. There are 6 major reservoirs and adjacent areas patrolled by District 5 deputies. These include Lake Pleasant, Bartlett Lake, Horseshoe Reservoir, Saguaro Lake, Canyon Lake, and Apache Lake. District 5 deputies also patrol the Salt River Basin, a major summer recreational area. The district has a population density of fewer than 50 people per square mile, compared to the approximate 500 people per square mile in the rest of the districts. This far less populated area has fewer calls for service and is mostly a recreational space for locals and tourists. Stops outside District 5 boundaries are primarily concentrated on major freeways of Loop 303, Loop 202, Loop 101, and 1-17. Within the district's boundaries, major concentrations of traffic stops include in and around Lake Pleasant Park, along the Beeline Highway exiting northeast out of the Phoenix area, along the Bush Highway in the Salt River Valley, and along Usery Pass Road.

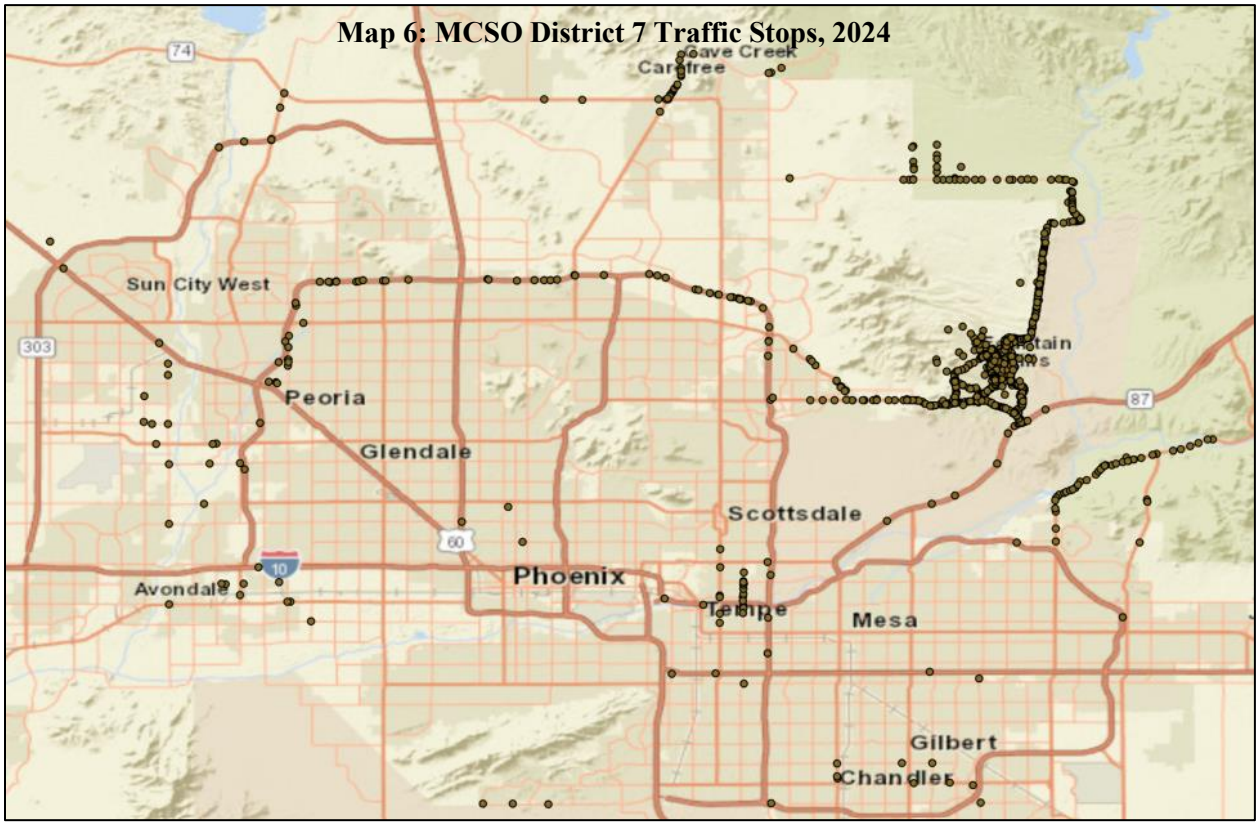
Map 5: MCSO District 5 (Lakes) Traffic Stops, 2024



District 7 is in the northeast area of Maricopa County, serving as primary law enforcement for the Town of Fountain Hills, Rio Verde, as well as unincorporated county land and McDowell Mountain Regional Park. While most stops made by District 7 deputies occurred within the district's boundaries, outside of the district, deputies made a number of stops on the Loop 101 and areas typically patrolled by Lake Patrol. Among all districts, District 7 has the highest concentration of stops within any city, with over 2,000 stops made within the boundaries of Fountain Hills (71% of District 7 stops). About 51 percent of District 7 stops (N = 1,439) were made by deputies assigned to traffic enforcement. Other areas of concentrated traffic stop activity in District 7 included Rio Verde Dr., Shea Blvd., and McDowell Mountain Road.

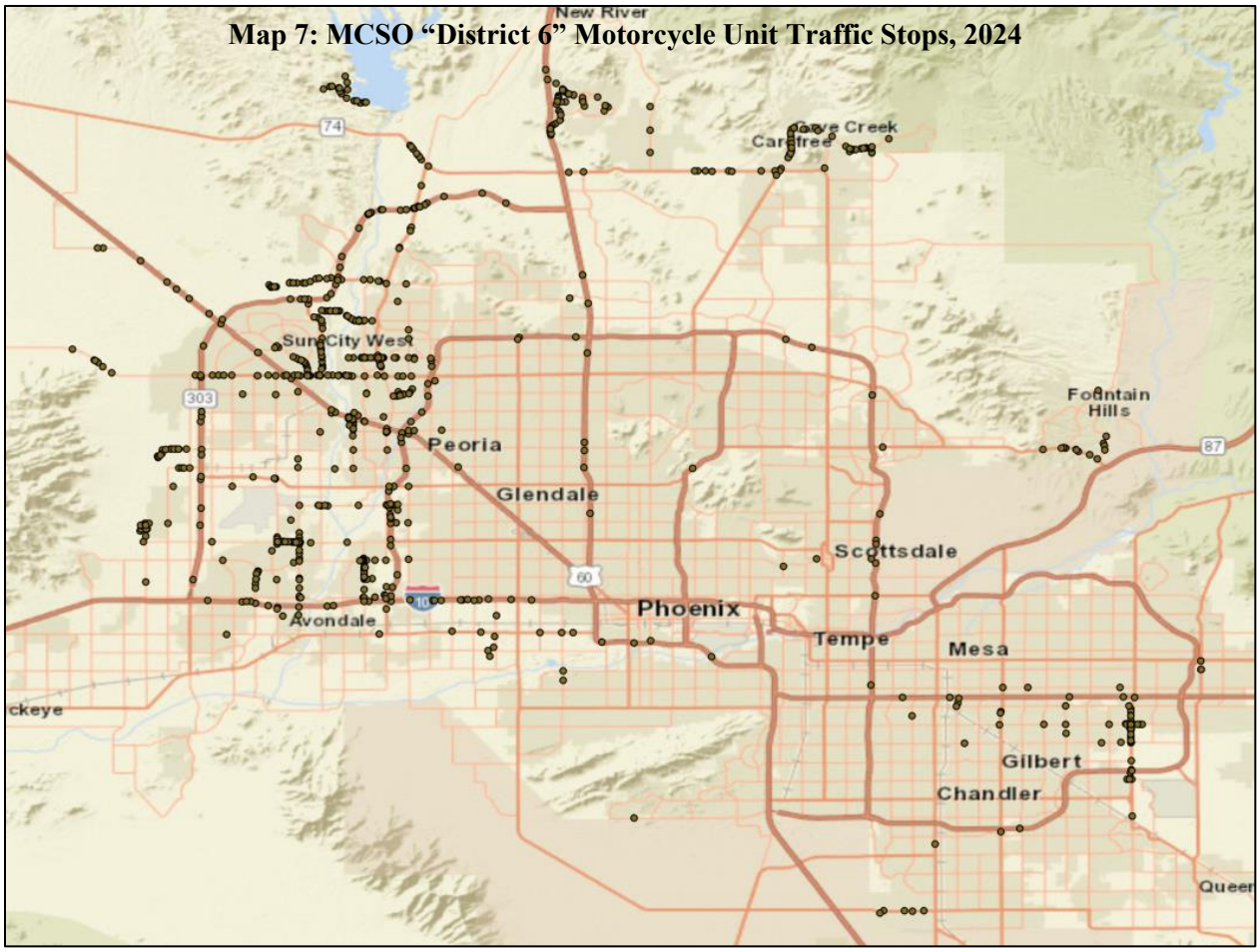
Patrol activity priorities in District 7, while managed by MCSO, are often determined, in part, by Fountain Hills City Council as they request certain types of enforcement in specific areas of the city (e.g., speeding offenses on Shea Blvd., school zone patrol, or red light or stop sign violations at specific intersections).

Map 6: MCSO District 7 Traffic Stops, 2024



In late 2023 MCSO created a small, specialized motorcycle patrol unit focused on traffic enforcement. Management of the motorcycle unit is not associated with any one district and they work under the direction of Enforcement Support. This motorcycle patrol unit conducts traffic enforcement across Maricopa County. The unit is deployed when available and enforces traffic laws in MCSO patrol jurisdictions with high density traffic, collisions, or in areas where the public has requested additional traffic enforcement. For this research and for convenience we have assigned stops made by the motorcycle unit to "District 6." The highest concentrations of motorcycle unit enforcement were in the communities of Anthem, Cave Creek, Carefree, in Lake Pleasant County Park, the West Valley and the Southeast Valley.

Map 7: MCSO "District 6" Motorcycle Unit Traffic Stops, 2024



Methods

MCSO conducted five phases of analysis to produce this report. The first analysis provides descriptive statistics on traffic stops for each of the districts. We report information about the drivers, including the perceived race/ethnicity and sex of the drivers. We report characteristics about the stops such as the time of year stops were made, the time-of-day stops were made, average stop length by district and race/ethnicity, and use of extended stop indicators by district and race/ethnicity. We also report outcomes of the stops for each district and by race/ethnicity. Next, we report offense categories that were cited or warned during traffic stops (speed, non-speed moving, driving documentation, equipment, and other types of violations). Following this, we identify special assignment stops for each district and whether the traffic stop could be classified as civil traffic, criminal traffic, or criminal. We report searches conducted and identify arrests made in each district. Finally, we report deputy traffic stop counts for each district. Summary statistics for MCSO are provided in this section for comparison. No statistical tests for significance were conducted for the descriptive portion of the report.

The second phase provides fixed-effects regression analyses of stop length and stop outcomes (citation/warning, discretionary searches, and arrests) using variables that are used in the Propensity Score Matching process in the TSAR and the weighting process used in the TSMR. Excluded from these models are variables for geography and race/ethnicity of the drivers.[8] Ordinary least squares regression was employed for the analysis of stop length, while logistic regression was used for the categorical outcomes of citations, arrests, and searches. The purpose of all models presented in this section was to determine whether individual districts differed from one another on the stop outcomes, while controlling for race-neutral characteristics of the stop. We employed an alpha level of $p = 0.05$ as the critical value for statistical significance, with p-values lower than 0.05 considered statistically significant. Table 2 provides a list of the variables used for these models.

[8]Geography and race/ethnicity were excluded from these analyses at the request of experts working for the Department of Justice.

Table 2: Variables Used in Fixed-Effects Regression Models

Stop Length	Citations (Violations and Speed)	Citations/Arrests/Searches
Time Splined	Time Splined	Time Splined
Driver Sex	Driver Sex	Driver Sex
Stop Classification (civil/criminal)	Stop Classification (civil/criminal)	Stop Classification (civil/criminal[9])
Non-AZ Plate	Non-AZ Plate	Non-AZ Plate
Assignment Category	Assignment Category	Assignment Category
Patrol	Patrol	Patrol
Traffic	Traffic	Traffic
Supervisors	Supervisors	Supervisors
Off-Duty	Off-Duty	Off-Duty
Other (reference category)	Other (reference category)	Other (reference category)
District 1-7	Violation Type	District 1-7
Arrest	Speed	
Search	Non-Speed Moving	
	Driving Documentation	
	Equipment	
	Other Violations	
	Speed Binned in 5 MPH increments	
	District 1-7	

In the third phase, we used Propensity Score Matching to estimate disparities at the district level.[10] The models compare stop length, citations, arrests, and searches for comparisons of White and Hispanic drivers, White and Black drivers, and White and Minority drivers (all Asian, Native American, Hispanic, and Black drivers combined). Propensity scores for this analysis were generated using the same propensity score generating process employed in the TSAR 9 analyses.[11] However, propensity scores were generated using data for each individual district's stops, not MCSO as a whole. Variables used for generating propensity scores are available in Table 3 below. Five different PSM models were estimated for each district and for Hispanic drivers, Black drivers, and Minority drivers. White drivers were the comparison group for all analyses.

The first analysis was a comparison of stop length that excludes extended stops. The second analysis provides comparisons for citations using both violation types and speed for generating propensity scores (in addition to other matching variables). The third analysis examines district citation rates using propensity scores that were generated without any consideration of the violation type or speed. The fourth analysis examines disparity in district arrest rates. Finally, the

[9]Stop classification was removed as a variable in analyses of arrests as all "criminal" citations are classified as arrests.
[10]We report the "Average Treatment on the Treated" as a measure of difference between Hispanic, Black, and Minority drivers when compared to White drivers. To avoid confusion, "treatment" and "treated" in this context are terms derived from experimental methods identifying the treatment and control groups. In the context of the analyses presented in this report "treated" and "treatment" refer to the racial/ethnic group analyzed and does not refer to deputies' interpersonal interaction with drivers.
[11]For a full explanation of the propensity score generating process employed in the TSAR analyses, see page 9 of the 2023 TSAR 9 report available at: https://www.mcsobio.org/traffic-stop-data

fifth analysis considers district-level disparity in discretionary searches. We employed an alpha level of $p = 0.05$ as the critical value for statistical significance for all tests, with p-values lower than 0.05 considered statistically significant.

It should be noted that some Propensity Score Matching models did not perform well due to the small number of stops of particular racial/ethnic groups in specific districts. For example, Districts 4 and 7 had three and seven discretionary searches in 2024, respectively. The Motors Unit, had no discretionary searches. Estimates matching disparity with such a low number of searches cannot be generalized in any way. In these situations, no estimates of disparity were provided.

Table 3: Variables Used in Propensity Score Matching Models

Stop Length	Citations (Violation and Speed)	Citations/Arrests/Searches
Time Splined	Time Splined	Time Splined
X and Y Coordinates (splined)	X and Y Coordinates (splined)	X and Y Coordinates (splined)
Interaction of X and Y (splined)	Interaction of X and Y (splined)	Interaction of X and Y (splined)
Driver Sex	Driver Sex	Driver Sex
Stop Classification (civil/criminal)	Stop Classification (civil/criminal)	Stop Classification (civil/criminal[12])
Non-AZ Plate	Non-AZ Plate	Non-AZ Plate
Assignment Category	Assignment Category	Assignment Category
Patrol	Patrol	Patrol
Traffic	Traffic	Traffic
Supervisors	Supervisors	Supervisors
Off-Duty	Off-Duty	Off-Duty
Other (reference category)	Other (reference category)	Other (reference category)
Arrest	Violation Type	
Search	Speed	
	Non-Speed Moving	
	Driving Documentation	
	Equipment	
	Other Violations	
	Speed Binned in 5 MPH increments	

In the fourth phase of analysis, MCSO sought to determine whether districts differed from one another in their levels of disparity. The analysis utilized weighted regression models for each racial/ethnic group comparison (Hispanic/White, Black/White, and Minority/White) and benchmark (stop length, citations, arrests, and searches). In this analysis, district and race/ethnicity are interacted to determine whether racial/ethnic disparities vary statistically across districts. We then performed a linear hypothesis test to determine whether statistically significant differences of disparity exist among all districts simultaneously. To perform this test, we used the Stata command "test" which evaluates whether the estimated differences in disparities for districts (interaction between district and race) are "jointly zero." If the test rejected the null hypothesis, we identify

[12]Stop classification was removed as a variable in analyses of arrests as all "criminal" citations are classified as arrests.

which districts displayed the most pronounced disparities in comparison to one another. We also report if any districts were different from others on these benchmarks, regardless of whether the linear hypothesis test was significant. Variables used to generate propensity scores in this analysis are provided in Table 4 below.

Table 4: Variables Used in Difference in Disparity Models

Stop Length	Citations (Violation and Speed)	Citations/Arrests/Searches
Time Splined	Time Splined	Time Splined
Driver Sex	Driver Sex	Driver Sex
Stop Classification (civil/criminal)	Stop Classification (civil/criminal)	Stop Classification (civil/criminal[13])
Non-AZ Plate	Non-AZ Plate	Non-AZ Plate
Assignment Category	Assignment Category	Assignment Category
Patrol	Patrol	Patrol
Traffic	Traffic	Traffic
Off-Duty	Off-Duty	Off-Duty
Other (reference category)	Other (reference category)	Other (reference category)
Arrest	Violation Type	
Search	Speed	
	Non-Speed Moving	
	Driving Documentation	
	Equipment	
	Other Violations	
	Speed Binned in 5 MPH increments	

Finally, MCSO conducted district level chi-square analyses for seizures after searches and included a robustness check using the Fischer's exact test to account for small cell counts for Asian and Native American drivers.

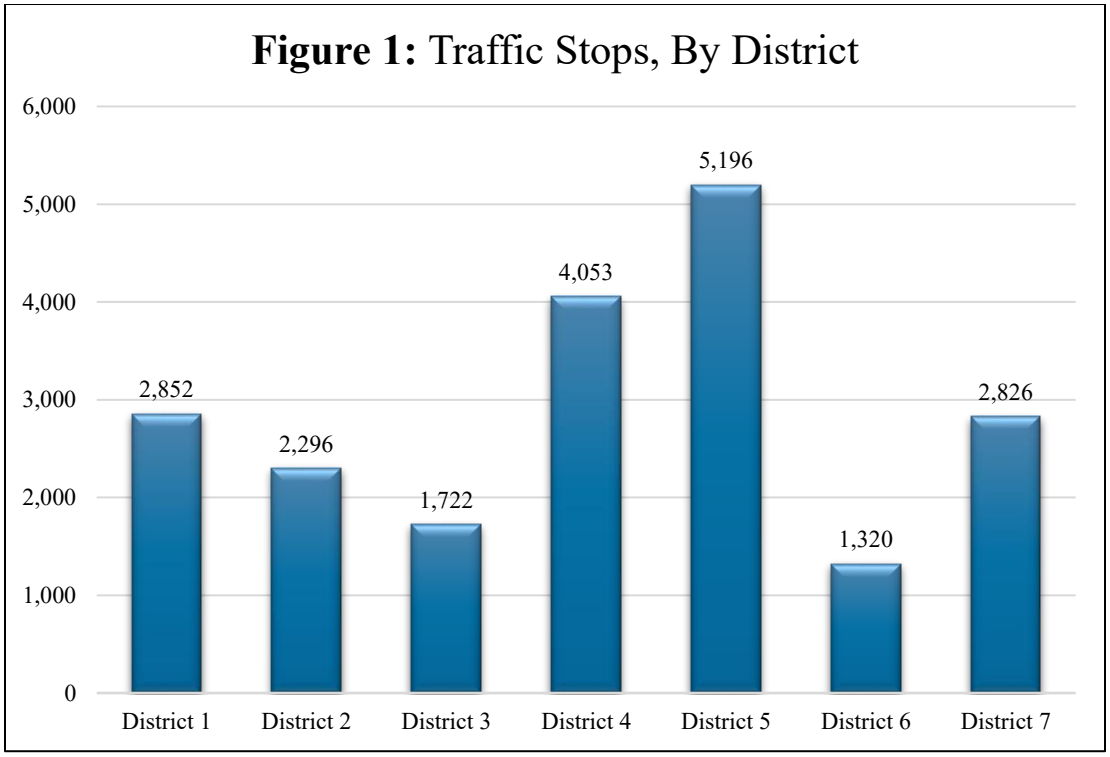
[13]Stop classification was removed as a variable in analyses of arrests as all "criminal" citations are classified as arrests.

Descriptive Findings

In Figure 1 below we provide the number of traffic stops by MCSO for each district. Note that these numbers reflect the district to which the deputy was assigned and not the geographic location of the stop.

Number of Traffic Stops by District

Of the 20,265 traffic stops made by MCSO deputies in 2024 over 25 percent (N=5,196) were made by deputies working in District 5. District 6 (the motorcycle unit) had the fewest number of traffic stops of any district (N = 1,320) accounting for about 6.5 percent of traffic stops made by MCSO.[14] District 3 had the second fewest number of stops with 1,722 stops made in 2024. This accounted for approximately 9 percent of all traffic stops made by MCSO during the year. Districts 1 and 7 had similar numbers of traffic stops in 2024 accounting for 14.08 percent and 13.94 percent of all MCSO traffic stops, respectively. Deputies from District 2 made 2,296 traffic stops in 2024, or 11.33 percent of MCSO traffic stops, while deputies from District 4 accounted for 20 percent of MCSO stops (N = 4,053). The average number of stops for districts was 2,895 with a standard deviation of approximately 1,245 traffic stops.



[14]There were 8 deputies who worked on the motors unit in 2024.

Stop Characteristics

Stop Counts

In total, 280 MCSO deputies conducted traffic stops in 2024. The number of traffic stops a deputy makes in a year impacts analysis in the TSMR. Deputies who make fewer than 20 stops during the previous 12-month period are analyzed using a "descriptive" method in the TSMR and deputies who make 20 or more stops in the previous 12-month period are analyzed using a "comparative" method.[15] Table 5 provides a tabulation of traffic stop counts by deputies. District 2 had the largest number of deputies who made fewer than 20 stops in 2024 (N = 52). Districts 1, 4, 5, 6 and 7 each had deputies who made more than 500 traffic stops during the year. The most stops made by a single deputy in a district in 2024 was 1,742 by a deputy assigned to District 7. This deputy made 1,923 total traffic stops in 2024 accounting for 9.49 percent of MCSO traffic stops.

Table 5: Deputy Traffic Stop Count (number of stops over the 12-month period), by District

	Number of Deputies						
	District 1	District 2	District 3	District 4	District 5	District 6	District 7
1 to 19 Stops	39	52	41	18	26	3	12
20 to 49 Stops	10	14	16	10	15	0	4
50 to 99 Stops	8	6	2	2	15	1	5
100 to 149 Stops	5	4	2	4	8	1	3
150 to 199 Stops	2	3	1	1	2	1	1
200 to 499 Stops	0	0	2	3	3	1	0
Over 500 Stops	1	0	0	2	2	1	1

[15]MCSO investigated the activity of "low-volume" deputies in TSQR 11. In 2024, 68.2 percent of deputies making stops were low-volume deputies (N = 191), accounting for less than 7 percent (N = 1,372) of traffic stops made by MCSO. The analysis of low-volume deputy stop activity can be accessed at: https://www.mcsobio.org/_files/ugd/b6f92b_05c14012c8624fa382977bfa58d24fb0.pdf

Deputy Assignments

MCSO utilizes deputy assignment categories as variables in the TSAR and TSMR that contribute to the generation of propensity scores. Categories include Patrol deputies, Lake Patrol deputies, Supervisors, Other Assignments, Traffic, and Off Duty. Table 6 below provides a tabulation of the number of stops in each district categorized by the type of assignment.[16]

Table 6: Deputy Assignments at time of stop

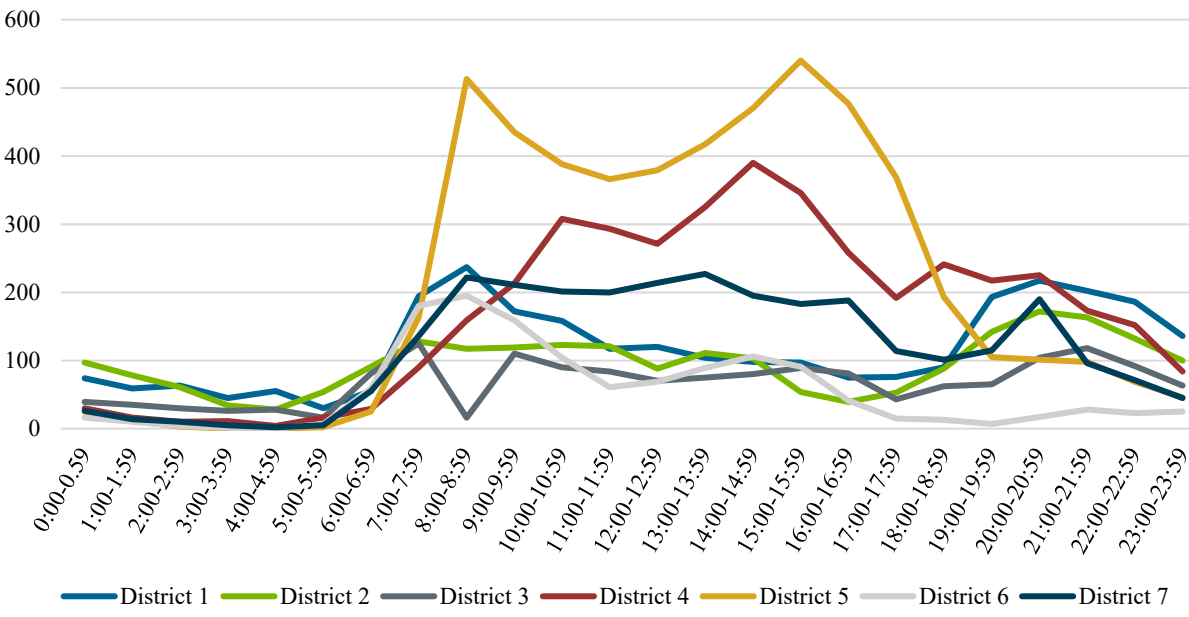
	Number of Stops						
	District 1	District 2	District 3	District 4	District 5	District 6	District 7
Patrol Deputy	2,698	1,861	1,628	1,727	0	0	1,352
Lake Patrol	0	0	0	0	4,836	0	0
Supervisor	28	131	49	13	321	0	19
Traffic	54	0	1	2,313	37	1,319	1,439
Off Duty	0	6	8	0	1	0	0
Other	72	298	36	0	1	1	16

[16]The deputy assignment category for "Lake Patrol Deputy" was adjusted for this quarterly analysis because all Lake Patrol deputies are assigned to District 5. For regression and propensity score analyses presented in this report, Lake Patrol Deputies were coded as Patrol Deputies.

Time of Day

Figure 2 provides a comparison of district stops by the time of day. All districts have the fewest number of stops between 4:00 and 5:00 am with an increase in stops during the morning commuting hours between 6:00 and 8:00 am. Stops taper off through the day until the evening commuting hours. Traffic stops made by Districts 4 and 5 are most common during the daylight hours between 8:00 and 16:00.

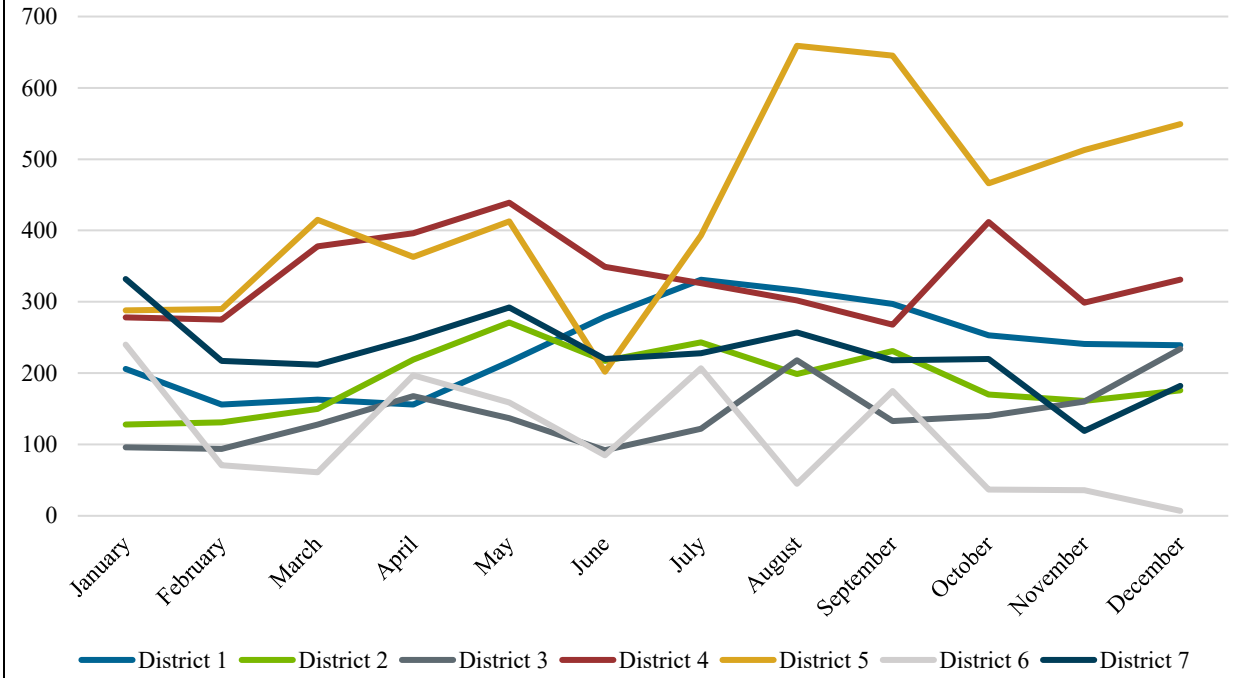
Figure 2: Stops by Time of Day, Districts



Stops by Month

Figure 3 provides monthly trends for stops made by deputies in each district. In general, districts made a similar number of stops each month. However, District 6 had much more month-to-month variation relative to other districts, making as few as 7 traffic stops in December of 2024 and as many as 205 traffic stops in July of 2024. District 5 deputies made the most traffic stops of any other district in 2024 and had the greatest number of stops of any district from July through December.

Figure 3: Stops by Month, Districts



Special Assignments

MCSO deputies sometimes work special assignment patrols. These special assignments identify certain types of violations and deputies actively patrol for these violations.[17] Table 7 provides a tabulation of special assignment traffic stops by district. Of the 938 stops made while deputies were working on the DUI Taskforce, 430 stops were made by deputies from District 5. This represented about 8 percent of all stops made by District 5 deputies. District 5 also accounted for the most stops made by deputies on Aggressive Driver special assignments. Finally, there were 97 traffic stops by deputies working the Click-it-or-ticket special assignment.

Table 7: Special Assignment Stops by District (percentage of stops by district)

	DUI Taskforce	Aggressive Driver	Click-it-or-ticket
District 1	32 (1.12%)	261 (9.15%)	12 (0.42%)
District 2	85 (3.70%)	0 (0.00%)	13 (0.57%)
District 3	13 (0.75%)	7 (0.41%)	12 (0.70%)
District 4	35 (0.86%)	12 (0.30%)	6 (0.15%)
District 5	430 (8.28%)	627 (12.07%)	41 (0.79%)
District 6	172 (13.02%)	73 (5.53%)	0 (0.00%)
District 7	171 (6.05%)	225 (7.96%)	13 (0.46%)

Stop Classification

MCSO uses the classification of the violations during traffic stops as one variable in its propensity score matching for the TSAR and TSMR, respectively. Table 8 provides the classifications of these violations by district.[18] Across all districts, civil traffic violations were the most common class of violations, exceeding 90 percent in each district. District 5 had the highest number and percent of stops classified as criminal traffic (8.8%).

Table 8: Traffic Stop Classifications by District

	Criminal and Criminal Traffic	Civil Traffic
District 1	222 (7.78%)	2,630 (92.22%)
District 2	174 (7.58%)	2,122 (92.42%)
District 3	104 (6.04%)	1,618 (93.96%)
District 4	97 (2.39%)	3,956 (97.61%)
District 5	457 (8.80%)	4,739 (91.20%)
District 6	79 (5.98%)	1,241 (94.02%)
District 7	209 (7.40%)	2,617 (92.60%)

[17]MCSO investigated special assignment activity in 2021 as part of its TSQR 9 research. A more thorough explanation of special assignment activity can be accessed in that report, available at: https://www.mcsobio.org/_files/ugd/b6f92b_089d19c100b24f53a01ee1b453e40a79.pdf

[18]We include criminal violations with criminal traffic. In 2024 there were a total of 31 traffic stops classified as criminal violations. Twenty-one of these traffic stops involved minors with alcohol in the vehicle or minors who consumed alcohol and were driving.

Driver Characteristics

Driver Race/Ethnicity

When deputies make a traffic stop, they document their observation of the perceived race/ethnicity of the driver. Table 9 below provides the perceived race/ethnicity of drivers stopped by deputies from each of the seven districts. The racial/ethnicity of drivers stopped by all MCSO deputies is provided for comparison. The Minority category includes Asian, Black, Hispanic, and Native American drivers combined.

In District 1, 29.03 percent of drivers stopped by deputies were identified as Hispanic. Almost 50 percent of drivers stopped by District 1 deputies were Minority drivers. District 2 had the highest stop rate (64.42%) for Minority drivers compared to all other Districts and almost 21 percent of traffic stops of Minority drivers by all MCSO occurred in District 2. District 2 deputies also stopped the greatest number (N = 1,479) and proportion of Hispanic drivers (46.99%) compared to all other MCSO districts.

Table 9: Perceived Post-Stop Driver Race/Ethnicity, by District

	Hispanic	Black	White	Minority
MCSO	23.42%	7.86%	64.85%	35.15%
District 1	29.03%	14.38%	51.37%	48.63%
District 2	46.99%	13.63%	35.58%	64.42%
District 3	26.48%	9.47%	61.32%	38.68%
District 4	11.72%	2.81%	83.52%	16.48%
District 5	21.92%	5.97%	68.17%	31.83%
District 6	25.83%	8.56%	62.73%	37.27%
District 7	15.18%	6.02%	72.47%	27.53%

District 3 deputies made 1,722 traffic stops in 2024. Deputies in District 3 perceived 26.48 percent of drivers as Hispanic, over 9 percent as Black and 61.32 percent of drivers as White. About 39 percent of drivers stopped by District 3 deputies were perceived as non-White Minority drivers.

District 4 had the highest rate for stops of White drivers compared to all other districts. Almost 84 percent of drivers were perceived as White in District 4, while 11.72 percent were perceived as Hispanic. Deputies from District 4 stopped 668 Minority drivers and had the lowest proportion of stops of Minority drivers (16.48%) of any district.

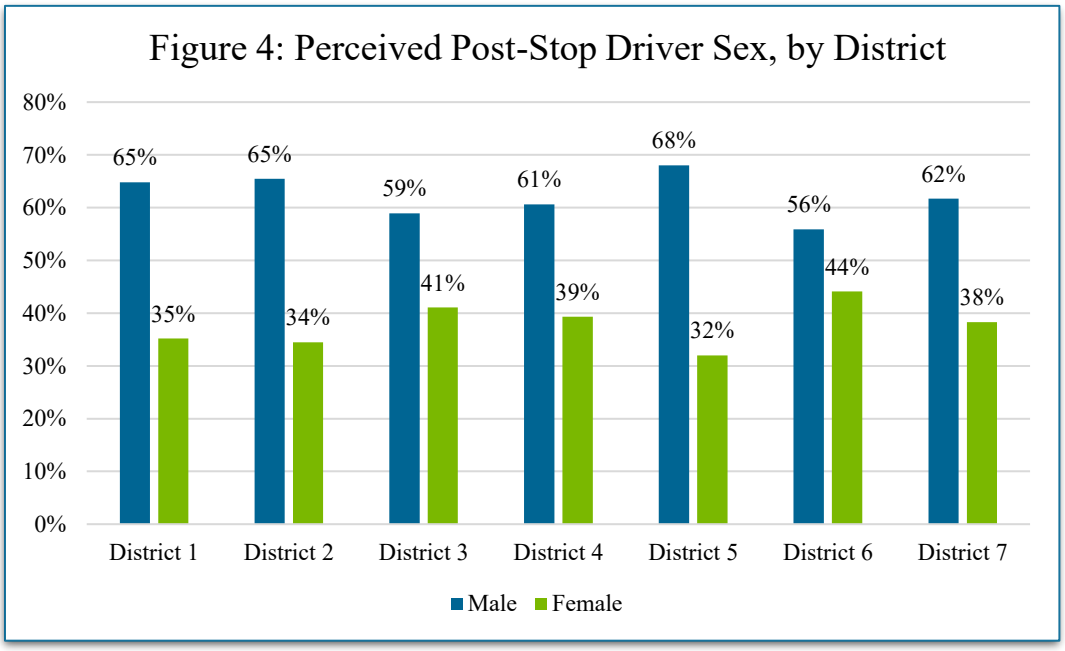
District 5 (Lakes) deputies conducted 5,196 traffic stops in 2024. This was the largest number of traffic stops made by any district. Of these stops, over two-thirds (68.17%) of drivers were perceived as White, about 22 percent were perceived as Hispanic and about 6 percent were perceived as Black. About one-third (31.83%) of drivers stopped by District 5 deputies were perceived as non-White Minorities.

District 6 (the Motors unit) stopped 1,320 drivers in 2024. White drivers comprised about one-third of stops made by this administrative unit. Almost 26 percent of drivers stopped by the Motors unit were identified as Hispanic. About one-third of stops made by the Motors unit were non-White Minorities.

Finally, deputies from District 7 made 2,826 traffic stops in 2024. Nearly 62 percent of these stops were made by one deputy (N = 1,742). District 7 stops accounted for almost 14 percent of MCSO traffic stops made in 2024. About 72 percent of stops made in District 7 were of drivers perceived as White, about 15 percent of stops were of drivers perceived as Hispanic, and about 6 percent of drivers stopped by District 7 deputies were perceived as Black. Almost 28 percent of drivers stopped in District 7 were perceived as non-White Minorities.

Driver Sex

Post-stop, deputies enter the driver's perceived sex into TraCS. Across all MCSO traffic stops, approximately 63 percent of drivers were identified as male and 37 percent as female. Figure 4 provides percentages of driver's perceived sex by district. More male drivers were stopped in every district. District 5 had the highest percentage of male drivers stopped (68.01%), while District 6 had the lowest percentage of male drivers stopped (55.91%).



Summary Statistics

Stop Length

Stop length is analyzed in the Traffic Stop Monthly Report (TSMR) and the Traffic Stop Annual Report (TSAR). MCSO also tracks certain types of delays during traffic stops using "Extended Traffic Stop Indicators" (ETSIs) to identify reasonable, and common impacts on the length of stops.[19] Tables 10 and 11 below provide average stop lengths for each of the districts, for MCSO, and by race/ethnicity. Table 10 provides average stop lengths, using all stops, while Table 11 provides average stop lengths for stops that were not considered extended and did not include an arrest or search.

Using all stops (Table 10), the average stop length for MCSO traffic stops was sixteen minutes. However, as Table 10 shows, Hispanic, Black and Minority drivers all have longer average stop lengths than do White drivers. This pattern persists across every district. Of all districts, District 6 (Motors Unit) had the shortest average stop length (12.25 minutes), while District 2 had the longest (20.61 minutes). District 2 also had the longest average stop length for Hispanic drivers (23.18 minutes) compared to all other districts and all other racial groups.

Table 10: Average Stop Length, in Minutes, by District and Race/Ethnicity

	All Stops	Hispanic	Black	White	Minority
MCSO	15.99	20.73	17.60	14.00	19.67
District 1	18.66	21.91	20.65	15.71	21.78
District 2	20.61	23.18	20.47	17.38	22.40
District 3	18.46	21.53	18.87	16.89	20.95
District 4	14.24	19.91	14.46	13.41	18.44
District 5	15.54	20.41	14.94	14.15	18.52
District 6	12.25	16.09	14.84	10.29	15.54
District 7	13.14	16.84	12.52	12.15	15.77

[19]MCSO first investigated the use of extended stop indicators in its third quarterly report available at https://www.mcsobio.org/_files/ugd/c866a6_f37279fd33394818bb370ab6af46820e.pdf. MCSO revisited the use of extended stop indicators using 2023 traffic stop data in TSQR 13. Results of that research are available at: https://www.mcsobio.org/_files/ugd/b6f92b_ac4262279ed84a10b0815b362e687837.pdf In the first quarter of 2025, MCSO published its most recent examination of extended stop indicators in TSQR 17, available at: https://www.mcsobio.org/_files/ugd/b6f92b_b8a448b652854dfebe00cb2c2109b283.pdf

Table 11 below provides average stop lengths, by district, with extended stops removed from the analysis. When these stops were removed, the average stop length for all MCSO traffic stops was 10 minutes and 20 seconds. Averages for the districts ranged from 9.15 minutes for District 6 to 11.81 minutes in District 2. Average stop lengths for Hispanic and Black drivers were longer than White drivers in all districts.

Table 11: Average Stop Length, in Minutes, by District and Race/Ethnicity (excluding extended stops)

	All Stops	Hispanic	Black	White	Minority
MCSO	10.33	10.61	11.13	10.17	10.72
District 1	10.24	10.69	11.32	9.85	10.83
District 2	11.81	11.99	12.07	11.34	12.14
District 3	11.22	11.49	12.14	10.98	11.76
District 4	10.94	11.13	11.16	10.91	11.13
District 5	9.92	9.92	10.98	9.85	10.11
District 6	9.15	9.55	9.50	8.99	9.52
District 7	10.03	10.00	10.60	9.99	10.16

Extended Stops

Reasons for extended stops fall into seven different categories which include stops with DUI investigations, stops with language barriers, technical issues, training stops, stops that involve a tow of a vehicle, stops that involve driving documentation issues, and other issues (where deputies must document what different circumstances delayed the stop). In Table 12a, we provide ETSI use for the office, by race/ethnicity. In Tables 12b-c below we provide rates for ETSI use by District for all stops and identify rates for ETSI use for White, Hispanic, Black, and non-White Minority drivers.

Table 12a: Extended Stop Reasons, MCSO, by Race/Ethnicity

	All Stops	Hispanic	Black	White	Minority
Driving Documentation Issue	36.80%	47.06%	46.33%	31.87%	45.89%
DUI	1.83%	2.91%	2.57%	1.35%	2.72%
Language Barrier	2.70%	9.50%	0.69%	0.24%	7.24%
Technical Issue	10.44%	13.23%	10.23%	9.47%	12.24%
Tow	1.78%	5.12%	1.38%	0.62%	3.92%
Training	5.93%	6.80%	6.97%	5.54%	6.65%
Other Delay	12.50%	14.87%	14.94%	11.30%	14.72%

Table 12b: Extended Stop Reasons, by Race/Ethnicity, Districts 1–4

	All Stops	Hispanic	Black	White	Minority
District 1					
Driving Documentation Issue	44.11%	53.50%	53.41%	35.90%	52.78%
DUI	2.00%	1.81%	3.41%	1.64%	2.38%
Language Barrier	3.86%	11.96%	0.49%	0.34%	7.57%
Technical Issue	12.80%	14.98%	12.20%	11.47%	14.20%
Tow	3.05%	6.52%	2.68%	1.30%	4.90%
Training	7.29%	7.73%	8.05%	6.89%	7.71%
Other Delay	18.48%	20.41%	21.95%	16.72%	20.33%
District 2					
Driving Documentation Issue	52.57%	56.44%	58.79%	45.04%	56.73%
DUI	2.09%	2.97%	0.96%	1.35%	2.50%
Language Barrier	4.49%	8.25%	0.96%	0.73%	6.56%
Technical Issue	19.73%	20.76%	18.53%	18.48%	20.42%
Tow	3.44%	5.75%	2.24%	1.10%	4.73%
Training	11.59%	11.58%	12.14%	11.51%	11.63%
Other Delay	12.06%	12.70%	11.18%	11.14%	12.58%
District 3					
Driving Documentation Issue	33.86%	42.11%	42.33%	28.69%	42.04%
DUI	1.92%	3.07%	1.23%	1.42%	2.70%
Language Barrier	2.56%	7.68%	0.61%	0.38%	6.01%
Technical Issue	7.61%	10.31%	4.29%	7.01%	8.56%
Tow	1.63%	3.73%	1.23%	0.66%	3.15%
Training	8.59%	7.02%	7.98%	9.47%	7.21%
Other Delay	10.74%	14.04%	15.95%	8.05%	15.02%
District 4					
Driving Documentation Issue	50.63%	61.89%	61.40%	48.51%	61.38%
DUI	0.69%	0.63%	0.00%	0.71%	0.60%
Language Barrier	1.73%	12.42%	0.88%	0.15%	9.73%
Technical Issue	9.75%	9.47%	10.53%	9.81%	9.43%
Tow	1.21%	7.37%	0.00%	0.41%	5.24%
Training	4.07%	3.58%	0.88%	4.28%	2.99%
Other Delay	14.58%	16.63%	16.67%	14.21%	16.47%

Table 12c: Extended Stop Reasons, by Race/Ethnicity, Districts 5–7

	All Stops	Hispanic	Black	White	Minority
District 5					
Driving Documentation Issue	30.14%	41.53%	41.29%	25.32%	40.45%
DUI	3.12%	5.00%	6.45%	2.34%	4.78%
Language Barrier	3.41%	12.29%	0.97%	0.34%	9.98%
Technical Issue	9.58%	11.33%	9.35%	9.06%	10.70%
Tow	1.37%	4.39%	0.00%	0.56%	3.08%
Training	6.60%	5.62%	7.74%	6.80%	6.17%
Other Delay	11.10%	15.98%	12.90%	9.46%	14.63%
District 6 (Motors Unit)					
Driving Documentation Issue	26.44%	37.54%	37.17%	20.17%	36.99%
DUI	0.83%	2.35%	1.77%	0.12%	2.03%
Language Barrier	1.89%	5.57%	0.00%	0.00%	5.08%
Technical Issue	4.92%	5.57%	2.65%	4.95%	4.88%
Tow	1.06%	3.23%	1.77%	0.12%	2.64%
Training	5.38%	5.87%	1.77%	5.68%	4.88%
Other Delay	5.98%	5.57%	7.96%	5.92%	6.10%
District 7					
Driving Documentation Issue	15.64%	22.14%	15.29%	13.92%	20.18%
DUI	1.13%	2.10%	0.00%	0.93%	1.67%
Language Barrier	0.67%	2.33%	0.59%	0.00%	2.44%
Technical Issue	7.40%	9.32%	2.35%	7.67%	6.68%
Tow	1.13%	3.26%	0.00%	0.54%	2.70%
Training	0.04%	0.23%	0.00%	0.00%	0.13%
Other Delay	10.54%	13.05%	11.18%	9.72%	12.72%

For all stops, in all districts, driving documentation issue was the most common ETSIs used. This was most common in District 2 where over 52 percent of stops involved some delay associated with licensing, insurance, and/or registration. Two districts had low use of this ETSI. District 6 and District 7 identified driving documentation delays during 26 percent and 16 percent of traffic stops, respectively. For all racial/ethnic groups combined, and for all districts, driving documentation issue was the most used among all ETSIs. In District 4 almost 62 percent of traffic stops with Hispanic drivers were delayed due to driving documentation issues.

Some other notable patterns of ETSI use include the use of the DUI ETSI in District 5. Across all racial/ethnic groups, compared to other districts, District 5 had the highest proportion of stops that involved DUI investigations. Districts 1 and 2 had the highest proportion of stops that involved a technical issue with over 10 percent of stops in each district delayed because of technical problems experienced during the stop. Hispanic drivers had the highest proportion of vehicles towed compared to other racial/ethnic groups in every district.[20]

[20]TSQR 15 examined citations and warnings for ARS 28-3151A in 2023 and identified that 7.33 percent of Hispanic drivers were cited or warned for ARS 28-3151A while less than one percent of White drivers were cited or warned for violating this statute. According to Arizona Statute 28-3511, drivers who are found to be driving without having

Stop Outcomes

Citation/Warning Outcome

Less than one percent of stops resulted in an outcome other than a citation or warning. Table 13 provides percentage of stop outcomes for MCSO as a whole and by district. The "Other" category in Table 13 represents stops that concluded with one of three different outcomes. They include "Incidental Contact," "Field Interview," and "Long Form" Incidental contact is used for a variety of reasons. The most common reason for incidental contact stop conclusions was when a deputy ends the traffic stop without giving a citation or warning because they were called off the stop for a priority call. A field interview occurred during four traffic stops in 2024. The stop conclusion "Long Form" occurred during one stop in 2024.

For MCSO, 61.11 percent of traffic stops ended in a citation. However, each district cites drivers at a different rate. District 6 deputies (the Motors unit) cited over 90 percent of drivers that were contacted, whereas District 2 cited the lowest proportion of drivers of any district at 41.33 percent.

Table 13: Citation/Warning rate for MCSO and Districts

	Citation (percent)	Warning (percent)	Other (percent)
MCSO	12,384 (61.11%)	7,755 (38.27%)	126 (0.62%)
District 1	1,695 (59.43%)	1,093 (38.32%)	64 (2.24%)
District 2	949 (41.33%)	1,334 (58.10%)	13 (0.57%)
District 3	1,078 (62.60%)	634 (36.82%)	10 (0.58%)
District 4	2,581 (63.68%)	1,458 (35.97%)	14 (0.35%)
District 5	3,033 (58.37%)	2,148 (41.34%)	15 (0.29%)
District 6	1,194 (90.45%)	124 (9.39%)	2 (0.15%)
District 7	1,854 (65.61%)	964 (34.11%)	8 (0.28%)

In Table 14 below, we identify citation rates for MCSO and each district for White, Hispanic, Black, and Minority drivers. For all of MCSO, White (61.59%), Hispanic (62.12%) and Minority (60.22%) drivers were cited at a similar rate. The citation rate for Black drivers was lower at 55.14 percent. Some district differences should be identified. For example, in District 2, White drivers were cited 36.47 percent of the time while Hispanic drivers were cited 45.13 percent of the time. In District 3 White drivers were given a citation during 61.55 percent of traffic stops while Hispanic drivers were cited 66.45 percent of the time. Similarly, the citation rate for Hispanic drivers in District 4 was about 6 percent higher than the citation rate for White drivers. In District 5, Hispanic drivers were cited at a rate about 4 percent higher than White drivers. Finally, in District 7, Hispanic drivers were cited about 10 percent more often than White drivers.

ever been issued a driver's license (ARS 28-3151A) in any jurisdiction "shall" have their vehicles towed. In the data used for this report (2024 traffic stop data), Hispanic drivers were cited or warned 328 times for ARS 28-3151A and accounted for 75 percent of all citations for violating this statute. TSQR 15 can be accessed at: https://www.mcsobio.org/_files/ugd/b6f92b_2fcb74553cac4e209f0578ff1bf66b3d.pdf

Rates for citations and warnings presented in Table 14 include all types of violations. MCSO uses violation categories in the TSAR analyses. In the next section, we provide an overview of the violation categories that were cited or warned in the districts.

Table 14: Citation/Warning Rate for MCSO and Districts, by Race/Ethnicity

	Citation (percent)	Warning (percent)	Other (percent)
MCSO	12,384 (61.11%)	7,755 (38.27%)	126 (0.63%)
Hispanic	2,949 (62.12%)	1,761 (37.10%)	37 (0.78%)
Black	879 (55.14%)	698 (43.79%)	17 (1.07%)
White	8,093 (61.59%)	4,979 (37.89%)	69 (0.52%)
Minority	4,291 (60.22%)	2,776 (38.96%)	58 (0.81%)
District 1	1,695 (59.43%)	1,093 (38.32%)	64 (2.24%)
Hispanic	504 (60.87%)	306 (36.96%)	18 (2.17%)
Black	225 (54.88%)	174 (42.44%)	11 (2.68%)
White	886 (60.48%)	545 (37.20%)	34 (2.32%)
Minority	809 (58.33%)	548 (39.51%)	33 (2.16%)
District 2	949 (41.33%)	1,334 (58.10%)	13 (0.57%)
Hispanic	487 (45.13%)	585 (54.22%)	7 (0.65%)
Black	128 (40.89%)	183 (58.47%)	2 (0.64%)
White	298 (36.47%)	516 (63.16%)	3 (0.37%)
Minority	651 (44.02%)	818 (55.31%)	10 (0.68%)
District 3	1,078 (62.60%)	634 (36.82%)	10 (0.58%)
Hispanic	303 (66.45%)	150 (32.89%)	3 (0.66%)
Black	100 (61.35%)	63 (38.65%)	0 (0.00%)
White	650 (61.55%)	399 (37.78%)	7 (0.66%)
Minority	428 (64.26%)	235 (35.29%)	3 (0.45%)
District 4	2,581 (63.68%)	1,458 (35.97%)	14 (0.35%)
Hispanic	331 (69.68%)	143 (30.11%)	1 (0.21%)
Black	67 (58.77%)	46 (40.35%)	1 (0.88%)
White	2,136 (63.10%)	1,237 (36.54%)	12 (0.35%)
Minority	445 (66.62%)	221 (33.08%)	2 (0.30%)
District 5	3,033 (58.37%)	2,148 (41.34%)	15 (0.29%)
Hispanic	704 (61.81%)	428 (37.58%)	7 (0.61%)
Black	161 (51.94%)	148 (47.74%)	1 (0.32%)
White	2,046 (57.76%)	1,490 (42.07%)	6 (0.17%)
Minority	987 (59.67%)	658 (39.78%)	9 (0.54%)
District 6	1,194 (90.45%)	124 (9.39%)	2 (0.15%)
Hispanic	302 (88.56%)	39 (11.44%)	0 (0.00%)
Black	100 (88.50%)	12 (10.62%)	1 (0.88%)
White	758 (91.55%)	69 (8.33%)	1 (0.12%)
Minority	436 (88.62%)	55 (11.18%)	1 (0.20%)
District 7	1,854 (65.61%)	964 (34.11%)	8 (0.28%)
Hispanic	318 (74.13%)	110 (25.64%)	1 (0.23%)
Black	98 (57.65%)	72 (42.35%)	0 (0.00%)
White	1,319 (64.40%)	723 (35.30%)	6 (0.29%)
Minority	535 (68.77%)	241 (30.98%)	2 (0.26%)

Violation Categories

MCSO categorizes stops into five violation categories: speed violations, non-speed moving violations, equipment violations, license/insurance/registration violations, and other violations. We also identify ARS 28-3151A violations as a separate category of violations because it is used in the propensity score matching process in the TSAR. Violation categories are derived from ARS sections and subsections that were entered into citation or warning forms issued to drivers during a stop.[21]

Speeding violations were violations associated with exceeding the speed limit (e.g., civil speeding, criminal speeding, speeding in a school zone, racing, or reckless driving). Non-speed moving violations included violations while the vehicle was moving, such as turning, failure to signal when changing lanes, failing to stop, tailgating, or driving too slowly. DUI violations were included in the non-speed moving category. Equipment violations included any violation in which a driver's automobile lacked proper equipment, had non-functioning equipment, or had equipment deemed unsafe (e.g., broken taillights or headlights, cracked windshields, illegally modified vehicles, and restricted opacity on window tints). Driving documentation violations included any violation associated with licensing (vehicle or driver), insurance, and registration. Examples included driving on a suspended/revoked license, expired registration, failure to possess insurance, driving without license plates, or driving with suspended license plates. ARS 28-3151A violations were coded into a single category that differed from other driving documentation violations. Finally, other violations included all violations that could not be identified as one of the above categories. The other violation category included a diverse collection of offenses such as drug violations, seat belt violations, cell phone violations, parking violations, noise violations, or littering, among others.

Drivers can be cited or warned for more than one violation category. This occurs when deputies identify multiple types of violations prior to the stop, or when a deputy stops a driver and discovers additional violations during the encounter (e.g., having no mandatory insurance or not possessing a driver's license).

For MCSO, speed violations were the most common violations with 54.17% of drivers cited or warned for speed and speed related violations.[22] In 2024, MCSO cited or warned drivers 17.30 percent of the time for non-speed moving offenses. Violations of ARS 28-3151A were cited or warned during 2.20 percent of MCSO traffic stops (N = 445). Licensing/Insurance/Registration

[21]Note that these violations are not the reason the stop was made. TSQR 6 examined, among other things, the reasons deputies initiated traffic stops and compared those stop reasons to what violation was ultimately cited or warned. Agreement between the stop reason and violations for citations and warning was above 90 percent. TSQR 6 is available here:
https://www.mcsobio.org/_files/ugd/b6f92b_8d83e6c90eac4d0c95fab0b607dc8ab4.pdf

[22]In TSQR 6 MCSO thoroughly investigated speed violations. Analysis presented in the report determined that Hispanic drivers were cited more often than White drivers for speeding violations. However, when the speed over the speed limit was entered as a statistical control, there was no statistically significant difference in the likelihood of a citation for speed between Hispanic and White drivers. See Models 28, 29, 30, 33, 34 in TSQR 6.

violations (excluding ARS 28-3151A violations) were cited or warned during 24.82% of all MCSO traffic stops, while equipment violations were cited or warned during 7.06 percent of MCSO traffic stops. Other violations were cited or warned during 3.08 percent of traffic stops.

In District 1 driving documentation was the most common violation type that was cited or warned (41.97% of stops) and was the most common violation type across all racial/ethnic groups. In District 2, speed was the most common violation type for the district. It is notable that in Districts 1 and 2, the proportion of drivers cited or warned for speed was below the overall proportions for these types of violations for MCSO. In District 3, speed was the most common violation that was cited or warned. However, there was variation among racial/ethnic groups in this district with White drivers cited/warned for speed during about 52 percent of stops while Hispanic drivers were cited/warned for speed during 43 percent of stops.

In District 4, across all racial/ethnic groups, speed was cited/warned at the highest rate. Hispanic drivers were cited/warned for ARS 28-3151A at the highest rate in of any district, with over 11 percent of drivers identified as violating this statue in District 4 (N = 53).

In District 5 (Lakes District), speed was also the most common citation/warning issued across all racial/ethnic groups. There were some racial/ethnic differences in violation categories. White drivers were cited or warned for speed 63.67 percent of stops while Minority drivers were cited or warned for speed during 53.26 percent of stops. Hispanic, Black, and Minority drivers were cited or warned at a higher rate than White drivers for non-speed moving violations in District 5.

Drivers stopped by deputies working the Motors Unit (District 6) were most likely to be cited/warned for speeding. District 6 deputies identified speed as the most common violation category across all racial/ethnic groups with about 70 percent of all drivers stopped by the Motors unit cited/warned for speed.

Like District 6, in District 7 speeding was the most common violation that was cited/warned across all racial/ethnic groups (64.54%) and Hispanic drivers were cited/warned for speeding at the highest rate (66.20%) compared to other racial/ethnic groups. District 7 had the lowest rate of ARS 28-3151A violations, with only 0.60 percent of traffic stops involving this violation.

Table 15a: Violation categories, by District and Race/Ethnicity, Districts 1–3

	All Stops	Hispanic	Black	White	Minority
MCSO					
Speed	54.17%	46.32%	41.62%	58.62%	45.95%
Non-Speed Moving	17.30%	19.68%	19.40%	15.93%	19.82%
Driving Documentation	24.82%	29.85%	34.15%	22.14%	29.76%
ARS 28-3151A	2.20%	6.91%	1.88%	0.54%	5.25%
Equipment	7.06%	8.81%	9.92%	6.07%	8.87%
Other Violations	3.08%	3.86%	3.52%	2.75%	3.68%
District 1					
Speed	29.35%	24.15%	21.46%	35.56%	22.78%
Non-Speed Moving	23.95%	22.22%	25.37%	22.94%	25.02%
Driving Documentation	41.97%	47.46%	47.32%	38.50%	45.64%
ARS 28-3151A	3.51%	7.49%	3.41%	1.16%	5.98%
Equipment	7.50%	8.45%	8.78%	6.55%	8.51%
Other Violations	3.89%	4.23%	4.63%	3.28%	4.54%
District 2					
Speed	38.94%	35.77%	33.55%	45.04%	35.56%
Non-Speed Moving	26.13%	27.62%	24.28%	24.72%	26.91%
Driving Documentation	28.79%	31.14%	37.70%	22.40%	32.32%
ARS 28-3151A	3.27%	5.47%	2.56%	0.86%	4.60%
Equipment	10.71%	11.12%	11.18%	10.28%	10.95%
Other Violations	3.66%	3.71%	3.19%	3.92%	3.52%
District 3					
Speed	49.42%	42.98%	50.92%	51.89%	45.50%
Non-Speed Moving	18.06%	23.25%	14.72%	16.48%	20.57%
Driving Documentation	27.12%	28.73%	26.38%	27.08%	27.18%
ARS 28-3151A	2.73%	7.02%	2.45%	1.04%	5.41%
Equipment	10.69%	12.06%	14.72%	9.19%	13.06%
Other Violations	1.63%	1.75%	0.00%	1.80%	1.35%

Table 15b: Violation Categories, by District and Race/Ethnicity, Districts 4–7

	All Stops	Hispanic	Black	White	Minority
District 4					
Speed	64.30%	63.37%	57.89%	64.64%	62.57%
Non-Speed Moving	12.48%	9.26%	9.65%	13.00%	9.88%
Driving Documentation	19.66%	24.00%	24.56%	18.94%	23.35%
ARS 28-3151A	1.63%	11.16%	0.88%	0.32%	8.23%
Equipment	7.82%	9.05%	8.77%	7.65%	8.68%
Other Violations	1.58%	1.89%	0.88%	1.54%	1.80%
District 5					
Speed	60.22%	52.94%	46.45%	63.47%	53.26%
Non-Speed Moving	15.57%	18.09%	19.03%	14.23%	18.44%
Driving Documentation	22.46%	23.97%	27.74%	22.08%	23.28%
ARS 28-3151A	2.31%	8.43%	0.32%	0.59%	5.99%
Equipment	4.31%	7.81%	8.06%	2.94%	7.26%
Other Violations	3.31%	3.95%	5.81%	2.91%	4.17%
District 6					
Speed	69.77%	67.16%	69.03%	70.53%	68.50%
Non-Speed Moving	9.39%	11.14%	8.85%	8.82%	10.37%
Driving Documentation	19.32%	24.93%	31.86%	15.58%	25.61%
ARS 28-3151A	1.52%	4.99%	0.88%	0.24%	3.66%
Equipment	2.65%	4.69%	6.19%	1.33%	4.88%
Other Violations	9.09%	10.26%	3.54%	9.66%	8.13%
District 7					
Speed	61.54%	66.20%	58.24%	60.84%	63.37%
Non-Speed Moving	16.74%	13.52%	14.71%	17.82%	13.88%
Driving Documentation	17.20%	19.81%	22.94%	15.87%	20.69%
ARS 28-3151A	0.60%	2.10%	0.59%	0.10%	1.93%
Equipment	7.43%	5.83%	12.35%	7.18%	8.10%
Other Violations	1.59%	2.56%	2.35%	1.37%	2.19%

Search Outcome

Table 16, below, provides percentages of traffic stops that involved searches in each district. Searches are relatively rare during traffic stops and most searches that occur are non-discretionary.[23] Discretionary searches are analyzed in the TSMR and the TSAR. MCSO conducted 122 discretionary searches in 2024. MCSO requires searches of persons anytime they are placed in a patrol vehicle and requires an inventory search of vehicles prior to a vehicle tow. Thus, non-discretionary searches of drivers occur during incident to arrests, for courtesy rides of drivers and when a vehicle is towed. Discretionary searches occurred during less than one percent of all traffic stops (0.60%).

Table 16: Searches, By District and Search Type

	Driver Search	Vehicle Search	Search Driver or Vehicle	Non-Incidental Driver Search	Non-Incidental Vehicle Search	Non-Incidental Driver or Vehicle Search	Number Non-Incidental Driver or Vehicle Searches
MCSO	1.51%	2.06%	2.67%	0.13%	0.53%	0.60%	122
District 1	2.31%	4.24%	4.98%	0.35%	1.58%	1.79%	51
District 2	2.31%	4.05%	4.88%	0.17%	1.00%	1.09%	25
District 3	2.38%	2.09%	3.19%	0.52%	0.99%	1.28%	22
District 4	0.59%	1.01%	1.23%	0.00%	0.10%	0.10%	4
District 5	1.60%	1.62%	2.37%	0.06%	0.25%	0.27%	14
District 6	0.53%	0.53%	0.91%	0.00%	0.00%	0.00%	0
District 7	1.13%	1.27%	1.70%	0.00%	0.21%	0.21%	6

District 1 had the highest number (N = 142) and rate of driver or vehicle searches (4.98%) and had the greatest number (N = 51) and highest rate of non-discretionary driver or vehicle searches (1.79%). In contrast, stops made by deputies assigned to the Motors Unit (District 6) accounted for the fewest number (N = 12) and rate (0.91%) of driver or vehicle searches. Deputies from District 6 made no discretionary searches of drivers or vehicles in 2024.

In Tables 17a-17b below, we identify rates of searches of drivers and vehicles by driver race/ethnicity.

[23]Non-discretionary searches are searches that were incident to arrest, inventory searches for vehicle tows, or searches of drivers receiving a courtesy ride by deputies. MCSO investigated 2022 search activity in TSQR 10. The report is available at: https://www.mcsobio.org/_files/ugd/b6f92b_8fd0a6175a6f4d6483a8d97fa75f4d42.pdf

Table 17a: Searches, by Race/Ethnicity and District, Districts 1–3

	Driver Search	Vehicle Search	Driver or Vehicle Search	Non-Incidental Driver Search	Non-Incidental Vehicle Search	Non-Incidental Driver or Vehicle Search	Number Non-Incidental Driver or Vehicle Searches
MCSO	1.51%	2.06%	2.67%	0.13%	0.53%	0.60%	122
Hispanic	2.68%	5.25%	6.17%	0.23%	1.03%	1.12%	53
Black	2.13%	2.20%	3.39%	0.31%	0.88%	1.13%	18
White	1.01%	0.91%	1.35%	0.07%	0.33%	0.37%	48
Minority	2.43%	4.20%	5.12%	0.24%	0.91%	1.04%	74
District 1	2.31%	4.24%	4.98%	0.35%	1.58%	1.79%	51
Hispanic	3.14%	7.61%	8.33%	0.12%	2.05%	2.05%	17
Black	2.93%	4.15%	5.37%	0.98%	1.71%	2.44%	10
White	1.71%	2.53%	3.14%	0.34%	1.37%	1.57%	23
Minority	2.96%	6.06%	6.92%	0.36%	1.80%	2.02%	28
District 2	2.31%	4.05%	4.88%	0.17%	1.00%	1.09%	25
Hispanic	2.78%	6.30%	6.86%	0.37%	1.30%	1.48%	16
Black	2.56%	3.19%	4.47%	0.00%	0.96%	0.96%	3
White	1.71%	1.71%	2.82%	0.00%	0.73%	0.73%	6
Minority	2.64%	5.34%	6.02%	0.27%	1.15%	1.28%	19
District 3	2.38%	2.09%	3.19%	0.52%	0.99%	1.28%	22
Hispanic	3.51%	3.95%	5.48%	0.88%	1.54%	1.97%	9
Black	3.07%	2.45%	4.29%	0.00%	1.23%	1.23%	2
White	1.70%	1.23%	1.99%	0.38%	0.76%	0.95%	10
Minority	3.45%	3.45%	5.11%	0.75%	1.35%	1.80%	12

Across MCSO White drivers were less likely to have their persons or vehicles searched than Hispanic, Black, or Minority drivers. This was true for both discretionary and non-discretionary searches. Similar patterns of search activity were identified for Districts 1, 2, 3, 5, and 7. Deputies in District 4 performed 50 searches of drivers or vehicles in 2024 with only four discretionary searches during the year. Three of these searches were of White drivers while one search involved a Minority driver.

Table 17b: Searches, by Race/Ethnicity and District, Districts 4–7

	Driver Search	Vehicle Search	Driver or Vehicle Search	Non-Incidental Driver Search	Non-Incidental Vehicle Search	Non-Incidental Driver or Vehicle Search	Number Non-Incidental Driver or Vehicle Searches
District 4	0.59%	1.01%	1.23%	0.00%	0.10%	0.10%	4
Hispanic	0.84%	5.26%	5.47%	0.00%	0.00%	0.00%	0
Black	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0
White	0.56%	0.44%	0.68%	0.00%	0.09%	0.09%	3
Minority	0.75%	3.89%	4.04%	0.00%	0.15%	0.15%	1
District 5	1.60%	1.62%	2.37%	0.06%	0.25%	0.27%	14
Hispanic	2.99%	4.92%	6.15%	0.18%	0.79%	0.79%	9
Black	1.29%	0.00%	1.29%	0.32%	0.00%	0.32%	1
White	1.21%	0.76%	1.33%	0.00%	0.11%	0.11%	4
Minority	2.42%	3.45%	4.59%	0.18%	0.54%	0.60%	10
District 6	0.53%	0.53%	0.91%	0.00%	0.00%	0.00%	0
Hispanic	1.17%	1.17%	2.05%	0.00%	0.00%	0.00%	0
Black	2.65%	1.77%	3.54%	0.00%	0.00%	0.00%	0
White	0.00%	0.12%	0.12%	0.00%	0.00%	0.00%	0
Minority	1.42%	1.22%	2.24%	0.00%	0.00%	0.00%	0
District 7	1.13%	1.27%	1.70%	0.00%	0.21%	0.21%	6
Hispanic	3.03%	3.50%	5.13%	0.00%	0.47%	0.47%	2
Black	1.18%	1.18%	1.76%	0.00%	1.18%	1.18%	2
White	0.68%	0.59%	0.78%	0.00%	0.10%	0.10%	2
Minority	2.31%	3.08%	4.11%	0.00%	0.51%	0.51%	4

Arrest Outcome

Arrests of drivers by MCSO deputies are analyzed in both the TSAR and TSMR. Table 18 below provides the number of arrests and the percentage of stops with arrests, by MCSO and for each district. We differentiate between custodial arrests and non-custodial arrests. Custodial arrests occur when the driver is taken into custody. Custodial arrests are most common for drivers who possess outstanding warrants or are arrested for DUIs. Approximately 52 percent of custodial arrests (N = 143) were arrests for DUIs and 29.45 percent (N = 81) of custodial arrests were arrests of drivers on outstanding warrants. Non-custodial arrests occur when a driver has been cited for a criminal offense and is released with the understanding that they must attend court to address the violation. Non-custodial arrests are most common for criminal speed, driving on suspended licenses, or other criminal traffic offenses.[24] In 2024, nearly 65 percent (N = 607) of non-custodial arrests were citations for criminal speeding (ARS 28-701.02) and almost 28 percent (N = 268) of non-custodial arrests were for driving on a suspended, revoked, or canceled license (ARS 28-3473).

District 4 had the lowest arrest rate of any district (1.92%) while District 5 had the highest arrest rate of any district (8.43%). Custodial arrests were most common in District 1, with drivers taken into custody during 2.28 percent of traffic stops (N = 65). In contrast, there were only seven custodial arrests (0.53%) made by the Motors Unit (District 6).

District 5 deputies had the highest number (N = 359) and rate (6.91%) of non-custodial arrests. Approximately 81 percent of non-custodial arrests made by District 5 deputies were arrests for criminal speed while 12.5 percent of non-custodial arrests in District 5 were made for driving on a suspended, revoked, or canceled license (N = 45). District 1 non-custodial arrests differed from other districts as only 26 percent of non-custodial arrests in District 1 were made for criminal speed (N = 36). Approximately 64 percent of non-custodial arrests in District 1 were made for driving on a suspended, revoked, or canceled license (N = 90).

[24]MCSO investigated arrest activity in TSQR 7. Results of that research are available at: https://www.mcsobio.org/_files/ugd/c866a6_8bb2dabbd9fa4b0e8473184e32edf1f5.pdf

Table 18: Arrests During Traffic Stops, By District

	All Arrests	Custodial Arrests	Non-Custodial Arrests
MCSO	1,212 (5.98%)	275 (1.36%)	937 (4.62%)
Hispanic	396 (8.34%)	110 (2.32%)	286 (6.02%)
Black	134 (8.41%)	23 (1.44%)	111 (6.97%)
White	628 (4.78%)	133 (1.01%)	495 (3.77%)
Minority	584 (8.20%)	142 (1.99%)	442 (6.20%)
District 1	205 (7.19%)	65 (2.28%)	140 (4.91%)
Hispanic	77 (9.30%)	27 (3.26%)	50 (6.04%)
Black	28 (6.83%)	8 (1.95%)	20 (4.88%)
White	87 (5.94%)	28 (1.91%)	59 (4.03%)
Minority	118 (8.51%)	37 (2.67%)	81 (5.84%)
District 2	132 (5.75%)	44 (1.92%)	88 (3.83%)
Hispanic	76 (7.04%)	23 (2.13%)	53 (4.91%)
Black	19 (6.07%)	4 (1.28%)	15 (4.79%)
White	33.(4.04%)	16 (1.96%)	17 (2.08%)
Minority	99 (6.69%)	28 (1.89%)	71 (4.08%)
District 3	71 (4.12%)	27 (1.57%)	44 (2.56%)
Hispanic	23 (5.04%)	8 (1.75%)	15 (3.29%)
Black	10 (6.13%)	4 (2.45%)	6 (3.68%)
White	37 (3.50%)	14 (1.33%)	23 (2.18%)
Minority	34 (5.11%)	13 (1.95%)	21 (3.15%)
District 4	78 (1.92%)	24 (0.59%)	54 (1.33%)
Hispanic	14 (2.95%)	3 (0.63%)	11 (2.32%)
Black	2 (1.75%)	1 (0.88%)	1 (0.88%)
White	61 (1.80%)	19 (0.56%)	42 (1.24%)
Minority	17 (2.54%)	5 (0.75%)	12 (1.80%)
District 5	438 (8.43%)	79 (1.52%)	359 (6.91%)
Hispanic	126 (11.06%)	34 (2.99%)	92 (8.08%)
Black	42 (13.55%)	2 (0.65%)	40 (12.90%)
White	256 (7.23%)	42 (1.19%)	214 (6.04%)
Minority	182 (11.00%)	37 (2.24%)	145 (8.77%)
District 6	78 (5.91%)	7 (0.53%)	71 (5.38%)
Hispanic	29 (8.50%)	4 (1.17%)	25 (7.33%)
Black	13 (11.50%)	3 (2.65%)	10 (8.85%)
White	34 (4.11%)	0 (0.00%)	34 (4.11%)
Minority	44 (8.94%)	7 (1.42%)	37 (7.52%)
District 7	210 (7.43%)	29 (1.03%)	181 (6.40%)
Hispanic	51 (11.89%)	11 (2.56%)	40 (9.32%)
Black	20 (11.76%)	1 (0.59%)	19 (11.18%)
White	120 (5.86%)	14 (0.68%)	106 (5.18%)
Minority	90 (11.57%)	15 (1.93%)	75 (9.64%)

In the next section we provide results for comparing stop length, citation, search, and arrest rates for districts, irrespective of race/ethnicity.

Modeling Stop Length and Stop Outcomes for Districts

At the request of experts for the Department of Justice, MCSO modeled stop length and stop outcomes (citation/warning, arrests, and searches) using variables that are typically used as matching variables in the PSM analysis for the TSAR/TSMR. The experts with the Department of Justice also requested that we remove geography (X and Y coordinates) and race/ethnicity from the analysis and include variables for districts. The purpose of this analysis was to determine which districts, if any, have differential stop lengths with drivers or differential citation/warning, arrest, or search activity. We ran seven different models for each benchmark, varying the different districts as the reference group.[25] This allowed us to identify which differences between districts were statistically significant when compared to one another.

[25]Full regression results for all models are available in the appendices A-D of this report.

Stop Length

In the results presented below the length of stop is modeled using control variables of time-of-day (splined), driver sex, stop classification (civil v. criminal), license plate (in-state v. out-of-state), whether an arrest was made, whether a search was conducted and the deputy's category of assignment. For this model, we examined the fixed-effects for the districts to determine whether individual districts differed from one another on stop length. Note that extended stops are removed from this analysis.

Table 19 below provides a comparison of differences in stop lengths with varying districts as the reference group in the regression models. We begin by comparing district effects when District 1 was used as the reference group (column 1, District 1 in Table 19). For context, the average stop length for a non-extended stop in District 1 was 10.24 minutes (without statistical controls). There were statistically significant differences in length of stop between District 1 and Districts 2, 3, 4, and 5. Districts 2, 3, and 4 had longer average stop lengths than District 1. On average, traffic stops took 1.51 minutes longer in District 2, 1.09 minutes longer in District 3, and 1.24 minutes longer in District 4 compared to District 1. District 5 had shorter stop lengths compared to District 1, with stops in District 5 being 0.32 minutes shorter than District 1 on average. There were no statistically significant differences in stop length between District 1 and Districts 6 and 7.

Table 19: Comparison of Stop Lengths for Districts

	Reference Group						
	District 1	District 2	District 3	District 4	District 5	District 6	District 7
District 1	–	–1.51*	–1.09*	–1.24*	0.32*	0.34	–0.11
District 2	1.51*	–	0.42*	0.28	1.84*	1.86*	1.41*
District 3	1.09*	–0.42*	–	–0.15	1.41*	1.43*	0.98*
District 4	1.24*	–0.28	0.15	–	1.56*	1.58*	1.13*
District 5	–0.32*	–1.84*	–1.41*	–1.56*	–	0.02	–0.43*
District 6	–0.34	–1.86*	–1.43*	–1.58*	–0.02	–	–0.45*
District 7	0.11	–1.41*	–0.98*	–1.13*	0.43*	0.45*	–

*$p < 0.05$

In the second model we used District 2 as the reference category (column 2, District 2 in Table 19). For comparison, the average stop length for all non-extended traffic stops in District 2 was 11.81 minutes (without statistical controls). In comparing district fixed-effects in this model, we found that across all other districts, traffic stop lengths were shorter than those of District 2. The effects were statistically significant for Districts 1, 3, 5, 6, and 7. District 1 stops were 1.51 minutes shorter than District 2 traffic stops on average. District 3 stops were 0.42 minutes shorter than District 2 stops on average. Traffic stops in Districts 5 and 6 were both, on average, 1.8 minutes shorter than District 2 stops. And lastly, when compared to District 2, District 7 stops were 1.41 minutes shorter.

In the third model we used District 3 as the reference category (column 3, District 3 in Table 19). For comparison, the average stop length for all non-extended traffic stops in District 3 was 11.22 minutes (without controls). In comparing district fixed-effects in this model we found statistically significant differences in stop lengths for Districts 1, 2, 5, 6, and 7. District 2 stops were, on average, 0.42 minutes longer than those in District 3. In contrast, average traffic stop lengths were shorter in Districts 1, 5, 6, and 7 than those in District 3. District 1 stops were 1.09 minutes shorter than stops in District 3 on average. For both Districts 5 and 6, traffic stops were 1.4 minutes shorter than District 3 stops. District 7 stops were 0.98 minutes shorter than District 3 stops on average. There were no statistically significant differences in stop lengths between District 3 and District 4.

In the fourth model, we used District 4 as the reference category (column 4, District 4 in Table 19). For comparison, the average stop length for all non-extended traffic stops in District 4 was 10.94 minutes (without controls). When using District 4 as the reference category, we found statistically significant differences in shorter stop length for District 1, District 5, District 6, and District 7. Based on these findings, District 1 had stop lengths that were, on average, 1.24 minutes shorter than stops in District 4. Stops made by District 5 deputies averaged 1.56 minutes shorter than those made in District 4. Traffic stop lengths by District 6 deputies were 1.58 minutes shorter when compared to District 4. Lastly, when compared to District 4, the average traffic stop length in District 7 was 1.13 minutes shorter. We did not identify statistically significant differences in stop lengths between District 2 and 3 and District 4.

In the fifth model, we used District 5 as the reference category (column 5, District 5 in Table 19). For comparison, the average stop length for all non-extended traffic stops in District 5 was 9.92 minutes (without controls). Districts 1, 2, 3, 4, and 7 had statistically significant differences in stop length when compared to District 5. In each of these cases the average stop lengths were longer than those of District 5. District 1 stops averaged 0.32 minutes longer than District 5 stops. District 2 traffic stops averaged 1.84 minutes longer than District 5 stops. District 3 traffic stops averaged 1.41 minutes longer than District 5 stops. District 4 stops were 1.56 minutes longer, on average, than District 5 traffic stops. Finally, District 7 stops were 0.43 minutes longer than District 5 stops. There were no statistically significant differences between length of stops for District 6 and District 5.

In the sixth model, we used District 6 as the reference group (column 6, District 6 in Table 19). For comparison, the average stop length of all non-extended traffic stops in District 6 was 9.15 minutes. We found statistically significant longer traffic stop lengths for Districts 2, 3, 4, and 7 stops when compared to stops of District 6. District 2, on average, had traffic stops that were 1.86 minutes longer than those of District 6. District 3 stops were 1.43 minutes longer than District 6 stops. District 4 stops were 1.58 minutes longer than District 6 stops. Lastly, District 7 stops were 0.45 minutes longer than District 6 stops. There were no statistically significant differences between stop lengths for District 5 and District 6.

In the last model, we used District 7 as the reference category (column 7, District 7 in Table 19). For comparison, the average stop length for all non-extended traffic stops in District 7 was 10.03

minutes. We found statistically significant differences in stop length for all districts except for District 1. Compared to District 7, District 2 stop lengths were 1.41 minutes longer. District 3 stops averaged 0.98 minutes longer than those of District 7. District 4 traffic stops were 1.13 minutes longer, on average, than traffic stops in District 7. In contrast, traffic stops for both Districts 5 and 6 were 0.4 minutes shorter than stops of District 7.

Overall, Districts 6 and 5 had the shortest average stop lengths compared to all other districts with no statistically significant differences between the two. Traffic stops in both Districts 6 and 5, on average, were roughly 1.5 minutes shorter than stops in Districts 2, 3, 4, and 7. District 7 stops averaged one minute shorter than those of District 2, 3, and 4. District 1 stop lengths were shorter than those of Districts 2, 3, and 4 while longer than those of Districts 5 and 6. District 3 and District 4 were similar in stop length, with no statistically significant difference between the two, both averaged roughly one minute longer than Districts 1, 5, 6, 7. Finally, District 2 had the longest average traffic stop length, averaging over a minute longer than stops in Districts 1, 5, 6, and 7.

Citation Outcome

In this section we compare districts to one another on citation outcomes and examine the district fixed-effects to determine whether the districts differ regarding their citation activity. We report odds ratios and discuss comparisons between districts for each model. As above, we report the statistical comparisons derived from the logistic regression models and have supplied the full regression models Appendix B of this report. Table 20 reports results for citation outcomes using the logistic regression model while varying the different districts as the reference category.

As a starting point for comparison, District 1 deputies had a raw citation rate of 59.43 percent of all drivers stopped in the district (without controls). Based on the odds ratios reported in Table 21, drivers stopped by District 1 deputies were 59 percent more likely to receive a citation (versus a warning) than those stopped by District 2 deputies. Drivers stopped by District 3 deputies were 62 percent more likely to receive a citation than drivers stopped by deputies from District 1. Drivers stopped by District 1 deputies were 45 percent more likely to receive a citation than drivers stopped by District 4 deputies and drivers stopped by District 5 deputies and were 42 percent more likely to receive a citation than drivers stopped by District 1 deputies. Drivers stopped by District 6 deputies were about 143 percent more likely to receive a citation than drivers stopped by District 1 deputies. Finally, drivers stopped by District 1 deputies were 40 percent more likely to receive a citation than drivers stopped by District 7 deputies.

Deputies in District 2 had the lowest citation rate of any district, citing 41.33 percent of drivers without accounting for control variables used to generate the estimates in Tables 21. Three districts had statistically significant differences in citation rates when compared to District 2. Drivers stopped by District 1 deputies were 59 percent more likely to receive a citation than drivers stopped by District 2 deputies. Drivers stopped by District 3 deputies were 157 percent more likely to receive a citation than drivers stopped by District 2 deputies. Finally, drivers stopped by District 6 deputies were nearly three times (285%) more likely to receive a citation than drivers stopped by District 2 deputies.

Drivers stopped by District 3 deputies were cited 62.6 percent of the time (without controls). When modeling citation outcomes utilizing statistical controls, we found statistically significant differences in citation activity between District 3 and all other districts. In these comparisons, drivers stopped by District 3 deputies were more likely to receive a citation than drivers stopped by deputies from Districts 1, 2, 4, 5 and 7. Drivers stopped by District 6 deputies were 50 percent more likely to receive a citation than drivers stopped by District 3 deputies.

Drivers stopped by District 4 deputies were cited 63.68 percent of the time (without controls). We found that drivers stopped by District 3 and 6 deputies were more than twice as likely to be cited than those drivers stopped by District 4 deputies. Drivers stopped by District 1 deputies were 45 percent more likely to receive a citation than those stopped by District 4 deputies. There were no other statistically significant differences in citation activity when comparing District 4 stops to other districts.

District 5 (Lake Patrol) had a citation rate of 58.37%, without controls. Based on the results of modeling the citation outcomes using statistical controls we found that the likelihood of receiving a citation was higher for drivers stopped by deputies from Districts 1, 3, and 6 when compared to District 5. Specifically, drivers stopped by Districts 1, were 42 percent more likely to receive a citation than drivers stopped by District 5 deputies. Drivers stopped by District 3 deputies were 129 percent more likely to receive a citation than those stopped by District 5 deputies. Finally, drivers stopped by District 6 deputies were 244 percent more likely to receive a citation than driver stopped by District 5 deputies. There was no statistically significant difference in citation outcomes between District 5 and Districts 2, 4, and 7.

District 6, the Motors Unit, had the highest citation rate (90.45%) compared to all other districts. Across all districts, drivers were more likely to be cited by deputies stopped by District 6 deputies. Differences in the likelihood of receiving a citation were large. For example, drivers stopped by deputies from District 6 were over three times more likely to receive a citation than drivers stopped by deputies from Districts 2, 4, 5, or 7.

District 7 had a citation rate of 65.61% absent statistical controls. In comparing District 7 citation activity to other districts utilizing statistical controls, drivers stopped by District 7 deputies were less likely to be issued a citation than drivers stopped in District 1, 3, and 6. Specifically, drivers stopped by District 1 deputies were 40 percent more likely to be cited than drivers stopped by District 7 deputies. Drivers stopped by District 3 deputies were 126 percent more likely to be cited than drivers stopped by District 7 deputies and drivers stopped by District 6 deputies were 239 percent more likely to receive a citation than drivers stopped by District 6 deputies.

Table 20: Comparison of Odds Ratios for Citations, by Districts

	Reference Group						
	District 1	District 2	District 3	District 4	District 5	District 6	District 7
District 1	–	1.59*	0.62*	1.45*	1.42*	0.41*	1.40*
District 2	0.63*	–	0.39*	0.91	0.89	0.26*	0.88
District 3	1.62*	2.57*	–	2.35*	2.29*	0.67*	2.26*
District 4	0.69*	1.09	0.43*	–	0.98	0.28*	0.96
District 5	0.71*	1.12	0.44*	1.02	–	0.29*	0.98
District 6	2.43*	3.85*	1.50*	3.52*	3.44*	–	3.39*
District 7	0.72*	1.14	0.44*	1.04	1.02	0.30*	–

*$p < 0.05$

Search Outcome

In Table 21 below, we compare districts on the likelihood that a driver experienced a discretionary search (driver or vehicle) during the traffic stop. Note that the number of discretionary searches in 2024 was small (N = 122) and accounted for 0.60 percent of all traffic stops (see Table 18). For example, there were only 4 stops with discretionary searches made by District 4 deputies and there were no discretionary searches made by District 6 deputies.[26] In comparing districts, drivers stopped by District 1 deputies were more likely to be searched than drivers stopped by deputies from Districts 2, 4, 5, and 7.

Drivers stopped by District 2 deputies were more likely to be searched than drivers stopped by deputies from Districts 4 and 5 but were less likely to be searched than drivers stopped by District 1 deputies. Drivers stopped by District 3 deputies were more likely to be searched than drivers stopped by deputies from Districts 4, 5, and 7.

There were only four discretionary searches of drivers stopped by District 4 deputies and drivers stopped by District 4 deputies were less likely to be searched than drivers who were stopped by deputies from Districts 1, 2, or 3. Similarly, while District 5 had 14 discretionary searches in 2024, drivers stopped by District 5 deputies were less likely to experience a discretionary search than drivers stopped by deputies from Districts 1, 2, or 3. Finally, in comparing all districts to District 7, we found that drivers stopped by District 1 and District 3 deputies were more likely to experience a discretionary search than drivers stopped by District 7 deputies. Deputies from District 7 performed six discretionary searches in 2024.

Table 21: Comparison of Odds Ratios for Discretionary Searches, by Districts

	Reference Category						
	District 1	District 2	District 3	District 4	District 5	District 6	District 7
District 1	–	1.79*	1.26	8.06*	5.52*	N/A	4.37*
District 2	0.56*	–	0.70	4.49*	3.08*	N/A	2.44
District 3	0.80	1.43	–	6.41*	4.39*	N/A	3.48*
District 4	0.12*	0.22*	0.16*	–	0.68	N/A	0.54
District 5	0.18*	0.32*	0.23*	1.46	–	N/A	0.79
District 6	Omitted	Omitted	Omitted	Omitted	Omitted	–	Omitted
District 7	0.23*	0.41	0.29*	1.84	1.26	N/A	–

* $p < 0.05$

[26]District 4 was removed from the comparisons in Table 21 because there were no discretionary searches conducted by deputies from District 6.

Arrest Outcome

Table 22 below reports results modeling arrest outcomes for the districts. Note that arrests analyzed included both custodial arrests and non-custodial arrests during traffic stops and that the majority of arrests recorded in MCSO data are non-custodial "cite and release" arrests which do not involve taking the driver into custody (see Table 17). Based on these comparisons, we found differences in the odds of an arrest for all districts when comparing them to other districts.

Table 22: Comparison of Odds Ratios for Arrests, by Districts

	Reference Category						
	District 1	District 2	District 3	District 4	District 5	District 6	District 7
District 1	–	1.45*	1.73*	6.27*	0.70*	2.66*	1.40*
District 2	0.69*	–	1.19	4.33*	0.48*	1.84*	0.97
District 3	0.58*	0.84	–	3.63*	0.40*	1.54	0.81
District 4	0.16*	0.23*	0.28*	–	0.11*	0.42*	0.22*
District 5	1.43*	2.07*	2.47*	8.97*	–	3.80*	2.01*
District 6	0.38*	0.54*	0.65*	2.36*	0.26*	–	0.53*
District 7	0.71*	1.03	1.23	4.46*	0.50*	1.89*	–

* $p < 0.05$

District 1 had a raw arrest rate of 7.19 percent for all drivers stopped by deputies from District 1 (without controls). Based on the odds ratios, drivers stopped in District 1 were more likely to be arrested than drivers stopped in Districts 2, 3, 4, 6, and 7. While drivers stopped by District 5 deputies were 43 percent more likely to be arrested than drivers pulled over by District 1 deputies.

District 2 had an arrest rate of 5.75 percent (without controls). Compared to Districts 4 and 6, drivers stopped by District 2 deputies were less likely to be arrested. Conversely, drivers stopped by District 2 deputies were more likely to be arrested than drivers stopped by deputies from District 1 and 5. There were no statistically significant differences found among arrest rates between District 2 and Districts 3 or 7.

District 3 had an arrest rate of 4.12 percent (without controls). Based on the analysis, drivers stopped by District 3 deputies were less likely to be arrested than drivers stopped by District 1 and 5. However, compared to Districts 4 or 6, drivers stopped by District 3 deputies were more likely to be arrested. There were no statistically significant differences between District 3 and Districts 2 or 7.

District 4 had the lowest arrest rate across all the districts at 1.92 percent (without controls). Drivers stopped in any other district were two to nine times more likely to be arrested than drivers stopped by deputies from District 4.

District 5 had the highest arrest rate among all the districts at 8.43 percent (without controls). Compared to stops by deputies in Districts 2, 3, and 7, drivers stopped in District 5 were more than twice as likely to be arrested. Additionally, drivers stopped by District 5 deputies were about nine times more likely to be arrested than those stopped by District 4 deputies. When compared to District 6 traffic stop arrests, drivers stopped in District 5 were over three times more likely to be

arrested. Lastly, divers stopped by District 5 deputies were 43 percent more likely to be arrested than drivers stopped by deputies from District 1.

District 6 had an arrest rate of 5.91 percent (without controls). In comparison to District 6, drivers who were stopped by deputies from Districts 1, 2, 5, and 7 were more likely to be arrested. Conversely, drivers who were stopped by District 4 deputies were less likely to be arrested than drivers who were stopped by District 6 deputies.

District 7 had an arrest rate of 7.43 percent (without controls). Compared to District 7, drivers who were stopped in Districts 1 and 5 were more likely to be arrested. In the case of District 5, drivers were more than twice as likely to be arrested during their stop than drivers stopped by District 7 deputies and drivers stopped by District 7 deputies were 40 percent more likely to be arrested than drivers stopped by District 1 deputies. Finally, when compared to Districts 4 and 6, drivers stopped by District 7 deputies were more likely to be arrested. There were no statistically significant differences between District 7 and Districts 2 or 3.

Propensity Score Matching Results, By District

In this section we report propensity score matching results for each district. The analysis provides district-level results for each of the baseline benchmarks used in the TSAR.

Stop Length

The baseline measure for investigating stop length uses all stops that were not considered extended (no ETSI was selected by the deputy during these stops).[27] Table 23, below provides results of the PSM analysis for stop length for each district and provides results from the PSM analysis from TSAR 10 for comparison. In Districts 1, 2, 4, 6, and 7 there were no statistically significant differences in stop length for Hispanic, Black, or Minority drivers when compared to White drivers. There was a statistically significant difference in stop length between Black and White drivers in District 3 and in District 5. In District 3, traffic stops of Black were 69 seconds (1 minute, 9 seconds) longer than traffic stops of White drivers. In District 5, traffic stops of Black drivers were 54 seconds longer than traffic stops of White drivers.

[27]MCSO investigated extended stops and long traffic stops in TSQR 3 and TSQR 4, respectively, and investigated extended stop indicator use in TSQR 13 and TSQR 17. Investigations into extended stop indicators identified that deputies were using indicators appropriately to document delays that were experienced during traffic stops. These reports can be accessed at: https://www.mcsobio.org/traffic-stop-data

Table 23: PSM Results for Stop Length, by District

	Difference in Minutes	t-statistic	Statistically Significant?
TSAR 10			
Hispanic v. White	0.23	1.67	No
Black v. White	0.52	2.32	**Yes**
Minority v. White	0.10	0.92	No
District 1			
Hispanic v. White	0.06	0.17	No
Black v. White	0.41	1.62	No
Minority v. White	–0.03	–0.13	No
District 2			
Hispanic v. White	0.26	0.52	No
Black v. White	0.80	1.43	No
Minority v. White	0.52	1.18	No
District 3			
Hispanic v. White	0.30	0.86	No
Black v. White	1.15	1.98	**Yes**
Minority v. White	0.50	1.38	No
District 4			
Hispanic v. White	0.49	1.38	No
Black v. White	0.43	1.31	No
Minority v. White	0.78	1.24	No
District 5			
Hispanic v. White	–0.21	–0.59	No
Black v. White	0.90	2.06	**Yes**
Minority v. White	0.12	0.65	No
District 6			
Hispanic v. White	0.39	1.04	No
Black v. White	0.02	0.02	No
Minority v. White	0.03	0.7	No
District 7			
Hispanic v. White	0.03	0.12	No
Black v. White	0.06	0.12	No
Minority v. White	0.17	0.91	No

Citations

In this section we present the propensity score matching analyses of citation rates at the district level (Table 24). We provide results from the TSAR 10 analyses of disparity in citation rates for comparison. The TSAR 10 analyses found no statistically significant disparity in citation rates for Hispanic, Black, and Minority drivers when compared to White drivers.

We identified no statistically significant disparity in citation rates for Hispanic, Black, and Minority drivers in Districts 1, 2, 4, 6, and 7.

We identified a statistically significant difference in citation rates between Hispanic and White drivers who were stopped by District 3 deputies. The raw citation rate for White drivers stopped by District 3 deputies was 61.55 percent and the citation rate for Hispanic drivers stopped by District 3 deputies was 66.45 percent (see Table 14). Results of the propensity score matching analysis indicated that Hispanic drivers were issued citations 8.11 percent more often than White drivers in District 3 and that this difference was statistically significant.

We found a statistically significant difference in citation rates between Hispanic and White drivers who were stopped by District 5 deputies. The raw citation rate for White drivers stopped by District 5 deputies was 57.76 percent and the citation rate for Hispanic drivers stopped by District 5 deputies was 61.81 percent (see Table 14). District 5 deputies stopped 1,139 Hispanic drivers and 3,542 White drivers. Results of the propensity score matching analysis indicated that Hispanic drivers were cited at 5.36 percent more often than White drivers and that this difference was statistically significant. There was no statistically significant difference in citation rates between Black and White drivers and between Minority and White drivers in District 5.

Table 24: PSM Results for Citations, by District

	Difference, in Percent	t-statistic	Statistically Significant?
TSAR 10			
Hispanic v. White	2.23	1.71	No
Black v. White	0.37	0.19	No
Minority v. White	1.50	1.30	No
District 1			
Hispanic v. White	3.51	1.28	No
Black v. White	5.86	1.71	No
Minority v. White	–1.22	–0.47	No
District 2			
Hispanic v. White	2.59	0.89	No
Black v. White	3.63	0.66	No
Minority v. White	1.99	0.69	No
District 3			
Hispanic v. White	8.11	2.12	**Yes**
Black v. White	6.13	0.99	No
Minority v. White	1.80	0.53	No
District 4			
Hispanic v. White	–3.26	–1.10	No
Black v. White	–2.63	–0.44	No
Minority v. White	–0.39	–0.15	No
District 5			
Hispanic v. White	5.36	2.31	**Yes**
Black v. White	1.94	0.45	No
Minority v. White	0.73	0.29	No
District 6			
Hispanic v. White	–1.17	–0.40	No
Black v. White	3.54	0.71	No
Minority v. White	–2.44	–0.98	No
District 7			
Hispanic v. White	1.61	0.53	No
Black v. White	0.59	0.10	No
Minority v. White	2.96	1.14	No

Searches

In Table 25 below, we provide results of the propensity score matching analyses of non-discretionary searches at the district level. We provide results from the propensity score matching analyses of searches from the TSAR 10 for comparison. MCSO identified 122 traffic stops with discretionary searches of drivers or vehicles in 2024.

Analyses of disparity in searches could not be conducted for Hispanic and Black drivers in District 4 as there were no discretionary searches of Hispanic or Black drivers in District 4. District 4 deputies conducted discretionary searches during four traffic stops in 2024 (3 White drivers and 1 Minority driver). Similarly, we could not conduct propensity score analyses of discretionary searches conducted by District 6 (Motors unit) deputies because there were no discretionary searches conducted by deputies assigned to this administrative unit in 2024.

There was no statistically significant difference in discretionary searches for Hispanic, Black, or Minority drivers in Districts 1, 2, 3, and 7. In District 4, there was no statistically significant difference in discretionary search rates between Minority and White drivers.

We identified a statistically significant difference in the discretionary search rate for Minority and White drivers in District 5. District 5 conducted 14 discretionary searches in 2024. Four searches were conducted during stops of White drivers (0.11%) and 10 searches were conducted during stops of Minority drivers (0.60%). Propensity score matching analysis identified a statistically significant difference in the search rate between Minority and White drivers of 0.54 percent.

Table 25: PSM Results for Searches, by District

	Difference, in Percent	t-statistic	Statistically Significant?
TSAR 10			
Hispanic v. White	0.06	0.26	No
Black v. White	0.31	0.86	No
Minority v. White	0.45	2.27	**Yes**
District 1			
Hispanic v. White	–0.36	–0.40	No
Black v. White	1.56	1.90	No
Minority v. White	–0.23	–0.30	No
District 2			
Hispanic v. White	0.46	0.82	No
Black v. White	–0.64	–0.60	No
Minority v. White	0.63	1.13	No
District 3			
Hispanic v. White	–0.44	–0.35	No
Black v. White	–0.61	0.50	No
Minority v. White	0.75	0.98	No
District 4			
Hispanic v. White	N/A	N/A	N/A
Black v. White	N/A	N/A	N/A
Minority v. White	–0.15	–0.71	No
District 5			
Hispanic v. White	0.53	1.52	No
Black v. White	–0.65	–0.85	No
Minority v. White	0.54	2.55	**Yes**
District 6			
Hispanic v. White	N/A	N/A	N/A
Black v. White	N/A	N/A	N/A
Minority v. White	N/A	N/A	N/A
District 7			
Hispanic v. White	0.47	1.41	No
Black v. White	1.18	1.63	No
Minority v. White	0.26	0.82	No

Arrests

Table 26 below provides propensity score matching results for arrests in each district. We provide results from the TSAR 10 for comparison. Analyses of arrests include all arrests (custodial and non-custodial arrests). We identified no statistically significant disparity in arrest rates for Hispanic, Black and Minority drivers in Districts 2, 3, and 4.

In District 1, we identified statistically significant differences in arrest rates for Hispanic and White drivers. In this case, Hispanic drivers were arrested 3.75 percent more often than White drivers. There was no statistically significant difference in arrests rates for Black and Minority drivers who were stopped by District 1 deputies.

We identified statistically significant differences in arrest rates for Minority drivers stopped by District 5 deputies. Based on the propensity score matching analysis, Minority drivers were arrested 3.08 percent more often than White drivers in District 5 and this difference was statistically significant. There was no statistically significant difference in arrest rates for Hispanic or Black drivers in District 5.

In District 6 we identified two statistically significant differences in arrest rates. First, Black drivers were arrested 9.73 percent more often than White drivers. Second, Minority drivers were arrested 4.47 percent more often than White drivers. There was no statistically significant difference in the arrest rate between Hispanic and White drivers stopped by District 6 deputies.

Finally in District 7, we identified that Black drivers were arrested 8.82 percent more often than White drivers and that this difference was statistically significant. There was no statistically significant difference in arrest rates for Hispanic or Minority drivers who were stopped by District 7 deputies.

Table 26: PSM Results for Arrests, by District

	Difference, in Percent	t-statistic	Statistically Significant?
TSAR 10			
Hispanic v. White	3.86	6.51	**Yes**
Black v. White	3.08	2.94	**Yes**
Minority v. White	3.05	5.30	**Yes**
District 1			
Hispanic v. White	3.75	2.23	**Yes**
Black v. White	0.28	0.19	No
Minority v. White	2.36	1.48	No
District 2			
Hispanic v. White	2.59	1.78	No
Black v. White	0.26	0.13	No
Minority v. White	1.81	1.03	No
District 3			
Hispanic v. White	1.32	0.79	No
Black v. White	2.45	1.00	No
Minority v. White	1.35	0.99	No
District 4			
Hispanic v. White	–0.42	–0.34	No
Black v. White	–0.88	–0.45	No
Minority v. White	0.75	0.83	No
District 5			
Hispanic v. White	1.53	0.95	No
Black v. White	0.32	0.10	No
Minority v. White	3.08	2.53	**Yes**
District 6			
Hispanic v. White	3.23	1.33	No
Black v. White	9.73	2.67	**Yes**
Minority v. White	4.47	2.03	**Yes**
District 7			
Hispanic v. White	2.10	0.92	No
Black v. White	8.82	3.09	**Yes**
Minority v. White	3.21	1.89	No

District-Level Differences in Disparity

In this section we report the results analyzing differences in the levels of disparity among districts. We used propensity scores generated from covariates used in the TSAR but excluded variables for geography. Propensity scores were included in the modeling process to approximate the matching processes used in the TSAR. We provide pairwise estimates from full models for the difference in disparity for stop length (measured in minutes) and differences in odds ratios for citations/warnings, searches, and arrests. Full models are provided in Appendices G–H.

We present seven different models for each benchmark, varying which district was the reference group to identify which districts display the most pronounced disparity when compared to one another. We also utilize the test for a linear hypothesis for each model to determine whether statistically significant differences of disparity exist among all districts simultaneously. While the differences in disparity identified in this section are discussed here, they do not necessarily mean that these districts had statistically significant differences within themselves for each benchmark referenced in this section. Full estimates for differences in searches could not be provided because models would not converge due to the low number of discretionary searches conducted by MCSO deputies within each district.

Hispanic v. White Drivers, Stop Length

In Table 27 below, we present the differences in disparities between White and Hispanic drivers among districts for the stop length benchmark. The post-hoc test where the interaction term between the driver race/ethnicity and district indicators was jointly zero was not statistically significant ($F = 1.42$; $p = 0.204$) indicating that there was insufficient evidence to reject the null hypothesis of no difference in collective disparity in stop length for the districts. We identified statistically significant differences in disparity in stop length when comparing District 1 to Districts 5 and 7. In this case, District 1 had higher levels of disparity in stop length between Hispanic and White drivers than District 5 and District 7.

Table 27: Comparison of Hispanic/White Stop Length Disparity Between Districts (PSW Regression, in Minutes)

	Reference Group						
	District 1	District 2	District 3	District 4	District 5	District 6	District 7
District 1	–	–0.40	0.17	0.30	0.60*	0.19	0.64*
District 2	0.40	–	0.57	0.70	0.99	0.59	1.03
District 3	–0.17	–0.57	–	0.13	0.43	0.02	0.47
District 4	–0.30	–0.70	–0.13	–	0.29	–0.11	0.33
District 5	–0.60*	–0.99	–0.43	–0.29	–	–0.40	0.04
District 6	–0.19	–0.59	–0.02	0.11	0.40	–	0.45
District 7	–0.64*	–1.03	–0.47	–0.33	–0.04	–0.45	–
Test for significant differences	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant

*$p < 0.05$

Black v. White Drivers, Stop Length

In Table 28 below we report the results of the analyses comparing district-level disparity in stop length for Black and White drivers. The post-hoc test for no differences was not statistically significant ($F = 1.79$: $p = 0.098$) in indicating that there was insufficient evidence to reject the null hypothesis of no difference in collective disparity in stop length for the districts. We identified statistically significant differences in disparity between District 3 and District 4, and for District 6 when compared to Districts 1, 3, and 5. Districts 1, 3, and 5 had higher levels of Black/White disparity in stop length when compared to District 6. District 3 had higher Black/White disparity in stop length when compared to District 4.

Table 28: Comparison of Black/White Stop Length Disparity Between Districts (PSW Regression, in Minutes)

	Reference Group						
	District 1	District 2	District 3	District 4	District 5	District 6	District 7
District 1	–	0.14	–0.37	1.36	–0.21	1.20*	0.22
District 2	–0.14	–	–0.51	1.21	–0.36	1.05	0.07
District 3	0.37	0.51	–	1.72*	0.15	1.56*	0.58
District 4	–1.36	–1.21	–1.72*	–	–1.57	–0.16	–1.14
District 5	0.21	0.36	–0.15	1.57	–	1.41*	0.43
District 6	–1.20*	–1.05	–1.56*	0.16	–1.41*	–	–0.98
District 7	–0.22	–0.07	–0.58	1.14	–0.43	0.98	–
Test for significant differences	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant

*$p < 0.05$

Minority v. White Drivers, Stop Length

In Table 29 below, we report the results comparing district-level disparity in stop length for Minority and White drivers. The post hoc test for no differences in disparity levels among all districts was not statistically significant ($F = 2.02$; $p = 0.059$) indicating that there was insufficient evidence to reject the null hypothesis of no difference in stop length disparity among districts. We identified three statistically significant differences in Minority/White stop length disparity between districts. District 1 had higher levels of Minority/White stop length disparity when compared to District 7 or District 5. District 3 had higher levels of Minority/White stop length disparity when compared to District 7.

Table 29: Comparison of Stop Length Minority/White Disparity Between Districts (PSW Regression, in Minutes)

	Reference Group						
	District 1	District 2	District 3	District 4	District 5	District 6	District 7
District 1	–	–0.26	–0.00	0.54	0.55*	0.42	0.70*
District 2	0.26	–	0.25	0.80	0.80	0.67	0.95
District 3	0.00	–0.25	–	0.55	0.55	0.42	0.70*
District 4	–0.54	–0.80	–0.55	–	0.00	–0.13	0.15
District 5	–0.55*	–0.80	–0.55	–0.00	–	–0.13	0.15
District 6	–0.42	–0.67	–0.42	0.13	0.13	–	0.28
District 7	–0.70*	–0.95	–0.70*	–0.15	–0.15	–0.28	–
Test for significant differences	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant

*$p < 0.05$

Hispanic v. White Drivers, Citations

In Table 30 below we present results for differences between districts for disparity in citation activity between Hispanic and White drivers. In this analysis we included speed and offense categories in generating propensity scores used for matching stops. Results of this analysis were similar to the analysis presented above. The post hoc test of no differences was statistically significant ($\chi^2 = 19.93$; $p = 0.003$) indicating that there was evidence to reject the null hypothesis of no difference in citation disparity among districts.

District 6 stands out in comparison to all other districts. Hispanic drivers were cited during 88.56 percent of encounters with District 6 deputies while White drivers were cited 91.55 percent of the time (see Table 24 for PSM results). District 6 had lower levels of Hispanic/White disparity in citation rates than all other districts. Similarly, District 1 had lower levels of Hispanic/White disparity in citation rates than District 4 and District 7.

Table 30: Comparison of Hispanic/White Citation Disparity Between Districts (PSW, Odds ratios)

	Reference Group						
	District 1	District 2	District 3	District 4	District 5	District 6	District 7
District 1	–	0.77	0.91	0.67*	0.86	1.64*	0.69*
District 2	1.30	–	1.18	0.87	1.12	2.13*	0.90
District 3	1.10	0.85	–	0.74	0.95	1.81*	0.76
District 4	1.49*	1.15	1.35	–	1.28	2.44*	1.03
District 5	1.16	0.89	1.05	0.78	–	1.91*	0.80
District 6	0.61*	0.47*	0.55*	0.41*	0.52*	–	0.42*
District 7	1.45*	1.12	1.32	0.97	1.25	2.37*	–
Test for significant differences	Significant	Significant	Significant	Significant	Significant	Significant	Significant

*$p < 0.05$

Black v. White Drivers, Citations

In Table 31 below, we report results of the analysis comparing district-level disparity in citation activity for Black and White drivers. The post hoc test for no differences in disparity levels among all districts was not statistically significant ($\chi^2 = 6.63$; $p = 0.356$) indicating that there was insufficient evidence to reject the null hypothesis of no difference in citation disparity among districts. We identified one statistically significant difference in Black/White citation disparity between District 2 and District 5. In this case, District 2 had a higher level of Black/White citation disparity than District 5.

Table 31: Comparison of Black/White Citation Disparity Between Districts (PSW Logistic Regression, Odds ratios)

	Reference Group						
	District 1	District 2	District 3	District 4	District 5	District 6	District 7
District 1	–	0.69	0.97	1.02	1.08	1.33	0.98
District 2	1.45	–	1.41	1.48	1.57*	1.93	1.43
District 3	1.03	0.71	–	1.05	1.12	1.37	1.01
District 4	0.98	0.68	0.95	–	1.07	1.31	0.97
District 5	0.92	0.64*	0.89	0.94	–	1.22	0.91
District 6	0.75	0.52	0.73	0.77	0.82	–	0.74
District 7	1.02	0.70	0.99	1.03	1.10	1.35	–
Test for significant differences	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant

*$p < 0.05$

Minority v. White Drivers, Citations

In Table 32 below, we present results for differences between districts for disparity in citation activity for Minority and White drivers. The post hoc test of no differences was statistically significant ($\chi^2 = 17.75$; $p = 0.007$) indicating that there was sufficient evidence to reject the null hypothesis of no difference in citation disparity among districts. Like differences in Hispanic/White disparity (Table 30) District 6 differs from other districts in that it has lower levels of disparity than Districts 2, 3, 4, 5, and 7. One other pairwise comparison was statistically significant. District 2 had higher levels of Minority/White disparity in citation outcomes when compared to District 1.

Table 32: Comparison of Minority/White Citation Disparity Between Districts (PSW Regression; Odds Ratios)

	Reference Group						
	District 1	District 2	District 3	District 4	District 5	District 6	District 7
District 1	–	0.71*	0.90	0.75	0.87	1.44	0.79
District 2	1.41*	–	1.26	1.06	1.23	2.03*	1.11
District 3	1.11	0.79	–	0.84	0.97	1.61*	0.88
District 4	1.33	0.95	1.19	–	1.16	1.92*	1.05
District 5	1.14	0.81	1.03	0.86	–	1.65*	0.91
District 6	0.69	0.49*	0.62*	0.52*	0.61*	–	0.55*
District 7	1.26	0.90	1.13	0.95	1.10	1.82*	–
Test for significant differences	Significant	Significant	Significant	Significant	Significant	Significant	Significant

*$p < 0.05$

Hispanic v. White Drivers, Searches

In Table 33 below, we report the results of the analysis investigating differences among districts for disparity in discretionary searches between Hispanic and White drivers. Coefficients for Districts 4 and 6 were not available because there were so few searches in those Districts and no Hispanic drivers were searched (see Tables 17a–b). The post hoc test of no differences was not statistically significant ($\chi^2 = 7.18$; $p = 0.127$) indicating that there was insufficient evidence to reject the null hypothesis of no difference in search disparity among districts. We identified one statistically significant difference in disparity between districts; District 5 had higher levels of Hispanic/White disparity in discretionary searches when compared to District 1.

Table 33: Comparison of Hispanic/White Search Disparity Between Districts (PSW, Odds ratios)

	Reference Group						
	District 1	District 2	District 3	District 4	District 5	District 6	District 7
District 1	–	0.59	0.63	N/A	0.17*	N/A	0.29
District 2	1.68	–	1.06	N/A	0.28	N/A	0.48
District 3	1.58	0.94	–	N/A	0.26	N/A	0.45
District 4	Omitted	Omitted	Omitted	–	Omitted	N/A	Omitted
District 5	6.01*	3.58	3.80	N/A	–	N/A	1.73
District 6	Omitted	Omitted	Omitted	N/A	Omitted	–	Omitted
District 7	3.48	2.07	2.20	N/A	0.58	N/A	–
Test for significant differences	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant

`

Black v. White Drivers, Searches

Comparison of district-level search disparity for Black and White drivers was unavailable because all models would not converge due to low search rates for Black drivers (See Tables 17a–b)

Minority v. White Drivers, Searches

In Table 34 below, we report the results of the analysis investigating differences among districts for disparity in discretionary searches for Minority and White drivers. Coefficients for District 6 were not available because there were no discretionary searches made by District 6 deputies. The post hoc test of no differences was not statistically significant ($\chi^2 = 7.16$; $p = 0.209$) indicating that there was insufficient evidence to reject the null hypothesis of no difference in search disparity among districts. We identified one statistically significant difference in disparity between districts; District 5 had higher levels of Minority/White disparity in discretionary searches when compared to District 1.

Table 34: Comparison of Minority/White Search Disparity Between Districts (PSW, Odds ratios)

	Reference Group						
	District 1	District 2	District 3	District 4	District 5	District 6	District 7
District 1	–	0.68	0.68	0.53	0.21*	N/A	0.23
District 2	1.47	–	0.99	0.77	0.31	N/A	0.33
District 3	1.47	1.01	–	0.78	0.31	N/A	0.33
District 4	1.90	1.29	1.29	–	0.40	N/A	0.43
District 5	4.75*	3.24	3.22	2.50	–	N/A	1.07
District 6	Omitted	Omitted	Omitted	Omitted	Omitted	–	Omitted
District 7	4.43	3.02	3.00	2.33	0.93	N/A	–
Test for significant differences	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant

*$p < 0.05$

Hispanic v. White Drivers, Arrests

In Table 35 below, we report results of analyses comparing disparity levels for arrests of Hispanic and White drivers for districts. The post hoc test for no differences between disparity levels among all districts was not statistically significant ($\chi^2 = 5.07$; $p = 0.535$) indicating that there was insufficient evidence to reject the null hypothesis of no difference in disparity in arrests for the districts. We identified no statistically significant differences in Hispanic/White arrest disparity between districts when changing the district reference group.

Table 35: Comparison of Hispanic/White Arrest Disparity Between Districts (PSW, Odds ratios)

	Reference Group						
	District 1	District 2	District 3	District 4	District 5	District 6	District 7
District 1	–	1.00	1.08	0.97	1.01	0.68	0.69
District 2	1.00	–	1.08	0.97	1.01	0.68	0.69
District 3	0.93	0.93	–	0.90	0.94	0.63	0.64
District 4	1.03	1.03	1.11	–	1.04	0.70	0.72
District 5	0.99	0.99	1.07	0.96	–	0.67	0.69
District 6	1.47	1.47	1.58	1.42	1.48	–	1.02
District 7	1.44	1.44	1.56	1.40	1.46	0.98	–
Test for significant differences	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant

*$p < 0.05$

Black v. White Drivers, Arrests

In Table 36 below, we report the results of the analysis comparing district-level disparity in arrest activity for Black and White drivers. Coefficients for district 4 were unavailable due to small arrest numbers for Black drivers in District 4 (N = 2) The post hoc test for no differences in disparity levels among all districts was not statistically significant ($\chi^2 = 5.24$; $p = 0.387$) indicating that there was insufficient evidence to reject the null hypothesis of no difference in arrest disparity among districts. We identified no statistically significant differences in Black/White arrest disparity between districts when changing the district reference group.

Table 36: Comparison of Black-White Arrest Disparity Between Districts (PSW, Odds ratios)

	Reference Group						
	District 1	District 2	District 3	District 4	District 5	District 6	District 7
District 1	–	0.28	0.23	N/A	0.15	0.46	0.16
District 2	3.60	–	0.85	N/A	0.54	1.66	0.58
District 3	4.26	1.18	–	N/A	0.64	1.96	0.68
District 4	Omitted	Omitted	Omitted	–	Omitted	Omitted	Omitted
District 5	6.71	1.86	1.57	N/A	–	3.08	1.08
District 6	2.18	0.60	0.51	N/A	0.32	–	0.35
District 7	6.23	1.73	1.46	N/A	0.93	2.86	–
Test for significant differences	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant

*$p < 0.05$

Minority v. White Drivers, Arrests

In Table 37 below, we report the results of the analysis investigating differences among districts for disparity in arrests for Minority and White drivers. The post hoc test of no differences was not statistically significant ($\chi^2 = 5.29$; $p = 0.381$) indicating that there was insufficient evidence to reject the null hypothesis of no difference in arrest disparity among districts. We identified no statistically significant differences in Minority/White arrest disparity between districts when changing the district reference group.

Table 37: Comparison of Minority-White Arrest Disparity Between Districts (PSW, Odds ratios)

	Reference Group						
	District 1	District 2	District 3	District 4	District 5	District 6	District 7
District 1	–	1.00	1.01	1.06	0.96	0.62	0.68
District 2	1.00	–	1.00	1.05	0.96	0.62	0.67
District 3	1.00	1.00	–	1.05	0.96	0.62	0.67
District 4	0.95	0.95	0.95	–	0.91	0.59	0.64
District 5	1.04	1.04	1.04	1.10	–	0.65	0.70
District 6	1.61	1.61	1.62	1.70	1.55	–	1.09
District 7	1.48	1.49	1.49	1.57	1.43	0.92	–
Test for significant differences	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant	Not Significant

*$p < 0.05$

Analysis of Seizures Following Searches

In this section, we evaluate seizures following searches for each district. Table 38 provides a tabulation of searches and seizures by race/ethnicity for District 1. District 1 had the largest number of non-incidental searches and the highest seizure rate relative to all other districts. In District 1, there was a statistically significant difference in the distributions of searches with and without seizures across driver race/ethnicity. In this case, the seizure rate following discretionary searches was higher for Hispanic drivers than it was for all other racial/ethnic groups.

Table 38: District 1; Seizures During Non-Incidental Searches by the Race/Ethnicity of the Driver

Race/Ethnicity of Driver	Number of Searches	Percent of Searches without seizures	Percent of Searches with Seizures
Asian	0	N/A	N/A
Black	10	70.00%	30.00%
Hispanic	17	23.53%	76.47%
Native American	1	100.00%	0.00%
White	23	69.57%	30.43%
Overall	51	54.90%	45.10%

$\chi^2 = 10.50$; $p = 0.015$; Fischer's Exact $p = 0.009$

Table 39 below provides a tabulation of searches and seizures by race/ethnicity in District 2. In District 2, there was no statistically significant difference in the distributions of searches with and without seizures across driver race/ethnicity.

Table 39: District 2; Seizures During Non-Incidental Searches by the Race/Ethnicity of the Driver

Race/Ethnicity of Driver	Number of Searches	Percent of Searches without seizures	Percent of Searches with Seizures
Asian	0	N/A	N/A
Black	3	100.00%	0.00%
Hispanic	16	87.50%	12.50%
Native American	0	N/A	N/A
White	6	100.00%	0.00%
Overall	25	92.00%	8.00%

$\chi^2 = 1.223$; $p = 0.543$; Fischer's Exact $p = 1.000$

Table 40 below provides a tabulation of searches and seizures by race/ethnicity in District 3. In District 3, there was no statistically significant difference in the distributions of searches with and without seizures across driver race/ethnicity.

Table 40: District 3; Seizures During Non-Incidental Searches by the Race/Ethnicity of the Driver

Race/Ethnicity of Driver	Number of Searches	Percent of Searches without seizures	Percent of Searches with Seizures
Asian	1	0.00%	100.00%
Black	2	100.00%	0.00%
Hispanic	9	33.33%	66.67%
Native American	0	N/A	N/A
White	10	60.00%	40.00%
Overall	22	50.00%	50.00%

$\chi^2 = 4.400$; $p = 0.221$; Fischer's Exact $p = 0.213$

Table 41 below provides a tabulation of searches and seizures by race/ethnicity in District 4. There were only four discretionary searches conducted in District 4. In District 4 there was no statistically significant difference in the distributions of searches with and without seizures across driver race/ethnicity.

Table 41: District 4; Seizures During Non-Incidental Searches by the Race/Ethnicity of the Driver

Race/Ethnicity of Driver	Number of Searches	Percent of Searches without seizures	Percent of Searches with Seizures
Asian	0	N/A	N/A
Black	0	N/A	N/A
Hispanic	0	N/A	N/A
Native American	1	0.00%	100.00%
White	3	66.67%	33.33%
Overall	4	50.00%	50.00%

$\chi^2 = 1.333$; $p = 0.248$; Fischer's Exact $p = 1.000$

Table 42 below provides a tabulation of searches and seizures by race/ethnicity in District 5. In District 5, there was no statistically significant difference in the distributions of searches with and without seizures across driver race/ethnicity.

Table 42: District 5; Seizures During Non-Incidental Searches by the Race/Ethnicity of the Driver

Race/Ethnicity of Driver	Number of Searches	Percent of Searches without seizures	Percent of Searches with Seizures
Asian	0	N/A	N/A
Black	1	100.00%	0.00%
Hispanic	9	66.67%	33.33%
Native American	0	N/A	N/A
White	4	75.00%	25.00%
Overall	14	71.43%	28.57%

$\chi^2 = 0.525$; $p = 0.769$; Fischer's Exact $p = 1.000$

There were no discretionary searches conducted by District 6 deputies.

Table 43: District 6; Seizures During Non-Incidental Searches by the Race/Ethnicity of the Driver

Race/Ethnicity of Driver	Number of Searches	Percent of Searches without seizures	Percent of Searches with Seizures
Asian	0	N/A	N/A
Black	0	N/A	N/A
Hispanic	0	N/A	N/A
Native American	0	N/A	N/A
White	0	N/A	N/A
Overall	0	N/A	N/A

χ^2 = N/A; p = N/A; Fischer's Exact p = N/A

Table 44 below provides a tabulation of searches and seizures by race/ethnicity in District 7. District 7 had 6 traffic stops with discretionary searches. In District 7, there was no statistically significant difference in the distributions of searches with and without seizures across driver race/ethnicity.

Table 44: District 7; Seizures During Non-Incidental Searches by the Race/Ethnicity of the Driver

Race/Ethnicity of Driver	Number of Searches	Percent of Searches without seizures	Percent of Searches with Seizures
Asian	0	N/A	N/A
Black	2	50.00%	50.00%
Hispanic	2	100.00%	0.00%
Native American	0	N/A	N/A
White	2	100.00%	0.00%
Overall	6	83.33%	16.67%

$\chi^2 = 2.400$; $p = 0.301$; Fischer's Exact $p = 1.000$

Summary of Findings

In this section we provide a summary of findings for each district. We begin with a brief discussion of the descriptive and summary statistics presented in the findings section of this report. Next, we provide a discussion of any statistically significant findings identifying district-level fixed effects on differences in stop lengths and the outcomes of citations/warnings, searches, and arrests. Following this, we discuss findings from the Propensity Score Matching analyses which identified whether racial/ethnic disparities existed within the district for stop length and the stop outcomes of citation/warning, searches, and arrests. Next, we report district-specific findings for the differences in disparity for stop length and the outcomes of citations, searches, and arrests. We conclude with findings from the analysis of seizures following non-incidental searches.

District 1

Deputies assigned to District 1 made a total of 2,852 traffic stops in 2024. The majority (60%) of deputies who made traffic stops in District 1 made fewer than 20 stops and one District 1 deputy made over 500 traffic stops. Like other districts, traffic stops in District 1 occurred most often during the morning and afternoon commuting hours and the number of stops per month stayed relatively stable throughout the year. District 1 deputies made 32 traffic stops while working on DUI Taskforce special assignments (1.12% of all District 1 traffic stops). District 1 deputies made 261 traffic stops while working Aggressive Driver special assignments (9.15% of District 1 traffic stops) and 12 traffic stops (0.42%) on Click-it-or-Ticket special assignments. Nearly eight percent (7.78%) of traffic stops made by District 1 deputies involved criminal traffic violations.

The racial/ethnic composition of drivers stopped by District 1 deputies was as follows: 14.38 percent Black, 29.03 percent Hispanic, and 51.37 percent White. 48.63 percent of drivers stopped by District 1 deputies were perceived as non-White Minority.

District 1 had the second longest average length of stop of any District with an average stop length of almost 18.66 minutes. Stops of Hispanic drivers in District 1 averaged about six minutes longer than stops of White drivers. When excluding stops that were considered extended, stops of Hispanic drivers were approximately 50 seconds longer than stops of White drivers.

The most common reason for extended stops in District 1 was driving documentation issues with over 44 percent of stops delayed for this reason. Approximately 54 percent of stops of Hispanic drivers were delayed for this reason while about 36 percent of stops of White drivers were delayed because of driving documentation issues.

District 1 deputies issued a citation during 59.43 percent of stops. Hispanic drivers were cited 60.87 percent of the time. Black drivers were cited during 54.88 percent of stops and White drivers were cited during 60.48 percent of stops. Non-White Minority drivers were cited during 58.33 percent of traffic stops.

The most common type of violation that was cited or warned in District 1 was for driving documentation issues (41.97% of stops) and citations/warnings for speed occurred during 29.35 percent of traffic stops. District 1 differs from all other districts in this regard. District 1 a higher rate of discretionary searches (N = 51; 1.79% of stops) than any other district. District 1 had an overall arrest rate of 7.19 percent, with the highest rate of custodial arrests (2.28% of stops) than any other district.

Results of modeling stop length and stop outcomes (citation/warning, searches, and arrests) found District 1 differed from other districts in several ways. Stop lengths for District 1 traffic stops were longer than stops made by deputies from District 5 (approximately 20 seconds) and stop lengths for District 1 traffic stops were shorter than stops made by deputies from Districts 2, 3, and 4 (60-90 seconds).

We found that drivers stopped by District 1 deputies were more likely to receive a citation than drivers stopped by deputies from Districts 2, 4, 5, and 7. Drivers stopped by deputies from District 1 were less likely to receive a citation than drivers stopped by deputies from Districts 3 or 6.

In comparing discretionary search activity among districts we found that the likelihood of experiencing a search was higher in District 1 when compared to Districts 2, 4, 5, or 7. Finally, in comparing district-level arrest activity, we identified that drivers stopped by District 1 deputies were more likely to experience an arrest than drivers stopped by deputies from Districts 2, 3, 4, 6, or 7. Drivers stopped by District 1 deputies were less likely to experience an arrest when compared to drivers stopped by deputies from District 5.

Propensity score matching results identified no statistically significant disparity in stop length, citations, and searches with any racial/ethnic group in District 1 and found no statistically significant disparity in arrest outcomes for Black and Minority drivers. We found statistically significant disparity in arrests of Hispanic and White drivers with Hispanic drivers arrested 3.75 percent more often than White drivers.

In examining differences in disparity among districts for the benchmarks of stop length, citations searches, and arrests for Hispanic, Black, and Minority drivers we found 10 differences in disparity levels although it did not appear that District 1 contributes to office-level disparity in a statistically meaningful way. Differences in Hispanic/White and Minority/White disparity in stop length was greater in District 1 when compared to Districts 5 and 7. Difference in Black/White disparity in stop length was greater in District 1 when compared to District 6. Differences in Hispanic/White disparity in citations was lower in District 1 when compared to District 4 and District 7 but higher when compared to District 6. Difference in Minority/White disparity in citations was lower in District 1 when compared to District 2.

Our examination of differences in disparity in discretionary searches, we found lower levels of disparity in District 1 when compared to Hispanic/White and Minority/White disparity in District 5. There were no statistically significant racial/ethnic disparities in arrest rates.

Finally, analysis of seizures following discretionary searches revealed a statistically significant racial/ethnic difference in the proportion of searches that resulted in a seizure. However, this difference operated opposite of what would be expected if bias towards Minority drivers were the primary motivation for these searches. Specifically, for Hispanic drivers, the seizure rate following a search was 76 percent, compared to only 30 percent for White drivers.

District 2

Deputies assigned to District 2 made a total of 2,296 traffic stops in 2024. The majority of deputies making stops when assigned to District 2 made fewer than 20 stops (66%). District 2 had three deputies who made between 150 and 199 traffic stops. Of all districts, District 2 had the second highest number of traffic stops made by supervisors (N = 131). Traffic stops made by supervisors in District 2 accounted for about 6 percent of District 2 traffic stops. District 2 deputies made 85 traffic stops while working on DUI Taskforce special assignments (3.7% of all District 2 stops). District 2 deputies made 13 traffic stops while working on Click-it-or-Ticket special assignments.

The racial/ethnic composition of drivers stopped by District 2 deputies was as follows: 13.63 percent Black, 46.99 percent Hispanic, and 35.58 percent White. 64.42 percent of drivers stopped by District 2 deputies were non-White minorities. District 2 had the highest proportion of Hispanic and non-White Minority drivers stopped compared to all other districts.

District 2 had an average stop length of 20.61 for all drivers. Excluding extended stops, District 2 traffic stops averaged just under 12 minutes. The most common extended stop reason in District 2 was driving documentation issues with about 52.57 percent of stops being delayed for this reason. District 2 had more training stops than any other district (11.67 percent of traffic stops).

District 2 had the lowest citation rate (41.33%) of any district and drivers were issued warnings during 58.1 percent of stops. The most common type of violation that was cited or warned in District 2 was speeding, accounting for nearly 39 percent of all District 2 stops. District 2 had the highest rate of non-speed moving violations (26.13%) when compared to other districts.

District 2 deputies made custodial arrests of 44 drivers during 2024. This accounted for 1.92 percent of all District 2 stops. During 3.83 percent of District 2 traffic stops (N = 88), deputies made non-custodial arrests. District 2 deputies made discretionary searches of persons or vehicles during 1.09 percent of traffic stops (N = 25).

Results modeling stop length and stop outcomes found District 2 differed from other districts in several ways. Stop lengths, on average, were longer in District 2 when compared to stops from Districts 1, 3, 5, 6, and 7. The citation rate in District 2 was lower when compared to Districts 1 3, and 6 (Motors Unit).

Drivers were more likely to experience a search during a stop by District 2 deputies compared to stops made by deputies from Districts 4 and 5. However, discretionary searches were less likely in District 2 when compared to District 1 traffic stops.

In comparing arrests across districts, we identified four statistically significant differences between District 2 and other districts. Drivers stopped by District 2 deputies were less likely to be arrested than drivers stopped by deputies from Districts 1 or 5.Drivers stopped by District 2 deputies were more likely to be arrested than drivers stopped by deputies from Districts 4 or 6. .

Results of the propensity score matching model identified no statistically significant disparities in stop length, citation rates, search rates, or arrests rates for Hispanic, Black, or Minority drivers in District 2.

Analysis of district differences in levels of disparity found that that District 2 does not contribute to the overall office disparity in a statistically meaningful way on any benchmark (stop length, citations, searches, and arrests) for Hispanic, Black, and Minority drivers. There were, however, several statistical differences when comparing disparity for District 2 traffic stops to other district-level disparity. Hispanic/White citation disparity was higher in District 2 when compared to District 6 (Motors Unit). Black/White disparity for citations was higher in District 2 when compared to District 5. Minority/White disparity in citations was higher in District 2 when compared to District 1 and District 6 (Motors Unit). Disparity levels for searches and arrests in District 2 did not statistically differ from any other district for Hispanic, Black or Minority drivers.

There was no significant difference in the distribution of searches with and without seizures across driver race/ethnicity in District 2.

District 3

Deputies from District 3 made a total of 1,722 traffic stops in 2024. Most deputies (64%) who made traffic stops in District 3 made fewer than 20 traffic stops. Two deputies from District 2 made between 200 and 500 traffic stops. District 3 deputies made 13 (0.75% of District 3 traffic stops) stops while working on the DUI Taskforce special assignments and 7 stops (0.41%) while on Aggressive Driver patrol. District 3 deputies made 12 (0.70%) traffic stops while working on Click-it-or-Ticket special assignments. Approximately 6 percent (N = 104) of District 3 traffic stops involved criminal traffic violations.

The racial/ethnic composition of drivers stopped by District 3 deputies was as follows: 9.47 percent Black, 26.48 percent Hispanic, 61.32 percent White. 38.68 percent of drivers stopped by District 3 deputies were non-White Minority.

District 3 had an average stop length of 18.46 minutes for all stops. Excluding extended stops, District 3 stops averaged 11.22 minutes. The most common extended stop reason in District 3 was driving documentation issues and almost 34 percent of stops were delayed for this reason. Minority drivers stopped by District 3 deputies had a driving documentation issue during 42 percent of stops.

District 3 deputies cited drivers during 62.6 percent of traffic stops which was similar to the citation rate in Districts 1, 4, and 7. Hispanic drivers stopped by District 3 deputies were cited at a higher rate (66.45%) than both Black (61.35%) and White (61.55%) drivers. The most common offense

that was cited or warned by District 3 deputies was speed. Over 49 percent of stops included a citation or warning for this type of offense.

Deputies from District 3 made discretionary searches of drivers or vehicles during 22 traffic stops (1.28 percent of District 3 stops). District 3 deputies made a total of 71 arrests during traffic stops in 2024. Of these, 27 were custodial arrests and the remaining 44 were non-custodial arrests.

Results modeling stop length and stop outcomes found District 3 differed from other districts in several ways. Stops made by District 3 deputies were longer, on average, from stops made by deputies from Districts 1, 5, 6, or District 7 (about 60–80 seconds longer). Stops in District 2 were about 25 seconds shorter, on average, than stops in District 2.

In comparing district citation activity, we identified statistically significant differences in citation activity between District 3 and all other districts. Drivers stopped by deputies from District 3 were less likely to receive a citation than drivers stopped by deputies from Districts 6 (Motors Unit) but were more likely to receive a citation when compared to stops by deputies from Districts 1, 2, 4, 5, or 7.

Drivers stopped by District 3 deputies were more likely to experience a discretionary search during the stop than drivers stopped by deputies from Districts 4, 5, or 7.

Arrest comparisons across districts identified four statistically significant differences between District 3 and four other districts. Drivers stopped by District 3 deputies were more likely to be arrested than drivers stopped by deputies from Districts 4 or 6. However, drivers stopped by District 3 deputies were less likely to be arrested than drivers stopped by deputies from Districts 1 or 5.

Results of the propensity score matching procedure identified statistically significant disparity for stop length between Black and White drivers. In this case stops of Black drivers averaged 1.15 minutes longer than stops of White drivers. There was no statistically significant disparity in stop length for Hispanic or Minority drivers. We identified statistically significant disparity in citation rates between Hispanic and White drivers in District 3 with Hispanic drivers cited 8.11 percent more often than White drivers. There was no statistically significant disparity in citation rates for Black or Minority drivers.

We identified no statistically significant disparity in searches or arrests in District 3 for Hispanic, Black, or Minority drivers.

Analysis of district differences in levels of disparity found that that District 3 did not contribute to the overall office disparity in a statistically meaningful way on any benchmark (stop length, citations, searches, and arrests) for Hispanic, Black, and Minority drivers. Analysis of district differences in disparity found District 3 disparity in stop length differed from Districts 4, 6, and 7. In this case, District 3 had larger levels of Black/White disparity when compared to District 4 and 6, and larger levels of Minority/White disparity when compared to District 7.. Comparisons of differences in citation disparities revealed differences in Hispanic/White and Minority/White

citation outcomes between Districts 3 and 6. In this case, District 3 Hispanic/White and Minority/White disparities in citations were higher than the disparities in District 6.

We found no statistically significant differences in disparity for searches or arrests for all districts and all racial/ethnic groups when compared to District 3.

In District 3, there was no significant difference in the distribution of searches with and without seizures across driver race/ethnicity.

District 4

Deputies from District 4 made a total of 4,053 traffic stops in 2024. Forty-five percent of deputies making traffic stops in District 4 made fewer than 20 stops. District 4 had the largest number of stops that were made by a deputy in a traffic car. 2,313 stops were made by deputies designated as traffic patrol (57.07% of District 4 stops). District 4 deputies made 35 traffic stops while working DUI Taskforce special assignments which accounted for less than one percent of District 4 stops. Deputies also made 12 stops (0.30%) on Aggressive Driver special assignments and six stops while working on Click-it-or-Ticket (0.15%) special assignments.

The racial/ethnic composition of drivers stopped by District 4 deputies was as follows: 2.81 percent Black, 11.72 percent Hispanic, 83.52 percent White, 16.48 percent of drivers stopped by District 4 deputies were non-White Minority. District 4 had the lowest number and proportion of non-White drivers stopped when compared to all other districts.

The average length of stop for all drivers stopped by District 4 deputies was 14.24 minutes. Excluding extended stops, District 4 stop lengths averaged 10.94 minutes. The most common extended stop reason in District 4 was driving documentation issues and 50.63 percent of stops were delayed for this reason.

District 4 deputies cited drivers during 63.68 percent of stops. There were some differences in citation rates across racial/ethnic groups. In District 4 White drivers were cited during 63.10 percent of stops while Hispanic drivers were cited during 69.68percent of stops. The most common violation that was cited or warned in District 4 was speeding. Over 64 percent of stops in District 4 identified violations of this type.

District 4 deputies only made 4 discretionary searches of drivers or vehicles across all stops (0.10% of District 4 traffic stops). Of these searches, three were of White drivers while one was of a Minority driver.

District 4 deputies made 24 custodial arrests (0.59% of District 4 stops) and 54 non-custodial arrests (1.33% of District 4 stops) in 2024. District 4 had the lowest arrest rate during traffic stops of any district in 2024 (1.92%).

Results modeling stop length and stop outcomes identified several ways District 4 differed from other districts. In comparing district stop lengths, District 4 stops were longer, on average, than

stops made by deputies from Districts 1, 5, 6, and 7. These differences ranged from about 60 to 90 seconds.

In comparing district citation activity, drivers stopped by District 4 deputies were less likely to receive a citation than drivers stopped by Districts 1, 3 or 6 deputies.

In comparing District 4 discretionary searches to other districts, we found that the likelihood of a search during a traffic stop was lower in District 4 when compared to Districts 1, 2, or 3. We found that the likelihood of an arrest during a traffic stop was lower in District 4 than in all other districts.

Results of the propensity score matching modeling procedure identified no statistically significant disparity in District 4 for all benchmarks (stop length, citations, searches, or arrests) and racial/ethnic groups.

Analysis of district differences in levels of disparity found that that District 4 did not contribute to the overall office disparity in a statistically meaningful way on any benchmark (stop length, citations, searches, and arrests) for Hispanic, Black, and Minority drivers. Analysis of district-to-district differences in disparity found differences in disparity levels for four comparisons. District 4 had less Black/White stop length disparity when compared to District 3; District 4 had higher levels of Hispanic/White citation disparity when compared to District 1 and District 6; and District 4 had higher levels of Minority/White citation disparity than District 6.

There was no statistically significant difference in the distribution of searches with and without seizures across driver race/ethnicity for District 4.

District 5

Deputies from District 5 (Lake Patrol) made a total of 5,196 traffic stops in 2024. District 5 had the largest number of stops of all districts. The majority (63.3%) of District 5 deputies who made traffic stops, made less than 20 stops in 2024. About 8 percent (N = 430) of traffic stops made by District 5 deputies were made when deputies were working on DUI Taskforce special assignments. An additional 627 (12.1%) traffic stops were made while District 5 deputies were working on Aggressive Driver special assignments and 41 stops (0.79%) were made when District 5 deputies were working Click-it-or-Ticket special assignments. District 5 deputies had the largest proportion of stops that involved criminal traffic offenses with nearly 9 percent of stops classified in this way.

The racial/ethnic composition of drivers stopped by District 5 deputies was as follows: 5.97 percent Black, 21.92 percent Hispanic, and 68.17 percent White, 31.83 percent of drivers stopped by District 5 deputies were non-White Minority.

The average length of stops for all drivers stopped by District 5 deputies was 15.54 minutes. Excluding extended stops, District 5 stop length averaged 9.92 minutes. The most common extended stop reason during District 5 traffic stops was driving documentation issues (30.14%). District 5 deputies experienced delays from DUI investigations (3.12%) more often than stops from all other districts.

District 5 deputies issued citations during 58.37 percent of all stops. Citation rates between racial/ethnic groups varied in District 5. Hispanic drivers were cited during nearly 62 percent of stops while Black drivers were cited during 52 percent of stops. White drivers were cited almost 58 percent of the time.

The most common violation type that was cited or warned by District 5 deputies was speeding, with over 60 percent of stops involving this violation type.

Fourteen discretionary searches were conducted by District 5 deputies (0.27 percent of stops).

District 5 had the highest arrest rate compared to other districts. During 8.43 percent (N = 438) of traffic stops made by District 5 deputies, drivers were arrested. The majority of these arrests were non-custodial arrests (N = 359). Custodial arrests occurred during 1.52 percent of District 5 stops (N = 79).

Results modeling district differences in stop length and stop outcomes identified several statistically significant differences. Drivers stopped by District 5 deputies experienced shorter stop lengths than drivers stopped by deputies from Districts 1, 2, 3, 4, and 7. Differences in stop length when compared to other districts ranged from 20 to 110 seconds.

Comparison of district-level citation activity for District 5 found that drivers were less likely to receive a citation when compared to Districts 1, 3, and 6.

When comparing search activity among districts, we found that District 5 deputies were less likely to conduct discretionary searches than deputies from Districts 1, 2, and 3.

In comparing arrest activity among districts, this research found that drivers stopped by District 5 deputies were more likely to experience an arrest than drivers stopped by all other districts.

Results of the propensity score matching identified one statistically significant disparity in District 5 on four benchmarks. We identified disparity in stop length for Black and White drivers (54 seconds); disparity in citation rate for Hispanic and White drivers (5.36%); disparity in searches for Minority and White drivers(0.54%); and disparity in arrests for Minority and White drivers (3.08%).

Analysis of district differences in levels of disparity found that that District 5 did not contribute to the overall office disparity in a statistically meaningful way on any benchmark (stop length, citations, searches, and arrests) for Hispanic, Black, and Minority drivers.

Analysis of district-level differences in disparity found that District 5 disparity in stop length for Hispanic and White drivers was significantly lower than that of District 1; District 5 disparity in stop length for Black and White drivers was significantly higher than that of District 6; District 5 disparity in stop length for Minority and White drivers was significantly lower than District 1.

We identified that District 5 citation rate disparities for Hispanic and White, and Minority and White, drivers were significantly higher than citation rates for drivers stopped by District 6

deputies. District 5 citations rate disparity was lower for Black and White drivers when compared to District 2.

Analysis of District-level differences in searches found that disparity between Hispanic and White and Minority and White drivers for discretionary searches was higher in District 5 when compared to District 1. There were no differences in arrest disparity when comparing District 5 to other districts.

There was no significant difference in the distribution of searches with and without seizures across driver race/ethnicity for District 5.

District 6 (Motors unit)

Deputies from District 6 made a total of 1,320 traffic stops in 2024. This was the fewest number of stops of any district during that year. The majority (62.5%) of deputies who made traffic stops in District 6 made 20 or more stops during the year. District 6 is the motorcycle unit, whose deputies are dedicated to traffic enforcement.

In District 6, 172 (13.02%) stops were made by deputies working on DUI Taskforce special assignments. District 6 also had 73 stops made on Aggressive Driving campaigns which accounted for about 6 percent of District 6 stops.

The racial/ethnic composition of drivers stopped by District 6 deputies was as follows: 8.56 percent Black, 25.83 percent Hispanic, and 62.73 percent White, 37.27 percent of drivers stopped by District 6 deputies were non-White Minority.

The average length of stops for all drivers stopped by District 6 deputies was 12.25 minutes. Excluding extended stops, District 6 stop length averaged 9.15 minutes. District 6 traffic stops were shorter, on average, than stops in any other district. The most common reason identified for extended stops in District 6 was Driving Documentation Issues with 26.44 percent of stops experiencing this type of delay.

Deputies in District 6 cited 90.45 percent of drivers that were contacted. This was the highest citation rate of any administrative district although this rate was similar to other traffic patrol vehicles. District 6 deputies cited different racial/ethnic groups at a similar rate.

In District 6, speeding was the most common violation type that was cited or warned with almost 70 percent of stops involving this violation.

District 6 deputies made no discretionary searches in 2024.

Deputies from District 6 arrested 78 drivers in 2024. Of these arrests, 7 (0.53% of District 6 traffic stops) were custodial arrests while the remaining 71 were non-custodial arrests (5.38% of District 6 traffic stops).

Analyses of district differences in stop length, citation rates, search rates, and arrest rates identified several statistically significant patterns for District 6. On average District 6 traffic stops were shorter than stops made by deputies in Districts 2, 3, 4, or 7. The citation rate for District 6 was higher than all other districts. District 6 deputies did not conduct any discretionary searches in 2024. Finally, arrests rates were lower in District 6 when compared to Districts 1, 2, 5, or 7, but were higher when compared to District 4.

Propensity score matching results identified no statistically significant disparity in stop length, citations, and searches with any racial/ethnic group in District 6. We identified statistically significant differences in arrest outcomes for Black and Minority drivers, compared to White drivers, in District 6. Black drivers were arrested at a rate 9.73 percent higher than White drivers and Minority drivers were arrested at a rate 4.47 percent higher than White drivers.

There were no discretionary searches conducted by District 6 deputies in 2024.

Analysis of district-level differences in disparity found that District 6 disparity in stop length for Black and White drivers was significantly lower than that of Districts 1, 3, and 5.

District 6 had significantly lower citation rate disparity for Hispanic and White drivers than all other districts, and lower citation rate disparity for Minority and White drivers than that of Districts 2, 3, 4, 5, and 7. There were no differences in arrest disparity when comparing District 6 to other districts.

District 7

Deputies from District 7 made a total of 2,826 traffic stops in 2024. The majority (53.8%) of deputies who made traffic stops in District 7 made 20 or more stops during the year. District 7 had 1,439 traffic stops that were made by deputies working in a traffic car.

In District 7, 171 (6.05%) stops were made by deputies working on DUI Taskforce special assignments. District 7 also had 225 stops made on Aggressive Driving campaigns which accounted for about eight percent of District 7 stops. Thirteen stops (0.46%) were made by District 7 deputies while working on Click-it-or-Ticket special assignments

The racial/ethnic composition of drivers stopped by District 7 deputies was as follows: 6.02 percent Black, 15.18 percent Hispanic, and 72.47 percent White, 27.53 percent of drivers stopped by District 7 deputies were non-White Minority.

The average length of stops for all drivers stopped by District 7 deputies was 13.14 minutes. Excluding extended stops, District 7 stop length averaged 10.03 minutes. The most common reason identified for extended stops in District 7 was Driving Documentation Issues with 15.64 percent of stops experiencing this type of delay. District 7 deputies identified few extended stops (27.9%) relative to other districts.

Deputies in District 7 cited 65.61 percent of drivers that were contacted and there were some differences across racial/ethnic groups. Specifically, Hispanic drivers were cited 74.13 percent of the time while White drivers were cited during 64.40 percent of stops.

Similar to all other districts, speeding was the most common type of violation drivers were cited or warned with in District 7, with 61.54 percent of stops involving this violation.

Deputies from District 7 had the a low discretionary search rate (0.21%) compared to all other districts (that had searches),with six discretionary searches in 2024. Deputies from District 7 arrested 210 drivers in 2024. Of these arrests 29 were custodial arrests while the remaining 181 were non-custodial arrests.

Results modeling district differences in stop length and stop outcomes identified a number of notable differences for District 7. Average stop lengths for District 7 were shorter than those of Districts 2, 3, and 4, and longer than stops made by deputies from District 5 and District 6.

When modeling citation activity, we identified that drivers stopped by District 7 deputies were less likely to be cited than drivers stopped by deputies from Districts 1, 3, and 6.

Analyses comparing district search activity to other districts found that drivers stopped by deputies assigned to District 7 were less likely to experience a discretionary search than drivers stopped by deputies assigned to Districts 1 or 3.

In comparing arrest activity across districts, we found that drivers stopped by District 7 deputies were more likely to be arrested than drivers stopped by deputies from Districts 4 or 6, but were less likely to be arrested by deputies assigned to Districts 1 or 5.

Results of the PSM analysis identified one statistically significant disparity for District 7. The analysis identified that Black drivers were arrested at a 8.8 percent higher rate than White drivers. Propensity score analysis found no other statistically significant differences for any other group on any other benchmark in District 7.

Analysis of district-level differences in disparity found that District 7 had significantly lower levels of disparity in stop length for Hispanic and White drivers when compared to District 1. We also identified that District 7 had significantly lower levels of disparity in stop length for Minority drivers when compared to Districts 1 or 3. We identified that District 7 had higher levels of disparity in citation rates between White and Hispanic drivers when compared to Districts 1 or 6 and higher levels of Minority/White disparity in citation outcomes when compared to District 6. We found no statistically significant difference in racial/ethnic disparity for discretionary searches or arrests. Lastly, there were no significant differences in the distribution of searches with and without seizures across drivers' race/ethnicity for District 7.

Conclusion and MCSO Response

The purpose of this quarterly report was to investigate inequitable outcomes at the district level. TSAR 10 found evidence that MCSO had disparate outcomes for stop length for Black drivers, discretionary searches for Minority drivers, and arrest rates for Hispanic, Black, and Minority drivers compared to White drivers.

To further investigate disparate outcomes at the district level, MCSO analyzed the 2024 traffic stop data in five ways. First, MCSO described the general patterns of traffic enforcement activity from each district. Second, we determined whether districts differed from one another in average stop lengths and stop outcomes of citations, searches and arrests. Third, we utilized propensity score matching to determine within-district disparity for stop length and stop outcomes. Fourth, we compared between-district levels of disparity to identify whether districts differ from one another in their levels of disparity. Finally, we analyzed search and seizure activity for each district to determine whether different racial/ethnic groups experienced seizures following discretionary searches at different rates.

In comparing differences in stop length, we found that all districts differed from one another. District 1 had longer average stop lengths than Districts 5 and 6, but lower average stop lengths than Districts 2, 3, or 4. In general, District 2 had longer average stop lengths compared to all other districts. District 3 had longer average stop lengths when compared to Districts 1, 5, 6, or 7, but shorter average stop lengths when compared to District 2. District 4 had shorter average stop lengths when compared to Districts 1, 5, 6, or 7. District 5 had shorter average stop lengths when compared to Districts 1, 2, 3, 4, or 7. District 6 (the Motors Unit) had shorter average stop lengths when compared to Districts 2, 3, 4, or 7. Finally, District 7 had shorter average stop lengths when compared to Districts 2, 3, or 4, and longer average stop lengths when compared to Districts 5 or 6.

Our analysis comparing citation activity among districts identified differences across all districts. We found that drivers stopped by District 1 deputies were more likely to be issued a citation when compared to drivers stopped by deputies from Districts 2, 4, 5, or 7, but were less likely to be issued a citation by deputies assigned to Districts 3 or 6. Drivers stopped by District 2 deputies were less likely to receive a citation than drivers stopped by deputies from Districts 1, 3, or 6. We identified that drivers stopped by District 3 deputies were more likely to receive a citation than drivers stopped by deputies from Districts 1, 2, 4, 5, or 7 but were less likely to receive a citation than drivers stopped by deputies from District 6 (the Motors Unit). Drivers stopped by District 4 deputies were less likely to receive a citation than drivers stopped by deputies from Districts 1, 3, or 6. Drivers stopped by deputies from District 5 were less likely to receive a citation than drivers stopped by deputies from Districts 1, 3, or 6. Deputies stopped by deputies from District 6 (the Motors Unit) were more likely to receive a citation when compared to all other districts. Finally, drivers stopped by deputies from District 7 were less likely to receive a citation when compared to drivers stopped by deputies from Districts 1, 3, or 6.

Our analysis comparing discretionary search activity identified that the likelihood of a search was higher in district 1 when compared to Districts 2, 4, 5, or 7. The likelihood of a discretionary search was lower in District 2 when compared to District 1 but higher when compared to Districts 4 or 5. The likelihood of a discretionary search for drivers stopped by District 3 deputies was higher when compared to drivers stopped by deputies from Districts 4, 5, or 7. Drivers stopped by District 4 deputies had a lower likelihood of a discretionary search than drivers stopped by deputies from Districts 1, 2, or 3. There were no discretionary searches during traffic stops by deputies from District 6 (the Motors Unit). Finally, drivers stopped by District 7 deputies were less likely to experience a discretionary search during the traffic stop when compared to drivers stopped by deputies from District 1.

Analysis of arrest activity in the districts found significant differences in the likelihood of arrest across all districts. We identified that drivers stopped by District 1 deputies were more likely to experience an arrest than drivers stopped by deputies from Districts 2, 3, 4, 6, or 7 but were less likely to experience an arrest when compared to drivers stopped by deputies from District 5. Drivers stopped by District 2 deputies were less likely to be arrested than drivers stopped by deputies from Districts 1 or 5 but were more likely to be arrested than drivers stopped by deputies from Districts 4 or 6. Drivers stopped by deputies from District 3 were less likely to be arrested than drivers stopped by deputies from Districts 1 or 5, but were more likely to be arrested than drivers stopped by deputies from Districts 4 or 6. Drivers stopped by deputies from District 4 were less likely to be arrested than drivers from all other districts. Drivers stopped by District 5 deputies were more likely to be arrested when compared to all other districts. Drivers stopped by District 6 deputies were less likely to be arrested than drivers stopped by deputies from Districts 1, 2, 3, 5, or 7 but were more likely to be arrested than drivers stopped by deputies from District 4. Finally, drivers stopped by deputies from District 7 were more likely to be arrested than drivers stopped by deputies from Districts 4 or 6, but were less likely to be arrested than drivers stopped by deputies from Districts 1 or 5.

For this research we conducted 79 propensity score matching analyses of disparity along four benchmarks for Hispanic, Black and Minority drivers. We identified 10 instances of statistically significant differences. For stop length, we identified a difference between White and Black drivers in District 3 and in District 5. For citation outcomes we identified a statistically significant difference in the citation rates between Hispanic and White driver in District 3 and District 5. Analyzing discretionary searches, we found a statistically significant difference in the citation rate between Minority and White drivers in District 5. Finally, we identified five statistically significant difference in arrest rates between Hispanic and White drivers in District 1; between Minority and White drivers in District 5; between Black and White drivers in District 6; between Minority and White drivers in District 6; and between Black and White drivers in District 7.

In the third analysis, we identified district-level differences in disparities. Additionally, we tested whether district-level disparity contributes to the overall disparity at the office level. With two exceptions we found that district-level disparity did not significantly contribute to the overall

disparity measured at the office-level. We identified that the activity of District 6 (the Motors Unit) contributes to lowering citation disparity across the Office for Hispanic and White driver and for Minority and White drivers.

Finally, in our analysis of seizures following searches, we found one statistically significant difference in the seizure rate following searches (District 1). However, in this case, the seizure rate was lower for White drivers than it was for Hispanic drivers.

Additional Actions

As with every quarterly, this report will be made available to the public and internal town halls will be held in each district to brief district commanders and staff on the findings.

It is often challenging to identify new operational measures designed to reduce disparities that may be impactful in addition to the already significant efforts that MCSO has been implementing with its continual policy evaluation, training, inspections, and TSMR interventions. To ensure the internal discussions that have historically occurred are evidenced moving forward, the Internal Review Group (IRG) was created in November 2023. The IRG is a multi-disciplinary group of personnel of varied ranks and roles, including patrol representatives from multiple districts, to ensure that findings are interpreted well and to provide advice to Executive Command on potential strategies to implement to address any findings of disparity. This review group will consider the results of this quarterly along with any recommendations from the Monitor, Parties and Community Advisory Board in response to these results and make recommendations to Executive Command for an appropriate MCSO response. To provide transparency, all recommendations will be documented along with the action items taken in response or reasons why a particular recommendation was not advanced.

District-Specific Disparity and Planned Action

District 1

This research identified disparity in arrests for White and Hispanic drivers in District 1. MCSO supervisors currently review all arrests made during traffic stops within 72 hours. MCSO will be examining all arrests for the office in response to findings in the TSAR 10 and will include reviews of District 1 arrests that led to the disparity identified in this report.

District 2

Propensity score matching analyses identified no statistically significant disparity for any benchmark (stop length, citations, searches, arrests) for any racial/ethnic group (Hispanic, Black, or Minority drivers) in District 2.

District 3

This research identified statistically significant differences in stop length between Black and White drivers in District 3 and statistically significant differences in citation rates between Hispanic and White drivers in District 3. Currently, all traffic stops that exceed 20 minutes but for which no extended stop indicators are used to document delays are reviewed by TSAU staff. MCSO will examine specific ARS codes for violations and warnings issued by District 3 deputies in 2024 to determine whether specific violations were cited at similar rates across racial/ethnic groups.

District 4

This research identified no statistically significant differences for any benchmark (stop length, citations, searches, arrests) for any racial/ethnic group (Hispanic, Black, and Minority drivers) in District 4.

District 5

For District 5, this research identified disparities in stop length for Black and White drivers, citation rates for Hispanic and White drivers, discretionary search rates for Minority and White drivers, and disparity in arrest rates for Minority and White drivers.

District 6 (the Motors Unit)

This research identified statistically significant disparity in arrests in District 6 between Black and White drivers and between Minority and White drivers. MCSO supervisors currently review all arrests made during traffic stops within 72 hours. MCSO will be examining all arrests for the office in response to findings in the TSAR 10 and will include reviews of District 6 arrests that led to the disparity identified in this report.

District 7

This research identified statistically significant disparity in arrests between Black and White drivers in District 7. MCSO supervisors currently review all arrests made during traffic stops within 72 hours. MCSO will be examining all arrests for the office in response to findings in the TSAR 10 and will include reviews of District 7 arrests that led to the disparity identified in this report.

Appendix A: Modeling Stop Length Differences for Districts

Table 1A: Regression Results for Stop Length, District Fixed-Effects

	Model D1	Model D2	Model D3	Model D4
	Stop Length	Stop Length	Stop Length	Stop Length
Spline Time 1	0.12 (0.06)	0.12 (0.06)	0.12 (0.06)	0.12 (0.06)
Spline Time 2	–0.02 (0.04)	–0.02 (0.04)	–0.02 (0.04)	–0.02 (0.04)
Spline Time 3	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)
Spline Time 4	0.17* (0.03)	0.17* (0.03)	0.17* (0.03)	0.17* (0.03)
Spline Time 5	0.08 (0.22)	0.08 (0.22)	0.08 (0.22)	0.08 (0.22)
Driver Sex M	0.05 (0.07)	0.05 (0.07)	0.05 (0.07)	0.05 (0.07)
Civil Traffic	2.30 (0.47)	2.30 (0.47)	2.30 (0.47)	2.30 (0.47)
Non-AZ Plate	1.41* (0.14)	1.41* (0.14)	1.41* (0.14)	1.41* (0.14)
Arrest	5.47* (0.49)	5.47* (0.49)	5.47* (0.49)	5.47* (0.49)
Search	31.42* (1.18)	31.42* (1.18)	31.42* (1.18)	31.42* (1.18)
Deputy Category				
Traffic	0.18 (0.31)	0.18 (0.31)	0.18 (0.31)	0.18 (0.31)
Supervisors	1.78* (0.40)	1.78* (0.40)	1.78* (0.40)	1.78* (0.40)
Off Duty	4.44* (1.46)	4.44* (1.46)	4.44* (1.46)	4.44* (1.46)
Patrol	0.36 (0.28)	0.36 (0.28)	0.36 (0.28)	0.36 (0.28)
Districts				
District 1	–	1.51* (0.17)	1.09* (0.16)	1.24* (0.16)
District 2	1.51* (0.17)	–	0.42* (0.18)	0.28 (0.18)
District 3	1.09* (0.16)	0.42* (0.18)	–	0.15 (0.17)
District 4	1.24* (0.16)	0.28 (0.18)	0.15 (0.17)	–
District 5	0.32* (0.13)	1.84* (0.16)	1.41* (0.14)	1.56* (0.14)
District 6	0.34 (0.20)	1.86* (0.22)	1.43* (0.21)	1.58* (0.16)
District 7	0.11 (0.15)	1.41* (0.17)	0.98* (0.16)	1.13* (0.12)
Constant	7.91* (0.63)	9.43* (0.61)	9.00* (0.63)	9.15* (0.64)
F (20, 10,050)	87.13*	87.13*	87.13*	87.13*
R^2	0.148	0.148	0.148	0.148
N	10,071	10,071	10,071	10,071

*$p < 0.05$; "Other" deputies are the reference category.

Table 2A: Regression Results for Stop Length, District Fixed-Effects

	Model D5	Model D6	Model D7
	Stop Length	Stop Length	Stop Length
Spline Time 1	0.12 (0.06)	0.12 (0.06)	0.12 (0.06)
Spline Time 2	–0.02 (0.04)	–0.02 (0.04)	–0.02 (0.04)
Spline Time 3	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)
Spline Time 4	0.17* (0.03)	0.17* (0.03)	0.17* (0.03)
Spline Time 5	0.08 (0.22)	0.08 (0.22)	0.08 (0.22)
Driver Sex M	0.05 (0.07)	0.05 (0.07)	0.05 (0.07)
Civil Traffic	2.30 (0.47)	2.30 (0.47)	2.30 (0.47)
Non-AZ Plate	1.41* (0.14)	1.41* (0.14)	1.41* (0.14)
Arrest	5.47* (0.49)	5.47* (0.49)	5.47* (0.49)
Search	31.42* (1.18)	31.42* (1.18)	31.42* (1.18)
Deputy Category			
Traffic	0.18 (0.31)	0.18 (0.31)	0.18 (0.31)
Supervisors	1.78* (0.40)	1.78* (0.40)	1.78* (0.40)
Off Duty	4.44* (1.46)	4.44* (1.46)	4.44* (1.46)
Patrol	0.36 (0.28)	0.36 (0.28)	0.36 (0.28)
Districts			
District 1	0.32* (0.13)	0.34 (0.20)	0.11 (0.15)
District 2	1.84* (0.16)	1.86* (0.22)	1.41* (0.17)
District 3	1.41* (0.14)	1.43* (0.21)	0.98* (0.16)
District 4	1.56* (0.14)	1.58* (0.16)	1.13* (0.12)
District 5	–	0.02 (0.19)	0.43* (0.13)
District 6	0.02 (0.19)	–	0.45* (0.15)
District 7	0.43* (0.13)	0.43* (0.15)	–
Constant	7.59* (0.64)	7.56* (0.65)	8.02* (0.64)
F (20, 10,050)	87.13*	87.13*	87.13*
R^2	0.148	0.148	0.148
N	10,071	10,071	10,071

*$p < 0.05$; "Other" deputies are the reference category.

Appendix B: Modeling Citation Outcomes for Districts

Table 1B: Logistic Regression Results for Citations, District Fixed-Effects

	Model D1	Model D2	Model D3	Model D4
Spline Time 1	1.03 (0.04)	1.03 (0.04)	1.03 (0.04)	1.03 (0.04)
Spline Time 2	0.96 (0.03)	0.96 (0.03)	0.96 (0.03)	0.96 (0.03)
Spline Time 3	1.00 (0.02)	1.00 (0.02)	1.00 (0.02)	1.00 (0.02)
Spline Time 4	0.96* (0.02)	0.96* (0.02)	0.96* (0.02)	0.96* (0.02)
Spline Time 5	1.28 (0.17)	1.28 (0.17)	1.28 (0.17)	1.28 (0.17)
Driver Sex M	1.06 (0.06)	1.06 (0.06)	1.06 (0.06)	1.06 (0.06)
Civil Traffic	0.03* (0.03)	0.03* (0.03)	0.03* (0.03)	0.03* (0.03)
Non-AZ Plate	0.61* (0.06)	0.61* (0.06)	0.61* (0.06)	0.61* (0.06)
Deputy Category				
Traffic	2.06* (0.39)	2.06* (0.39)	2.06* (0.39)	2.06* (0.39)
Supervisors	0.48* (0.11)	0.48* (0.11)	0.48* (0.11)	0.48* (0.11)
Off Duty	1.62 (1.20)	1.62 (1.20)	1.62 (1.20)	1.62 (1.20)
Patrol	0.71* (0.11)	0.71* (0.11)	0.71* (0.11)	0.71* (0.11)
Districts				
District 1	–	1.59* (0.14)	0.62* (0.06)	1.45* (0.13)
District 2	0.63* (0.06)	–	0.39* (0.04)	0.91 (0.09)
District 3	1.62* (0.16)	2.57* (0.28)	–	2.35* (0.26)
District 4	0.69* (0.06)	1.09 (0.11)	0.43* (0.05)	–
District 5	0.71* (0.05)	1.12 (0.10))	0.44* (0.04)	1.02 (0.09)
District 6	2.43* (0.46)	3.85* (0.76)	1.50* (0.30)	3.52* (0.63)
District 7	0.72* (0.07)	1.14 (0.12)	0.44* (0.05)	1.04 (0.10)
Offense Categories				
Speed	0.02* (0.01)	0.02* (0.01)	0.02* (0.01)	0.02* (0.01)
Non-Speed Moving	1.63* (0.19)	1.63* (0.19)	1.63* (0.19)	1.63* (0.19)
Driving Documentation	7.69* (0.87)	7.69* (0.87)	7.69* (0.87)	7.69* (0.87)
Equipment	0.14* (0.02)	0.14* (0.02)	0.14* (0.02)	0.14* (0.02)
Other Offense	4.12* (0.59)	4.12* (0.59)	4.12* (0.59)	4.12* (0.59)
ARS 28-3151A	108.48* (39.00)	108.48* (39.00)	108.48* (39.00)	108.48* (39.00)
Speed 0–4 mph	0.00* (0.00)	0.00* (0.00)	0.00* (0.00)	0.00* (0.00)
Speed 5–9 mph	Omitted[a]	Omitted[a]	Omitted[a]	Omitted[a]
Speed 10–14 mph	0.08* (0.10)	0.08* (0.10)	0.08* (0.10)	0.08* (0.10)
Speed 15–19 mph	1.61 (2.27)	1.61 (2.27)	1.61 (2.27)	1.61 (2.27)
Speed 20–24 mph	1.74 (2.45)	1.74 (2.45)	1.74 (2.45)	1.74 (2.45)
Speed 25–29 mph	Omitted[a]	Omitted[a]	Omitted[a]	Omitted[a]
Speed 30–34 mph	Omitted[a]	Omitted[a]	Omitted[a]	Omitted[a]
Speed 35–39 mph	Omitted[a]	Omitted[a]	Omitted[a]	Omitted[a]
Speed 40–44 mph	Omitted[a]	Omitted[a]	Omitted[a]	Omitted[a]
Speed 45–49 mph	Omitted[a]	Omitted[a]	Omitted[a]	Omitted[a]
Speed 50–54 mph	Omitted[a]	Omitted[a]	Omitted[a]	Omitted[a]
Speed 55–59 mph	Omitted[a]	Omitted[a]	Omitted[a]	Omitted[a]
Speed 60–64 mph	Omitted[a]	Omitted[a]	Omitted[a]	Omitted[a]
Constant	3,170,741* (3,467,754)	1,997,079* (2,180,615)	5,130,062* (5,625,532)	2,184,242* (2,395,567)
χ^2	16,780.89*	16,780.89*	16,780.89*	16,780.89*
R^2	0.642	0.642	0.642	0.642
N	20,103	20,103	20,103	20,103

*$p < 0.05$; "Other" deputy assignments are the reference category; [a] Variable omitted because of collinearity.

Table 2B: Logistic Regression Results for Citations, District Fixed-Effects

	Model D5	Model D6	Model D7
Spline Time 1	1.03 (0.04)	1.03 (0.04)	1.03 (0.04)
Spline Time 2	0.96 (0.03)	0.96 (0.03)	0.96 (0.03)
Spline Time 3	1.00 (0.02)	1.00 (0.02)	1.00 (0.02)
Spline Time 4	0.96* (0.02)	0.96* (0.02)	0.96* (0.02)
Spline Time 5	1.28 (0.17)	1.28 (0.17)	1.28 (0.17)
Driver Sex M	1.06 (0.06)	1.06 (0.06)	1.06 (0.06)
Civil Traffic	0.03* (0.03)	0.03* (0.03)	0.03* (0.03)
Non-AZ Plate	0.61* (0.06)	0.61* (0.06)	0.61* (0.06)
Deputy Category			
Traffic	2.06* (0.39)	2.06* (0.39)	2.06* (0.39)
Supervisors	0.48* (0.11)	0.48* (0.11)	0.48* (0.11)
Off Duty	1.62 (1.20)	1.62 (1.20)	1.62 (1.20)
Patrol	0.71* (0.11)	0.71* (0.11)	0.71* (0.11)
Districts			
District 1	1.42* (0.11)	0.41* (0.08)	1.40* (0.14)
District 2	0.89 (0.08)	0.26* (0.05)	0.88 (0.10)
District 3	2.29* (0.23)	0.67 (0.13)	2.26* (0.26)
District 4	0.98 (0.09)	0.28* (0.05)	0.96 (0.10)
District 5	–	0.29* (0.05)	0.98 (0.10)
District 6	3.44* (0.66)	–	3.39* (0.63)
District 7	1.02 (0.10)	0.30* (0.05)	–
Offense Categories			
Speed	0.02* (0.01)	0.02* (0.01)	0.02* (0.01)
Non-Speed Moving	1.63* (0.19)	1.63* (0.19)	1.63* (0.19)
Driving Documentation	7.69* (0.87)	7.69* (0.87)	7.69* (0.87)
Equipment	0.14* (0.02)	0.14* (0.02)	0.14* (0.02)
Other Offense	4.12* (0.59)	4.12* (0.59)	4.12* (0.59)
ARS 28-3151A	108.48* (39.00)	108.48* (39.00)	108.48* (39.00)
Speed 0–4 mph	0.00* (0.00)	0.00* (0.00)	0.00* (0.00)
Speed 5–9 mph	Omitted[a]	Omitted[a]	Omitted[a]
Speed 10–14 mph	0.08* (0.10)	0.08* (0.10)	0.08* (0.10)
Speed 15–19 mph	1.61 (2.27)	1.61 (2.27)	1.61 (2.27)
Speed 20–24 mph	1.74 (2.45)	1.74 (2.45)	1.74 (2.45)
Speed 25–29 mph	Omitted[a]	Omitted[a]	Omitted[a]
Speed 30–34 mph	Omitted[a]	Omitted[a]	Omitted[a]
Speed 35–39 mph	Omitted[a]	Omitted[a]	Omitted[a]
Speed 40–44 mph	Omitted[a]	Omitted[a]	Omitted[a]
Speed 45–49 mph	Omitted[a]	Omitted[a]	Omitted[a]
Speed 50–54 mph	Omitted[a]	Omitted[a]	Omitted[a]
Speed 55–59 mph	Omitted[a]	Omitted[a]	Omitted[a]
Speed 60–64 mph	Omitted[a]	Omitted[a]	Omitted[a]
Constant	2,236,350* (2,447,670)	7,697,124* (8,542,483)	2,270,767 (2,491,908)
χ^2	16,780.89*	16,780.89*	16,780.89*
R^2	0.642	0.642	0.642
N	20,103	20,103	20,103

*$p < 0.05$; "Other" deputy assignments are the reference category; [a]Variable omitted because of collinearity.

Appendix C: Modeling Search Outcomes for Districts

Table 1C: Logistic Regression Results for Searches, District Fixed-Effects

	Model D1	Model D2	Model D3
	Searches	Searches	Searches
Spline Time 1	0.89 (0.10)	0.89 (0.10)	0.89 (0.10)
Spline Time 2	0.92 (0.09)	0.92 (0.09)	0.92 (0.09)
Spline Time 3	1.04 (0.10)	1.04 (0.10)	1.04 (0.10)
Spline Time 4	1.15* (0.08)	1.15* (0.08)	1.15* (0.08)
Spline Time 5	1.02 (0.34)	1.02 (0.34)	1.02 (0.34)
Driver Sex M	2.81* (0.73)	2.81* (0.73)	2.81* (0.73)
Civil Traffic	0.13* (0.03)	0.13* (0.03)	0.13* (0.03)
Non-AZ Plate	1.11 (0.36)	1.11 (0.36)	1.11 (0.36)
Deputy Category			
Traffic	0.42 (0.37)	0.42 (0.37)	0.42 (0.37)
Supervisors	1.24 (0.87)	1.24 (0.87)	1.24 (0.87)
Off Duty	27.35* (26.33)	27.35* (26.33)	27.35* (26.33)
Patrol	1.22 (0.66)	1.22 (0.66)	1.22 (0.66)
Districts			
District 1	–	1.79* (0.47)	1.26 (0.33)
District 2	0.56* (0.15)	–	0.70 (0.22)
District 3	0.80 (0.21)	1.43 (0.44)	–
District 4	0.12* (0.07)	0.22* (0.13)	0.16* (0.09)
District 5	0.18* (0.06)	0.32* (0.12)	0.23* (0.08)
District 6	Omitted	Omitted	Omitted
District 7	0.23* (0.11)	0.41 (0.21)	0.29* (0.08)
Constant	0.06* (0.04)	0.03* (0.02)	0.05* (0.03)
χ^2	254.27*	254.27*	254.27*
R^2	0.173	0.173	0.173
N	18,940	18,940	18,940

*$p < 0.05$; "Other" deputies are the reference category.

Table 2C: Logistic Regression Results for Searches, District Fixed-Effects

	Model D4	Model D5	Model D6	Model D7
	Searches	Searches	Searches	Searches
Spline Time 1	0.89 (0.10)	0.89 (0.10)	N/A	0.89 (0.10)
Spline Time 2	0.92 (0.09)	0.92 (0.09)	N/A	0.92 (0.09)
Spline Time 3	1.04 (0.10)	1.04 (0.10)	N/A	1.04 (0.10)
Spline Time 4	1.15* (0.08)	1.15* (0.08)	N/A	1.15* (0.08)
Spline Time 5	1.02 (0.34)	1.02 (0.34)	N/A	1.02 (0.34)
Driver Sex M	2.81* (0.73)	2.81* (0.73)	N/A	2.81* (0.73)
Civil Traffic	0.13* (0.03)	0.13* (0.03)	N/A	0.13* (0.03)
Non-AZ Plate	1.11 (0.36)	1.11 (0.36)	N/A	1.11 (0.36)
Deputy Category				
Traffic	0.42 (0.37)	0.42 (0.37)	N/A	0.42 (0.37)
Supervisors	1.24 (0.87)	1.24 (0.87)	N/A	1.24 (0.87)
Off Duty	27.35* (26.33)	27.35* (26.33)	N/A	27.35* (26.33)
Patrol	1.22 (0.66)	1.22 (0.66)	N/A	1.22 (0.66)
Districts				
District 1	8.05* (4.43)	5.52* (1.78)	N/A	4.37* (2.11)
District 2	4.49* (2.59)	3.08* (1.12)	N/A	2.44 (1.24)
District 3	6.41* (3.68)	4.39* (1.59)	N/A	3.48* (1.78)
District 4	–	0.68 (0.41)	N/A	0.54 (0.35)
District 5	1.46 (0.88)	–	N/A	0.79 (0.43)
District 6	Omitted	Omitted	N/A	Omitted
District 7	1.84 (1.20)	1.26 (0.67)	N/A	–
Constant	0.00* (0.00)	0.01* (0.01)	N/A	0.01* (0.01)
χ^2	254.27*	254.27*	N/A	254.27*
R^2	0.173	0.173	N/A	0.173
N	18,940	18,940	N/A	18,940

*$p < 0.05$; "Other" deputies are the reference category.

Appendix D: Modeling Arrest Outcomes for Districts

Table 1D: Logistic Regression Results for Arrests, District Fixed-Effects

	Model D1	Model D2	Model D3	Model D4
	Arrests	Arrests	Arrests	Arrests
Spline Time 1	0.85* (0.03)	0.85* (0.03)	0.85* (0.03)	0.85* (0.03)
Spline Time 2	0.89* (0.03)	0.89* (0.03)	0.89* (0.03)	0.89* (0.03)
Spline Time 3	1.14* (0.03)	1.14* (0.03)	1.14* (0.03)	1.14* (0.03)
Spline Time 4	0.99 (0.02)	0.99 (0.02)	0.99 (0.02)	0.99 (0.02)
Spline Time 5	1.72* (0.25)	1.72* (0.25)	1.72* (0.25)	1.72* (0.25)
Driver Sex M	1.76* (0.12)	1.76* (0.12)	1.76* (0.12)	1.76* (0.12)
Non-AZ Plate	0.80* (0.09)	0.80* (0.09)	0.80* (0.09)	0.80* (0.09)
Deputy Category				
Traffic	1.35 (0.30)	1.35 (0.30)	1.35 (0.30)	1.35 (0.30)
Supervisors	0.74 (0.17)	0.74 (0.17)	0.74 (0.17)	0.74 (0.17)
Off Duty	0.88 (0.93)	0.88 (0.93)	0.88 (0.93)	0.88 (0.93)
Patrol	0.48* (0.09)	0.48* (0.09)	0.48* (0.09)	0.48* (0.09)
Districts				
District 1	–	1.45* (0.18)	1.73* (0.25)	6.27* (1.03)
District 2	0.69* (0.08)	–	1.19 (0.18)	4.33* (0.77)
District 3	0.58* (0.08)	0.84 (0.13)	–	3.63* (0.70)
District 4	0.16* (0.03)	0.23* (0.04)	0.28* (0.05)	–
District 5	1.43* (0.14)	2.07* (0.24)	2.47* (0.34)	8.97* (1.41)
District 6	0.38* (0.07)	0.54* (0.11)	0.65* (0.14)	2.36* (0.40)
District 7	0.71 (0.09)	1.03 (0.15)	1.23 (0.20)	4.46* (0.61)
Constant				
χ^2	490.35*	490.35*	490.35*	490.35*
R^2	0.053	0.053	0.053	0.053
N	20,260	20,260	20,260	20,260

*p <0.05; “Other” deputies are the reference category.

Table 2D: Logistic Regression Results for Arrests, District Fixed-Effects

	Model D5	Model D6	Model D7
	Arrests	Arrests	Arrests
Spline Time 1	0.85* (0.03)	0.85* (0.03)	0.85* (0.03)
Spline Time 2	0.89* (0.03)	0.89* (0.03)	0.89* (0.03)
Spline Time 3	1.14* (0.03)	1.14* (0.03)	1.14* (0.03)
Spline Time 4	0.99 (0.02)	0.99 (0.02)	0.99 (0.02)
Spline Time 5	1.72* (0.25)	1.72* (0.25)	1.72* (0.25)
Driver Sex M	1.76* (0.12)	1.76* (0.12)	1.76* (0.12)
Non-AZ Plate	0.80* (0.09)	0.80* (0.09)	0.80* (0.09)
Deputy Category			
Traffic	1.35 (0.30)	1.35 (0.30)	1.35 (0.30)
Supervisors	0.74 (0.17)	0.74 (0.17)	0.74 (0.17)
Off Duty	0.88 (0.93)	0.88 (0.93)	0.88 (0.93)
Patrol	0.48* (0.09)	0.48* (0.09)	0.48* (0.09)
Districts			
District 1	0.70* (0.07)	2.66* (0.48)	1.40* (0.18)
District 2	0.48* (0.06)	1.84* (0.36)	0.97 (0.14)
District 3	0.40* (0.06)	1.54* (0.32)	0.81 (0.13)
District 4	0.11* (0.02)	0.42* (0.07)	0.22* (0.03)
District 5	–	3.80* (0.68)	2.01* (0.25)
District 6	0.26* (0.05)	–	0.53* (0.08)
District 7	0.50* (0.06)	1.89* (0.27)	–
Constant	0.11* (0.03)	0.11* (0.03)	0.20* (0.05)
χ^2	490.35*	490.35*	490.35*
R^2	0.053	0.053	0.053
N	20,260	20,260	20,260

*$p < 0.05$; Patrol deputies are the reference category.

Appendix E: Modeling District Differences in Disparity in Stop Length

Hispanic v. White

Table 1E: Results for Differences in District-level Disparity in Stop Length (Hispanic v. White)

	Reference Group			
	District 1	District 2	District 3	District 4
	Model D1 Stop Length	Model D2 Stop Length	Model D3 Stop Length	Model D4 Stop Length
Hispanic	0.77* (0.24)	1.16 (0.70)	0.60 (0.27)	0.46 (0.31)
District 1		1.18* (0.23)	1.10* (0.18)	0.92* (0.15)
District 2	1.18* (0.23)		0.08 (0.23)	0.26 (0.21)
District 3	1.10* (0.18)	0.08 (0.23)		0.18 (0.15)
District 4	0.92* (0.15)	0.26 (0.21)	0.18 (0.15)	
District 5	0.15 (0.15)	1.32* (0.20)	1.25* (0.15)	1.06* (0.10)
District 6	0.86* (0.23)	2.05* (0.27)	1.97* (0.23)	1.78* (0.21)
District 7	0.08 (0.14)	1.10* (0.20	1.02* (0.15)	0.84* (0.10)
District 1*Hispanic		0.40 (0.75)	0.17 (0.37)	0.30 (0.40)
District 2*Hispanic	0.40 (0.75)		0.57 (0.76)	0.70 (0.77)
District 3*Hispanic	0.17 (0.37)	0.56 (0.76)		0.13 (0.41)
District 4*Hispanic	0.30 (0.40)	0.70 (0.77)	0.13 (0.41)	
District 5*Hispanic	0.60* (0.29)	0.99 (0.72)	0.43 (0.31)	0.29 (0.35)
District 6*Hispanic	0.19 (0.39)	0.59 (0.77)	0.02 (0.41)	0.11 (0.43)
District 7*Hispanic	0.64 (0.31)	1.03 (0.73)	0.47 (0.33)	0.33 (0.36)
Constant	9.98* (0.13)	11.15* (0.19)	11.08* (0.13)	10.89* (0.08)
N	9,041	9,041	9,041	9,041
F	22.39*	22.39*	22.39*	22.39*
R^2	0.043	0.043	0.043	0.043
Linear Hypothesis *F*	1.42*	1.42	1.42	1.42

*$p < 0.05$

Table 2E: Results for Differences in District-level Disparity in Stop Length (Hispanic v. White)

	Reference Group		
	District 5	District 6	District 7
	Model D5 Stop Length	Model D6 Stop Length	Model D7 Stop Length
Hispanic	0.17 (0.16)	0.58 (0.30)	0.13 (0.18)
District 1	0.14 (0.14)	0.87* (0.23)	0.08 (0.15)
District 2	1.32* (0.20)	2.05* (0.27)	1.10* (0.20)
District 3	1.25* (0.15)	1.97* (0.23)	1.02* (0.15)
District 4	1.06* (0.10)	1.78* (0.21)	0.84* (0.10)
District 5		0.72* (0.20)	0.23* (0.09)
District 6	0.72* (0.20)		0.45 (0.35)
District 7	0.23* (0.09)	0.95* (0.20)	
District 1*Hispanic	0.60* (0.29)	0.19 (0.39)	0.64* (0.31)
District 2*Hispanic	0.99 (0.72)	0.59 (0.77)	1.03 (0.73)
District 3*Hispanic	0.43 (0.31)	0.02 (0.41)	0.47 (0.33)
District 4*Hispanic	0.29 (0.35)	0.11 (0.43)	0.33 (0.36)
District 5*Hispanic		0.40 (0.34)	0.04 (0.24)
District 6*Hispanic	0.40 (0.33)		0.45 (0.35)
District 7*Hispanic	0.04 (0.24)	0.45 (0.35)	
Constant	9.83* (0.07)	9.11* (0.19)	10.06* (0.07)
N	9,041	9,041	9,041
F	22.39*	22.39*	22.39*
R^2	0.043	0.043	0.043
Linear Hypothesis *F*	1.42	1.42	1.42

*$p < 0.05$

Black v. White

Table 3E: Results for Differences in District-level Disparity in Stop Length (Black v. White)

	Reference Group			
	District 1	District 2	District 3	District 4
	Model D1 Stop Length	Model D2 Stop Length	Model D3 Stop Length	Model D4 Stop Length
Black	1.44* (0.32)	1.30 (0.85)	1.81* (0.55)	0.09 (0.62)
District 1	–	–1.74* (0.26)	–1.20* (0.20)	–0.79* (0.16)
District 2	1.74* (0.26)	–	0.54* (0.27)	0.95* (0.24)
District 3	1.20* (0.20)	–0.54* (0.27)	–	0.41* (0.17)
District 4	0.79* (0.16)	–0.95* (0.24)	–0.41* (0.17)	–
District 5	–0.02 (0.20)	–1.76* (0.26)	–1.22* (0.21)	–0.81* (0.17)
District 6	–0.75* (0.27)	–2.49* (0.32)	–1.95* (0.28)	–1.54* (0.25)
District 7	0.50 (0.15)	–1.69* (0.23)	–1.15* (0.16)	–0.74* (0.12)
District 1*Black	–	0.14 (0.91)	–0.37 (0.64)	1.36 (0.70)
District 2*Black	–0.14 (0.91)	–	–0.51 (1.01)	1.21 (1.05)
District 3*Black	0.37 (0.64)	0.51 (1.01)	–	1.72* (0.83)
District 4*Black	–1.36 (0.70)	–1.21 (1.05)	–1.72* (0.83)	–
District 5*Black	0.21 (0.66)	0.36 (1.02)	–0.15 (0.80)	1.57 (0.85)
District 6*Black	–1.20* (0.52)	–1.05 (0.94)	–1.56* (0.69)	0.16 (0.75)
District 7*Black	–0.22 (1.17)	–0.07 (1.41)	–0.58 (1.25)	1.14 (1.28)
Constant	10.09* (0.14)	11.83* (0.22)	11.29* (0.15)	10.87* (0.09)
N	7,900	7,900	7,900	7,900
F	16.20*	16.20*	16.20*	16.20*
R^2	0.038	0.038	0.038	0.038
Linear Hypothesis *F*	1.79	1.79	1.79	1.79

*$p < 0.05$

Table 4E: Results for Differences in District-level Disparity in Stop Length (Black v. White)

	Reference Group		
	District 5	District 6	District 7
	Model D5 Stop Length	Model D6 Stop Length	Model D7 Stop Length
Black	1.66* (0.58)	0.25 (0.41)	1.23 (1.12)
District 1	0.02 (0.20)	0.75* (0.27)	–0.05 (0.15)
District 2	1.76* (0.26)	1.95* (0.32)	1.69* (0.23)
District 3	1.22* (0.21)	1.54* (0.25)	1.15* (0.16)
District 4	0.81* (0.17)	0.73* (0.28)	0.74* (0.11)
District 5	–	1.41* (0.71)	–0.06 (0.16)
District 6	–0.73* (0.28)	–	–0.80 (0.25)
District 7	–0.43 (1.26)	0.80* (0.25)	–
District 1*Black	–0.21 (0.66)	1.20* (0.52)	0.22 (1.17)
District 2*Black	–0.36 (1.02)	1.05 (0.94)	0.07 (1.40)
District 3*Black	0.15 (0.80)	1.56* (0.69)	0.58 (1.25)
District 4*Black	–1.57 (0.85)	–0.16 (0.75)	–1.14 (1.28)
District 5*Black	–	1.41* (0.71)	0.43 (1.26)
District 6*Black	–1.41* (0.71)	–	–0.98 (1.19)
District 7*Black	–0.43 (1.26)	0.98 (1.19)	–
Constant	10.07* (0.14)	9.34* (0.24)	10.13* (0.07)
N	7,900	7,900	7,900
F	16.20*	16.20*	16.20*
R^2	0.038	0.038	0.038
Linear Hypothesis *F*	1.79	1.79	1.79

*$p < 0.05$

Minority v. White

Table 5E: Results for Differences in District-level Disparity in Stop Length (Minority v. White)

	Reference Group			
	District 1	District 2	District 3	District 4
	Model D1 Stop Length	Model D2 Stop Length	Model D3 Stop Length	Model D4 Stop Length
Minority	0.92* (0.20)	1.18* (0.52)	0.92* (0.27)	0.36 (0.24)
District 1	–	–1.28* (0.23)	–1.11* (0.18)	–0.90* (0.15)
District 2	1.28* (0.23)	–	0.17 (0.23)	0.38 (0.21)
District 3	1.11* (0.18)	–0.17 (0.23)	–	0.20 (0.15)
District 4	0.90* (0.15)	–0.38 (0.21)	–0.20 (0.15)	–
District 5	–0.11 (0.15)	–1.39* (0.21)	–1.22* (0.15)	–1.01* (0.11)
District 6	–0.86* (0.23)	–2.14* (0.27)	–1.97* (0.23)	–1.77* (0.20)
District 7	0.07 (0.14)	–1.21* (0.20)	–1.03* (0.15)	–0.83 (0.58)
District 1*Minority	–	–0.26 (0.56)	–0.00 (0.34)	0.54 (0.32)
District 2*Minority	0.26 (0.56)	–	0.25 (0.59)	0.80 (0.58)
District 3*Minority	0.00 (0.34)	–0.25 (0.59)	–	0.55 (0.37)
District 4*Minority	–0.54 (0.32)	–0.80 (0.58)	–0.55 (0.37)	–
District 5*Minority	–0.55* (0.25)	–0.80 (0.54)	–0.55 (0.31)	–0.00 (0.29)
District 6*Minority	–0.42 (0.32)	–0.67 (0.58)	–0.42 (0.38)	0.13 (0.36)
District 7*Minority	–0.70* (0.26)	–0.95 (0.55)	–0.70* (0.32)	–0.15 (0.30)
Constant	9.99* (0.13)	11.27* (0.19)	11.10* (0.13)	10.89* (0.08)
N	10,071	10,071	10,071	10,071
F	25.05	25.05	25.05	25.05
R^2	0.042	0.042	0.042	0.042
Linear Hypothesis *F*	2.02	2.02	2.02	2.02

*$p < 0.05$

Table 6E: Results for Differences in District-level Disparity in Stop Length (Minority v. White)

	Reference Group		
	District 5	District 6	District 7
	Model D5 Stop Length	Model D6 Stop Length	Model D7 Stop Length
Minority	0.37* (0.15)	0.50 (0.26)	0.22 (0.17)
District 1	0.11 (0.15)	0.86* (0.23)	–0.07 (0.14)
District 2	1.39* (0.21)	2.14* (0.27)	1.21* (0.20)
District 3	1.22* (0.15)	1.97* (0.23)	1.03* (0.15)
District 4	1.01* (0.11)	1.77* (0.20)	0.83* (0.10)
District 5	–	0.75* (0.20)	–0.18 (0.10)
District 6	–0.75* (0.20)	–	–0.94* (0.20)
District 7	0.18 (0.10)	0.94* (0.20)	–
District 1*Minority	0.55* (0.25)	0.42 (0.32)	0.70* (0.26)
District 2*Minority	0.80 (0.54)	0.67 (0.58)	0.95 (0.55)
District 3*Minority	0.55 (0.31)	0.42 (0.38)	0.70* (0.32)
District 4*Minority	0.00 (0.29)	–0.13 (0.36)	0.15 (0.30)
District 5*Minority	–	–0.13 (0.30)	0.15 (0.23)
District 6*Minority	0.13 (0.30)	–	0.28 (0.31)
District 7*Minority	–0.15 (0.23)	–0.28 (0.31)	–
Constant	9.88* (0.08)	9.13* (0.19)	10.06* (0.07)
N	10,071	10,071	10,071
F	25.05	25.05	25.05
R^2	0.042	0.042	0.042
Linear Hypothesis *F*	2.02	2.02	2.02

*$p < 0.05$

Appendix F: Modeling District Differences in Disparity in Citation Outcomes

Hispanic v. White Drivers

Table 1F: Results for Differences in District-level Disparity in Citations, Odds Ratios (Hispanic v. White)

	Reference Group			
	District 1	District 2	District 3	District 4
	Model D1 Citations	Model D2 Citations	Model D3 Citations	Model D4 Citations
Hispanic	1.29* (0.12)	1.67* (0.17)	1.42* (0.18)	1.92* (0.22)
District 1	–	2.34* (0.22)	0.97 (0.08)	1.12 (0.08)
District 2	0.43* (0.40)	–	0.41* (0.04)	0.48* (0.04)
District 3	1.03 (0.09)	2.41* (0.25)	–	1.15 (0.09)
District 4	0.89 (0.06)	2.09* (0.18)	0.87 (0.07)	–
District 5	0.90 (0.06)	2.12* (0.18)	0.88 (0.07)	1.01 (0.05)
District 6	6.41* (0.90)	15.01* (2.26)	6.23* (0.90)	7.19 (0.96)
District 7	0.90 (0.07)	2.12* (0.19)	0.88 (0.07)	1.01 (0.06)
District 1*Hispanic	–	0.77 (0.11)	0.91 (0.14)	0.67* (0.10)
District 2*Hispanic	1.30 (0.18)	–	1.18 (0.19)	0.87 (0.14)
District 3*Hispanic	1.10 (0.17)	0.85 (0.14)	–	0.74 (0.13)
District 4*Hispanic	1.49* (0.22)	1.15 (0.18)	1.35 (0.23)	–
District 5*Hispanic	1.16 (0.14)	0.89 (0.11)	1.05 (0.15)	0.78 (0.11)
District 6*Hispanic	0.61* (0.15)	0.47* (0.11)	0.55* (0.14)	0.41* (0.10)
District 7*Hispanic	1.45* (0.23)	1.12 (0.18)	1.32 (0.23)	0.97 (0.17)
Constant	1.53* (0.09)	0.65* (0.05)	1.57* (0.11)	1.37* (0.05)
N	17,883	17,883	17,883	17,883
Wald χ^2	544.80*	544.80*	544.80*	544.80*
Pseudo R^2	0.033	0.033	0.033	0.033
Linear Hypothesis χ^2	19.93*	19.93*	19.93*	19.93*

*$p < 0.05$

Table 2F: Results for Differences in District-level Disparity in Citations, Odds Ratios (Hispanic v. White)

	Reference Group		
	District 5	District 6	District 7
	Model D5 Citations	Model D6 Citations	Model D7 Citations
Hispanic	1.50* (0.11)	0.78 (0.17)	1.86 (0.24)
District 1	1.11 (0.07)	0.16* (0.02)	1.11 (0.08)
District 2	0.47* (0.04)	0.07* (0.01)	0.47* (0.04)
District 3	1.14 (0.09)	0.16* (0.02)	1.14 (0.09)
District 4	0.99 (0.06)	0.14* (0.02)	0.99 (0.06)
District 5	–	0.14* (0.02)	1.00 (0.06)
District 6	7.09* (0.95)	–	7.09* (0.98)
District 7	1.00 (0.06)	0.14* (0.02)	–
District 1*Hispanic	0.86 (0.10)	1.64* (0.39)	0.69* (0.11)
District 2*Hispanic	1.12 (0.14)	2.13* (0.52)	0.90 (0.15)
District 3*Hispanic	0.95 (0.14)	1.81* (0.46)	0.76 (0.14)
District 4*Hispanic	1.28 (0.18)	2.44* (0.61)	1.03 (0.18)
District 5*Hispanic	–	1.91* (0.44)	0.80 (0.12)
District 6*Hispanic	0.52* (0.12)	–	0.42* (0.11)
District 7*Hispanic	1.25 (0.18)	2.38 (0.60)	–
Constant	1.39* (0.50)	9.83* (1.27)	1.39* (0.07)
N	17,883	17,883	17,883
Wald χ^2	544.80*	544.80*	544.80*
Pseudo R^2	0.033	0.033	0.033
Linear Hypothesis χ^2	19.93*	19.93*	19.93*

*$p < 0.05$

Black v. White Drivers

Table 3F: Results for Differences in District-level Disparity in Citations, Odds Ratios (Black v. White)

	Reference Group			
	District 1	District 2	District 3	District 4
	Model D1 Citations	Model D2 Citations	Model D3 Citations	Model D4 Citations
Black	0.94 (0.12)	1.36* (0.21)	0.96 (0.19)	0.92 (0.20)
District 1	–	2.26* (0.23)	1.00 (0.09)	1.27* (0.09)
District 2	0.44* (0.05)	–	0.44* (0.05)	0.56* (0.05)
District 3	1.00 (0.09)	2.27* (0.25)	–	1.27* (0.10)
District 4	0.79* (0.06)	1.79 (0.17)	0.79* (0.06)	–
District 5	0.89 (0.06)	2.01* (0.18)	0.89 (0.07)	1.13* (0.06)
District 6	5.20* (0.77)	11.75* (1.88)	5.18* (0.79)	6.57 (0.93)
District 7	0.77* (0.06)	1.74* (0.17)	0.77* (0.07)	0.98 (0.06)
District 1*Black	–	0.69 (0.14)	0.97 (0.33)	1.02 (0.26)
District 2*Black	1.45 (0.29)	–	1.41 (0.35)	1.48 (0.40)
District 3*Black	1.03 (0.24)	0.71 (0.17)	–	1.05 (0.31)
District 4*Black	0.98 (0.25)	0.68 (0.18)	0.95 (0.28)	–
District 5*Black	0.92 (0.17)	0.64* (0.13)	0.89 (0.21)	0.94 (0.24)
District 6*Black	0.75 (0.28)	0.52 (0.20)	0.73 (0.29)	0.77 (0.32)
District 7*Black	1.02 (0.23)	0.70 (0.17)	0.99 (0.26)	1.03 (0.05)
Constant	1.48* (0.09)	0.65* (0.05)	1.48* (0.10)	1.16* (0.05)
N	14,732	14,732	14,732	14,732
Wald χ^2	290.28*	290.28*	290.28*	290.28*
Pseudo R^2	0.026	0.026	0.026	0.026
Linear Hypothesis χ^2	6.63	6.63	6.63	6.63

*$p < 0.05$

Table 4F: Results for Differences in District-level Disparity in Citations, Odds Ratios (Black v. White)

	Reference Group		
	District 5	District 6	District 7
	Model D5 Citations	Model D6 Citations	Model D7 Citations
Black	0.86 (0.11)	0.71 (0.25)	0.95 (0.17)
District 1	1.12 (0.08)	0.19* (0.03)	1.30* (0.10)
District 2	0.50* (0.05)	0.09(0.01)	0.57* (0.06)
District 3	1.13 (0.09)	0.19* (0.03)	1.30 (0.11)
District 4	0.89* (0.05)	0.15* (0.02)	1.02 (0.07)
District 5	–	0.17 (0.02)	1.15 (0.07)
District 6	5.84* (0.82)	–	6.74 (0.98)
District 7	0.87* (0.05)	0.15* (0.02)	–
District 1*Black	1.08 (0.20)	1.33 (0.49)	0.98 (0.22)
District 2*Black	1.57* (0.32)	1.93 (0.73)	1.43 (0.34)
District 3*Black	1.12 (0.26)	1.37 (0.54)	1.01 (0.27)
District 4*Black	1.07 (0.27)	1.31 (0.54)	0.97 (0.28)
District 5*Black	–	1.22 (0.45)	0.91 (0.20)
District 6*Black	0.82 (0.30)	–	0.74 (0.29)
District 7*Black	1.10 (0.25)	1.35 (0.53)	–
Constant	1.31* (0.05)	7.66* (1.04)	1.14* (0.06)
N	14,732	14,732	14,732
Wald χ^2	290.28*	290.28*	290.28*
Pseudo R^2	0.026	0.026	0.026
Linear Hypothesis χ^2	6.63	6.63	6.63

*$p < 0.05$

Minority v. White Drivers

Table 5F: Results for Differences in District-level Disparity in Citations, Odds Ratios (Minority v. White)

	Reference Group			
	District 1	District 2	District 3	District 4
	Model D1 Citations	Model D2 Citations	Model D3 Citations	Model D4 Citations
Minority	1.08 (0.09)	1.51 (0.14)	1.20 (0.13)	1.43* (0.14)
District 1	–	2.39* (0.22)	0.97 (0.08)	1.10 (0.07)
District 2	0.42* (0.04)	–	0.41* (0.04)	0.46* (0.04)
District 3	1.03 (0.09)	2.46* (0.25)	–	1.13 (0.09)
District 4	0.91 (0.06)	2.17* (0.18)	0.88 (0.07)	–
District 5	0.91 (0.07)	2.17* (0.18)	0.88 (0.07)	1.00 (0.05)
District 6	6.31* (0.88)	15.07* (2.25)	6.12* (0.88)	6.93 (0.93)
District 7	0.92 (0.07)	2.20* (0.20)	0.89 (0.07)	1.01 (0.06)
District 1*Minority	–	0.71* (0.09)	0.90 (0.12)	0.75 (0.09)
District 2*Minority	1.41 (0.17)	–	1.26 (0.18)	1.06 (0.14)
District 3*Minority	1.11 (0.15)	0.79 (0.11)	–	0.84 (0.12)
District 4*Minority	1.33* (0.17)	0.95 (0.13)	1.19 (0.17)	–
District 5*Minority	1.14 (0.12)	0.81 (0.09)	1.03 (0.13)	0.86 (0.10)
District 6*Minority	0.69 (0.15)	0.49* (0.11)	0.62 (0.14)	0.52 (0.11)
District 7*Minority	1.26 (0.16)	0.90 (0.12)	1.13 (0.16)	0.95 (0.13)
Constant	1.50* (0.08)	0.63* (0.05)	1.54* (0.10)	1.36* (0.05)
N	20,260	20,260	20,260	20,260
Wald χ^2	559.49*	559.49*	559.49*	559.49*
Pseudo R^2	0.029	0.029	0.029	0.029
Linear Hypothesis χ^2	17.75*	17.75*	17.75*	17.75*

*$p < 0.05$

Table 6F: Results for Differences in District-level Disparity in Citations, Odds Ratios (Minority v. White)

	Reference Group		
	District 5	District 6	District 7
	Model D5 Citations	Model D6 Citations	Model D7 Citations
Minority	1.23* (0.08)	0.75 (0.15)	1.36* (0.13)
District 1	1.10 (0.07)	0.16* (0.02)	1.09 (0.08)
District 2	0.46* (0.04)	0.07* (0.01)	0.46* (0.04)
District 3	1.13 (0.08)	0.16* (0.02)	1.12 (0.09)
District 4	1.00 (0.05)	0.14* (0.02)	0.99 (0.06)
District 5	–	0.14* (0.02)	0.99 (0.06)
District 6	6.94* (0.92)	–	6.87* (0.94)
District 7	1.01 (0.06)	0.15* (0.02)	–
District 1*Minority	0.87 (0.09)	1.44 (0.30)	0.79 (0.10)
District 2*Minority	1.23 (0.14)	2.03* (0.44)	1.11 (0.15)
District 3*Minority	0.97 (0.12)	1.61* (0.36)	0.88 (0.13)
District 4*Minority	1.16 (0.13)	1.92* (0.42)	1.05 (0.14)
District 5*Minority	–	1.65* (0.34)	0.91 (0.10)
District 6*Minority	0.61* (0.12)	–	0.55* (0.12)
District 7*Minority	0.10 (0.12)	1.82* (2.76)	–
Constant	1.36* (0.05)	9.46* (1.21)	1.38* (0.07)
N	20,260	20,260	20,260
Wald χ^2	559.49*	559.49*	559.49*
Pseudo R^2	0.029	0.029	0.029
Linear Hypothesis χ^2	17.75*	17.75*	17.75*

*$p < 0.05$

Appendix G: Modeling District Differences in Disparity in Searches

Hispanic v. White

Table 1G: Results for Differences in District-level Disparity in Searches (Hispanic v. White)

	Reference Group			
	District 1	District 2	District 3	District 4
	Model D1 Searches	Model D2 Searches	Model D3 Searches	Model D4 Searches
Hispanic	1.27 (0.42)	2.13 (1.10)	2.00 (0.95)	N/A
District 1	–	2.25 (1.12)	1.51 (0.59)	N/A
District 2	0.44 (0.22)	–	0.67 (0.37)	N/A
District 3	0.66 (0.26)	1.49 (0.82)	–	N/A
District 4	0.07* (0.04)	0.15* (0.11)	0.10* (0.07)	–
District 5	0.07* (0.04)	0.16* (0.11)	0.11* (0.07)	N/A
District 6	Omitted	Omitted	Omitted	N/A
District 7	0.07* (0.05)	0.15* (0.12)	0.10* (0.08)	N/A
District 1*Hispanic	–	0.59 (0.37)	0.63 (0.37)	N/A
District 2*Hispanic	1.68 (1.04)	–	1.06 (0.74)	N/A
District 3*Hispanic	1.58 (0.92)	0.94 (0.66)	–	N/A
District 4*Hispanic	Omitted	Omitted	Omitted	–
District 5*Hispanic	6.01* (4.22)	3.58 (2.88)	3.80 (2.95)	N/A
District 6*Hispanic	Omitted	Omitted	Omitted	N/A
District 7*Hispanic	3.48 (3.72)	2.07 (2.36)	2.20 (2.46)	N/A
Constant	0.02* (0.00)	0.01* (0.00)	0.01* (0.00)	N/A
N	16,239	16,239	16,239	N/A
Wald χ^2	62.18*	62.18*	62.18*	N/A
Pseudo R^2	0.083	0.083	0.083	N/A
Linear Hypothesis χ^2	7.18	7.18	7.18	N/A

*$p < 0.05$

Table 2G: Results for Differences in District-level Disparity in Searches (Hispanic v. White)

	Reference Group		
	District 5	District 6	District 7
	Model D5 Searches	Model D6 Searches	Model D7 Searches
Hispanic	7.61* (4.69)	N/A	4.41 (4.47)
District 1	13.71* (7.67)	N/A	14.60* (10.87)
District 2	6.09* (4.15)	N/A	6.49* (5.45)
District 3	9.07* (5.53)	N/A	9.66* (7.56)
District 4	0.91 (0.71)	N/A	0.97 (0.89)
District 5		N/A	1.07 (0.94)
District 6	Omitted		Omitted
District 7	0.94 (0.82)	N/A	
District 1*Hispanic	0.17* (0.12)	N/A	0.29 (0.31)
District 2*Hispanic	0.28 (0.23)	N/A	0.48 (0.55)
District 3*Hispanic	0.26 (0.20)	N/A	0.45 (0.51)
District 4*Hispanic	Omitted	N/A	Omitted
District 5*Hispanic	–	N/A	1.73 (2.05)
District 6*Hispanic	Omitted	–	Omitted
District 7*Hispanic	0.58 (0.69)	N/A	–
Constant	0.00* (0.00)	N/A	0.00* (0.00)
N	16,239	N/A	16,239
Wald χ^2	62.18*	N/A	62.18*
Pseudo R^2	0.083	N/A	0.083
Linear Hypothesis χ^2	7.18	N/A	7.18

*$p < 0.05$

Black v. White

Table 3G: Results for Differences in District-level Disparity in Searches (Black v. White)

	Reference Group			
	District 1	District 2	District 3	District 4
	Model D1 Searches	Model D2 Searches	Model D3 Searches	Model D4 Searches
Black	N/A	N/A	N/A	N/A
District 1		N/A	N/A	N/A
District 2	N/A		N/A	N/A
District 3	N/A	N/A		N/A
District 4	N/A	N/A	N/A	
District 5	N/A	N/A	N/A	N/A
District 6	N/A	N/A	N/A	N/A
District 7	N/A	N/A	N/A	N/A
District 1*Black		N/A	N/A	N/A
District 2*Black	N/A		N/A	N/A
District 3*Black	N/A	N/A		N/A
District 4*Black	N/A	N/A	N/A	
District 5*Black	N/A	N/A	N/A	N/A
District 6*Black	N/A	N/A	N/A	N/A
District 7*Black	N/A	N/A	N/A	N/A
Constant	N/A	N/A	N/A	N/A
N	N/A	N/A	N/A	N/A
Wald χ^2	N/A	N/A	N/A	N/A
Pseudo R^2	N/A	N/A	N/A	N/A
Linear Hypothesis χ^2	N/A	N/A	N/A	N/A

*$p < 0.05$

Table 4G: Results for Differences in District-level Disparity in Searches (Black v. White)

	Reference Group		
	District 5	District 6	District 7
	Model D5 Searches	Model D6 Searches	Model D7 Searches
Black	N/A	N/A	N/A
District 1	N/A	N/A	N/A
District 2	N/A	N/A	N/A
District 3	N/A	N/A	N/A
District 4	N/A	N/A	N/A
District 5		N/A	N/A
District 6	N/A		N/A
District 7	N/A	N/A	
District 1*Black	N/A	N/A	N/A
District 2*Black	N/A	N/A	N/A
District 3*Black	N/A	N/A	N/A
District 4*Black	N/A	N/A	N/A
District 5*Black		N/A	N/A
District 6*Black	N/A		N/A
District 7*Black	N/A	N/A	
Constant	N/A	N/A	N/A
N	N/A	N/A	N/A
Wald χ^2	N/A	N/A	N/A
Pseudo R^2	N/A	N/A	N/A
Linear Hypothesis χ^2	N/A	N/A	N/A

*$p < 0.05$

Minority v. White

Table 5G: Results for Differences in District-level Disparity in Searches (Minority v. White)

	Reference Group			
	District 1	District 2	District 3	District 4
	Model D1 Searches	Model D2 Searches	Model D3 Searches	Model D4 Searches
Minority	1.23 (0.36)	1.81 (0.89)	1.82 (0.80)	2.34 (2.71)
District 1		2.23 (1.08)	1.50 (0.59)	15.47* (9.57)
District 2	0.45 (0.22)		0.67 (0.36)	6.93* (5.01)
District 3	0.66 (0.26)	1.48 (0.80)		10.29* (6.83)
District 4	0.06* (0.04)	0.14* (0.10)	0.10* (0.06)	
District 5	0.07* (0.04)	0.17* (0.11)	0.11* (0.07)	1.15 (0.89)
District 6	Omitted	Omitted	Omitted	Omitted
District 7	0.07* (0.05)	0.15 (0.12)	0.10* (0.08)	1.04 (0.95)
District 1*Minority		0.68 (0.39)	0.68 (0.35)	0.53 (0.63)
District 2*Minority	1.47 (0.84)		0.99 (0.66)	0.77 (0.97)
District 3*Minority	1.47 (0.78)	1.01 (0.66)		0.78 (0.96)
District 4*Minority	1.90 (2.26)	1.29 (1.63)	1.29 (1.59)	
District 5*Minority	4.75* (3.18)	3.24 (2.52)	3.22 (2.40)	2.50 (3.26)
District 6*Minority	Omitted	Omitted	Omitted	Omitted
District 7*Minority	4.43 (4.08)	3.02 (3.03)	3.00 (2.94)	2.33 (3.38)
Constant	0.02* (0.00)	0.01* (0.00)	0.01* (0.00)	0.00 (0.00)
N	18,940	18,940	18,940	18,940
Wald χ^2	69.21*	69.21*	69.21*	69.21*
Pseudo R^2	0.076	0.076	0.076	0.076
Linear Hypothesis χ^2	7.16	7.16	7.16	7.16

*$p < 0.05$

Table 6G: Results for Differences in District-level Disparity in Searches (Minority v. White)

	Reference Group		
	District 5	District 6	District 7
	Model D5 Searches	Model D6 Searches	Model D7 Searches
Black	5.86* (3.53)	N/A	5.47 (4.78)
District 1	13.44* (7.43)	N/A	14.91* (11.07)
District 2	6.02* (4.02)	N/A	6.68* (5.56)
District 3	8.94* (5.39)	N/A	9.91* (7.75)
District 4	0.87 (0.67)	N/A	0.96 (0.88)
District 5		N/A	1.11 (0.97)
District 6	Omitted		Omitted
District 7	0.90 (0.79)	N/A	
District 1*Minority	0.21* (0.14)	N/A	0.23 (0.21)
District 2*Minority	0.31 (0.24)	N/A	0.33 (0.33)
District 3*Minority	0.31 (0.23)	N/A	0.33 (0.33)
District 4*Minority	0.40 (0.52)	N/A	0.43 (0.62)
District 5*Minority	–	N/A	1.07 (1.14)
District 6*Minority	Omitted	–	Omitted
District 7*Minority	0.93 (0.99)	N/A	–
Constant	0.00* (0.00)	N/A	0.00* (0.00)
N	18,940	N/A	18,940
Wald χ^2	69.21*	N/A	69.21*
Pseudo R^2	0.076	N/A	0.076
Linear Hypothesis χ^2	7.16	N/A	7.16

*$p < 0.05$

Appendix H: Modeling District Differences in Disparity in Arrest Outcomes

Hispanic v. White

Table 1H: Results for Differences in District-level Disparity in Arrests, Odds Ratios (Hispanic v. White)

	Reference Group			
	District 1	District 2	District 3	District 4
	Model D1 Arrests	Model D2 Arrests	Model D3 Arrests	Model D4 Arrests
Hispanic	1.59* (0.26)	1.59* (0.35)	1.47 (0.41)	1.64 (0.51)
District 1	–	1.22* (0.26)	1.71* (0.35)	3.19* (0.56)
District 2	0.82 (0.18)	–	1.40 (0.35)	2.62* (0.60)
District 3	0.58* (0.12)	0.71 (0.18)	–	1.87* (0.41)
District 4	0.31* (0.06)	0.38* (0.09)	0.54* (0.12)	–
District 5	1.24 (0.16)	1.51* (0.29)	2.12* (0.39)	3.97* (0.60)
District 6	0.75 (0.16)	0.91 (0.23)	1.28 (0.32)	2.40* (0.54)
District 7	0.91 (0.14)	1.11 (0.23)	1.56* (0.30)	2.91* (0.48)
District 1*Hispanic	–	1.00 (0.28)	1.08 (0.35)	0.97 (0.34)
District 2*Hispanic	1.00 (0.28)	–	1.08 (0.38)	0.97 (0.37)
District 3*Hispanic	0.93 (0.30)	0.93 (0.33)	–	0.90 (0.38)
District 4*Hispanic	1.03 (0.36)	1.03 (0.39)	1.11 (0.46)	–
District 5*Hispanic	0.99 (0.20)	0.99 (0.25)	1.07 (0.32)	0.96 (0.32)
District 6*Hispanic	1.47 (0.47)	1.47 (0.51)	1.58 (0.61)	1.42 (0.59)
District 7*Hispanic	1.44 (0.35)	1.44 (0.41)	1.56 (0.52)	1.40 (0.50)
Constant	0.09* (0.01)	0.07 (0.01)	0.05* (0.01)	0.03* (0.00)
N	17,883	17,883	17,883	17,883
Wald χ^2	193.99*	193.99*	193.99*	193.99*
Pseudo R^2	0.032	0.032	0.032	0.032
Linear Hypothesis χ^2	5.07	5.07	5.07	5.07

*$p < 0.05$

Table 2H: Results for Differences in District-level Disparity in Arrests, Odds Ratios (Hispanic v. White)

	Reference Group		
	District 5	District 6	District 7
	Model D5 Arrests	Model D6 Arrests	Model D7 Arrests
Minority	1.57* (0.18)	2.33* (0.63)	2.29* (0.41)
District 1	0.80 (0.11)	1.33 (0.28)	1.10 (0.16)
District 2	0.66* (0.13)	1.09 (0.28)	0.90 (0.19)
District 3	0.47* (0.09)	0.78 (0.20)	0.64* (0.13)
District 4	0.25* (0.04)	0.42* (0.09)	0.34* (0.06)
District 5	–	1.65* (0.31)	1.37* (0.16)
District 6	0.60* (0.11)	–	0.83 (0.17)
District 7	0.73* (0.09)	1.21 (0.25)	–
District 1*Minority	1.01 (0.21)	0.68 (0.22)	0.69 (0.17)
District 2*Minority	1.01 (0.25)	0.68 (0.23)	0.69 (0.20)
District 3*Minority	0.94 (0.28)	0.63 (0.24)	0.64 (0.21)
District 4*Minority	1.04 (0.35)	0.70 (0.29)	0.72 (0.26)
District 5*Minority	–	0.67 (0.20)	0.69 (0.15)
District 6*Minority	1.48 (0.43)	–	1.02 (0.33)
District 7*Minority	1.46 (0.31)	0.98 (0.32)	–
Constant	0.11* (0.01)	0.07* (0.01)	0.08* (0.01)
N	17,883	17,883	17,883
Wald χ^2	193.99*	193.99*	193.99*
Pseudo R^2	0.032	0.032	0.032
Linear Hypothesis χ^2	5.07	5.07	5.07

*$p < 0.05$

Black v. White

Table 3H: Results for Differences in District-level Disparity in Arrests, Odds Ratios (Black v. White)

	Reference Group			
	District 1	District 2	District 3	District 4
	Model D1 Arrests	Model D2 Arrests	Model D3 Arrests	Model D4 Arrests
Black	0.49 (0.53)	1.77 (2.04)	2.09 (1.69)	N/A
District 1	–	0.82 (0.56)	0.83 (0.41)	N/A
District 2	1.21 (0.82)	–	1.01 (0.66)	N/A
District 3	1.20 (0.60)	0.99 (0.65)	–	N/A
District 4	1.14 (0.54)	0.94 (0.60)	0.95 (0.42)	–
District 5	4.62* (1.78)	3.80* (2.19)	3.84* (1.32)	N/A
District 6	3.90* (1.71)	3.21 (1.97)	3.25* (1.31)	N/A
District 7	4.37* (1.70)	3.60* (2.08)	3.64* (1.27)	N/A
District 1*Black	–	0.28 (0.44)	0.23 (0.31)	N/A
District 2*Black	3.60 (5.68)	–	0.85 (1.19)	N/A
District 3*Black	4.26* (1.70)	1.18 (1.67)	–	N/A
District 4*Black	Omitted	Omitted	Omitted	–
District 5*Black	6.71 (7.45)	1.86 (2.21)	1.57 (1.34)	N/A
District 6*Black	2.18 (2.76)	0.60 (0.81)	0.51 (0.54)	N/A
District 7*Black	6.23 (6.99)	1.73 (2.08)	1.46 (1.28)	N/A
Constant	0.02* (0.01)	0.02* (0.01)	0.02* (0.01)	N/A
N	7,896	7,896	7,896	N/A
Wald χ^2	97.48*	97.48*	97.48*	N/A
Pseudo R^2	0.068	0.068	0.068	N/A
Linear Hypothesis χ^2	5.24	5.24	5.24	N/A

*$p < 0.05$

Table 4H: Results for Differences in District-level Disparity in Arrests, Odds Ratios (Black v. White)

	Reference Group		
	District 5	District 6	District 7
	Model D5 Arrests	Model D6 Arrests	Model D7 Arrests
Black	3.29* (0.94)	1.07 (0.72)	3.06* (1.03)
District 1	0.22* (0.08)	0.26* (0.11)	0.23* (0.09)
District 2	0.26* (0.15)	0.31 (0.19)	0.28* (0.16)
District 3	0.26* (0.09)	0.31* (0.12)	0.27* (0.10)
District 4	0.25* (0.08)	0.29* (0.11)	0.26* (0.08)
District 5	–	1.18 (0.30)	1.06 (0.16)
District 6	0.85 (0.21)	–	0.89 (0.23)
District 7	0.95 (0.15)	1.12 (0.29)	–
District 1*Black	0.15 (0.17)	0.46 (0.58)	0.16 (0.18)
District 2*Black	0.54 (0.64)	1.66 (2.22)	0.58 (0.70)
District 3*Black	0.64 (0.54)	1.96 (2.06)	0.68 (0.60)
District 4*Black	Omitted	Omitted	Omitted
District 5*Black	–	3.08 (2.27)	1.08 (0.48)
District 6*Black	0.32 (0.24)	–	0.35 (0.26)
District 7*Black	0.93 (0.41)	2.86 (2.16)	–
Constant	0.09* (0.01)	0.08* (0.02)	0.09* (0.01)
N	7,896	7,896	7,896
Wald χ^2	97.48*	97.48*	97.48*
Pseudo R^2	0.068	0.068	0.068
Linear Hypothesis χ^2	5.24	5.24	5.24

*$p < 0.05$

Minority v. White

Table 5H: Results for Differences in District-level Disparity in Arrests, Odds Ratios (Minority v. White)

	Reference Group			
	District 1	District 2	District 3	District 4
	Model D1 Arrests	Model D2 Arrests	Model D3 Arrests	Model D4 Arrests
Minority	1.51* (0.23)	1.51 (0.32)	1.50 (0.37)	1.43 (0.41)
District 1	–	1.20 (0.26)	1.65* (0.34)	3.29* (0.58)
District 2	0.83 (0.18)	–	1.37 (0.34)	2.73* (0.62)
District 3	0.61* (0.12)	0.73 (0.18)	–	2.00* (0.43)
District 4	0.30* (0.05)	0.37* (0.08)	0.50* (0.11)	–
District 5	1.20 (0.16)	1.44 (0.28)	1.97* (0.36)	3.94* (0.59)
District 6	0.69 (0.15)	0.83 (0.21)	1.14 (0.28)	2.28* (0.51)
District 7	0.85 (0.13)	1.03 (0.26)	1.41 (0.28)	2.81* (0.47)
District 1*Minority	–	1.00 (0.26)	1.01 (0.29)	1.06 (0.34)
District 2*Minority	1.00 (0.26)	–	1.00 (0.33)	1.05 (0.38)
District 3*Minority	1.00 (0.29)	1.00 (0.32)	–	1.05 (0.40)
District 4*Minority	0.95 (0.31)	0.95 (0.34)	0.95 (0.36)	–
District 5*Minority	1.04 (0.19)	1.04 (0.24)	1.04 (0.28)	1.10 (0.34)
District 6*Minority	1.61 (0.46)	1.61 (0.52)	1.62 (0.56)	1.70 (0.64)
District 7*Minority	1.48 (0.31)	1.49 (0.38)	1.49 (0.43)	1.57 (0.51)
Constant	0.07* (0.01)	0.05* (0.01)	0.04* (0.01)	0.02* (0.00)
N	20,260	20,260	20,260	20,260
Wald χ^2	220.45*	220.45*	220.45*	220.45*
Pseudo R^2	0.029	0.029	0.029	0.029
Linear Hypothesis χ^2	5.29	5.29	5.29	5.29

*$p < 0.05$

Table 6H: Results for Differences in District-level Disparity in Arrests, Odds Ratios (Minority v. White)

	Reference Group		
	District 5	District 6	District 7
	Model D5 Arrests	Model D6 Arrests	Model D7 Arrests
Minority	1.57* (0.16)	2.43* (0.59)	2.24* (0.34)
District 1	0.84 (0.11)	1.45 (0.31)	1.17 (0.17)
District 2	0.69 (0.13)	1.20 (0.31)	0.97 (0.20)
District 3	0.51* (0.09)	0.88* (0.22)	0.71* (0.14)
District 4	0.25* (0.04)	0.44* (0.10)	0.36* (0.06)
District 5	–	1.73* (0.33)	1.40* (0.16)
District 6	0.58* (0.11)	–	0.81* (0.16)
District 7	0.71* (0.08)	1.23 (0.25)	–
District 1*Minority	0.96 (0.18)	0.62 (0.18)	0.68 (0.16)
District 2*Minority	0.96 (0.23)	0.62 (0.20)	0.67 (0.17)
District 3*Minority	0.96 (0.26)	0.62 (0.21)	0.67 (0.19)
District 4*Minority	0.91 (0.28)	0.59 (0.22)	0.64 (0.21)
District 5*Minority	–	0.65 (0.17)	0.70 (0.13)
District 6*Minority	1.55 (0.41)	–	1.09 (0.31)
District 7*Minority	1.43 (0.26)	0.92 (0.26)	–
Constant	0.08* (0.01)	0.05* (0.01)	0.06* (0.01)
N	20,260	20,260	20,260
Wald χ^2	220.45*	220.45*	220.45*
Pseudo R^2	0.029	0.029	0.029
Linear Hypothesis χ^2	5.29	5.29	5.29

*$p < 0.05$