

# REPORT ON ANALYSIS OF TRAFFIC STOP DATA COLLECTED UNDER VIRGINIA'S COMMUNITY POLICING ACT

JULY 2025



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# Executive Summary

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## Background

This is the fifth report from the Virginia Department of Criminal Justice Services (DCJS) analyzing the data on traffic stops in the Virginia State Police's Community Policing Database, as mandated by the *Code of Virginia* § 9.1-192. It contains a review of how the data was collected and analyzed as well as preliminary findings of data from 1,033,785 traffic stops reported in Virginia during the 12-month period between January 1, 2024, and December 31, 2024. This report also presents the findings from analyses of statewide data; aggregated data from the seven Virginia State Police (VSP) Divisions; and data from each individual law enforcement agency that reported sufficient data to the Community Policing Database.

**The information presented in this report should be interpreted with caution. Although this analysis identified disparities in traffic stop rates related to race/ethnicity, it does NOT allow us to determine or measure specific reasons for these disparities. Most importantly for this study, this analysis does NOT allow us to determine the extent to which these disparities may or may not be due to bias-based profiling or to other factors that can vary depending on race or ethnicity. These other factors include:**

- Differences in locations where police focus their patrol activities.
- Differences in underlying regional populations.
- Differences in driving patterns among individuals and across racial/ethnic groups.
- Lack of a scientifically established baseline for accurately determining the number of drivers in each racial/ethnic group who are on the road in any given area and subject to being stopped while driving.

**The analysis of racial disparity is a complex field with a vast array of potential contributing factors. Many data elements play influential roles in racial/ethnic patterns of traffic enforcement but are unavailable to DCJS. Factors such as the race and/or gender of the officer performing the stop, agency policies and community priorities driving enforcement policies, as well as police report narratives outlining legal justifications for stop, search, and arrest can all inform stop patterns but are not within the current purview of available Community Policing Act data.**

**Additionally, the data presented in this report cannot reflect any stop trends from agencies which did not provide data or records that were excluded for completeness issues. As such, while the report presents stop, search, and arrest disparities based on the available data, they should NOT be construed as complete and final proof of disparity OR any explanation of contributing factors which drive genuine disparities which may exist.**

This report does not tabulate the many positive actions that can occur pursuant to a traffic stop such as seizures of guns, confiscation of drugs, ensuring valid and current drivers' licenses, arrests of individuals with outstanding warrants, and removal of impaired drivers from public roadways. The Community Policing Act imposes narrow requirements for data collection and analysis, and any benefits of traffic or pedestrian stops are not within the scope of the law.

The Community Policing Act (CPA) is still in the intermediate stages of implementation. Although improvements in the data collection and reporting process have increased the completeness of the annual datasets, we are not yet able to definitively say that data reporting is 100% accurate. As the report notes, several police departments and sheriff's offices – especially smaller agencies with limited resources – continue to face challenges establishing the data collection and reporting required under the Act. Over 70% of local law enforcement agencies (LEAs) in Virginia employ 50 or fewer full-time sworn officers, and half of those employ ten or fewer. Many of these agencies have faced challenges fulfilling all requirements imposed by the Act and aligning their collection

practices with the changes introduced since first implementation of the Act. Some agencies were unable to report complete data responsive to the Community Policing Act for the entire year, and in some cases the quality of the data was limited. Additionally, a substantial number of smaller agencies reported so few traffic stops that it was not possible to interpret data related to driver race/ethnicity.

There are two key limitations with regard to the race/ethnicity data and analysis in this report. First, Virginia lacks a standardized mechanism for reporting the race or ethnicity of its licensed drivers. Currently, law enforcement officers must either make their own determination about a driver's race/ethnicity (which may or may not be accurate) or ask for that information in the course of the traffic stop, which could raise constitutional concerns or escalate the perception of conflict in certain situations.

The second limitation is the inherent difficulty in accurately assessing the racial/ethnic distribution of the actual driver population in a given jurisdiction. Drivers often cross county and state lines, resulting in a racial distribution for the driving population that is different from the distribution of the jurisdiction's population. Analysis in this report is broken out by 1) all traffic stops regardless of the driver's residency, 2) Virginia residents, and 3) residents of the local jurisdiction. See the Findings section for examples of how accounting for residency can impact the results.

## Differences in 2025 Report

Key differences from previous reports are summarized below:

- Population benchmarks were calculated for each VSP Division independently based on the 2023 census population estimates for each county and independent city contained within the Division.
- The National Center for Health Statistics (NCHS) Bridged Race estimates which DCJS used initially to construct the disparity index (DI) benchmark data have been discontinued as of September 2021. However, the base dataset which the NCHS file was constructed from, the postcensal estimates published by the Population Division of the Census Bureau, continue to be published and the updated 2023 estimates were utilized for this year's benchmarks. The benchmarks used are still age restricted to individuals 15 years and older and categorized into the same race and ethnicity groups, but due to this year's estimates lacking race bridging, multi-racial individuals were excluded from benchmarking. For further information on benchmark methodology, see Appendix M.
- The final statewide analysis dataset contained a total of 1,033,785 records for drivers aged 15 years and older that were stopped by all Virginia LEAs reporting usable Virginia Community Policing Act data for the period from January 1, 2024, through December 31, 2024. This is the second report on data for a full calendar year, rather than three quarters of a fiscal year.
- Additional investigation into the statistical significance of this year's results was conducted using Chi-square residual testing. Observed numbers of stops were compared to the expected number of stops indicated by a group's proportion of the driver population.

## Factors Influencing Calendar Year 2024 Data Trends

- New population (2023) estimates for counties and independent cities were published in June 2024 which resulted in updated proportions of race groups within each jurisdiction. These proportions, or jurisdiction rates, were calculated in the same manner as in previous reports.
- Data collection procedures continue to improve across Virginia law enforcement agencies, including the addition of an online data reporting tool ([www.Beyond2020.com](http://www.Beyond2020.com)) commissioned and deployed by VSP.

- Driver behavior has continued to be a concerning trend in the years post-pandemic. Virginia drivers continue to speed faster and more often than in years past resulting in increases in speed-related, pedestrian, and motorcycle crashes for 2023 (2024 data not available). The number of crashes involving distracted driving and impaired driving increased in 2023 as well. Although the overall number of traffic fatalities decreased in 2023, the number of speed related traffic fatalities remains well above pre-pandemic levels (*COV-VHSA, 2023*)
- Virginia has experienced a significant increase in immigration during the post-Covid years. Using census estimates through July 2024, Virginia ranks 20<sup>th</sup> (among the 50 states) in domestic immigration, with an estimated 5,284 people moving to Virginia from elsewhere in the U.S. Comparatively, for international immigrants, Virginia ranks 15<sup>th</sup>, with an estimated 56,155 people coming to Virginia from outside the U.S.
- The shift to remote work in the post-Covid years has most likely had an effect on the driving population during the work week. In Virginia, 32.1% of the workforce works remotely at least 1–2 days per week. (*U.S. Census, 2024*) The largest share (64.8%) of remote workers in 2024 were White, which is comparable to the population percentage of 63.7%. Hispanic workers made up 13.3% of remote workers which is larger than their population rate of 9.2%. Black workers, however, made up 9.6% of remote workers compared to 19.4% of the population. This trend indicates that there may be a larger percentage of Black drivers on the roadways during the work week than might otherwise be expected.

## Key Findings

Despite the limitations noted earlier, DCJS staff were able to identify differences in traffic stop rates for persons in different racial/ethnic groups for the current reporting period – calendar year 2024. This was done by comparing the percentage of persons in each racial/ethnic group in Virginia’s population 15 years and older (generally the legal age to drive in Virginia) to the percentage of persons in each racial/ethnic group among drivers in traffic stops. The ratio between these two percentages was used to calculate a statewide Disparity Index (DI) for stops for each driver group. Traffic stop DIs were not calculated for town and “other” agencies (such as airport or campus PDs) because population breakouts by age and race/ethnicity were not available for these specific areas.

The overall finding of this analysis is that, statewide, Black and to a lesser degree Hispanic drivers in Virginia were disproportionately stopped by law enforcement when compared to other drivers between January 1, 2024, and December 31, 2024, relative to their numbers in Virginia’s driving-age population. This disparity was noted for stops of Virginia resident drivers as well as out of state drivers and to a lesser extent for local resident drivers.

DCJS staff also examined differences in what happens to drivers in different racial/ethnic groups once a stop has occurred, although this analysis was conducted only for those agencies reporting a sufficient number of searches and actions taken toward the driver. This was done by comparing the percentage of drivers stopped in each racial/ethnic group to the percentage in each group for which the stop resulted in a particular outcome such as a search or arrest. As was the case in previous reports, differences between driver racial/ethnic groups were found regarding the reasons a stop was made, whether a search of individuals or the vehicle occurred, and what action was taken toward the driver (warning, citation, arrest, etc.).

Compared with stops of drivers from other racial groups, stops of Black and Hispanic drivers were generally more likely to result in a search or an arrest. This finding is consistent with traffic stop research conducted in other states, and with the general findings of the previous DCJS CPA reports, although to a lesser degree. For White drivers, although not as likely to be the subject of a search, they were more likely to be arrested than their share of the number of traffic stops would suggest. Calculated DI values were used to assess whether drivers in different racial/ethnic groups were overrepresented (or underrepresented) in their likelihood to be stopped, or in events that occurred after a stop was made. While the values of the disparity indices are derived from a mathematical

formula, the “high, moderate, no overrepresentation” categories are subjective benchmarks which are not statistically derived and are purely for relative comparison, as follows<sup>1</sup>:

- A **DI of 2.0 or higher** indicates *high overrepresentation* for a group in how likely it is that a driver will be stopped, or that a particular event (search, arrest, etc.) will occur during the stop.
- A **DI of 1.1 to 1.99** indicates *moderate overrepresentation* for a group in how likely it is that a driver will be stopped, or that a particular event (search, arrest, etc.) will occur during the stop.
- A **DI of 1.09 or less** indicates no overrepresentation (and possibly underrepresentation) for a group in how likely it is that a driver will be stopped, or that a particular event (search, arrest, etc.) will occur during the stop. The DIs calculated for both traffic stops and for events after a stop was made are descriptive and intended only to show relative degrees of disparity; they are not, and should not be interpreted as, measures of statistically significant levels of disparities between driver groups.

Note that stop DIs for both all subjects and for local/state resident only groups are reported for VSP, City/County, and Statewide analyses. Because the benchmark estimates are based on the resident population, the resident stop DIs are a more precise representation of the relationship of the agency/state’s stops to their expected stop demographics (all subject DIs are shown for comparison purposes). However, because searches and arrests are benchmarked against the actual stopped drivers rather than external data estimates, the same is not true for resident search and arrest DIs.

Analysis of the chi-square residuals (observed versus expected number of stops, searches, and arrests) for Black, Hispanic, Asian, and Native American drivers compared to White non-Hispanic drivers showed that high to moderate levels of overrepresentation as indicated by DIs did not necessarily correspond with statistical significance. For stops of Black and Hispanic drivers, nearly two-thirds of LEAs had DI’s indicating overrepresentation; however, residual testing showed that only half of agencies had observed numbers of stops that were (statistically) significantly more than the expected number of stops. This pattern continued with 25% of LEAs with overrepresentation for searches and 17% of LEAs with overrepresentation for arrests also showing statistically significant residuals.

## Analysis of Traffic Stops: Statewide

### Overview of Statewide Traffic Stops

In total, 1,033,785 traffic stops made in Virginia were analyzed, representing all stops with full data reported by VSP and 299 other PDs and SOs for the 12-month period from January 1, 2024, through December 31, 2024. All references to “2023” refer to the previous analysis year.

- The vast majority (96.7% or 999,161) of the traffic stops were made for traffic or motor-vehicle equipment violations, compared with 98.1% in 2023. A reciprocal increase in investigative stops from 1.9% to 3.3% (34,624 stops) was also observed.
- Only 1.8% (18,170) of the traffic stops resulted in a search of the driver or the vehicle, compared with 1.9% in 2023. The most frequent outcome of a traffic stop was issuing a citation or summons (62.0%, compared to 63.7% in 2023). A warning was issued in 33.2% (343,253) of stops, compared to 33% in 2023.
- The percentage of traffic stops resulting in an arrest remains unchanged from 2023. Only 1% of traffic stops (10,505 stops) occurring in 2024 resulted in a driver being arrested.

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<sup>1</sup> In some cases involving very small numbers of traffic stops, Disparity Indices (DI) of 3.0 and greater were calculated. However, these should generally be considered unreliable due to the small numbers of stops available for analysis.

- Physical force by either party remains an exceedingly rare occurrence in traffic stops. The rate of officer force against the subject(s) of a traffic stop was below 0.1%, similar to the rate for 2023. Subject force against an officer also occurred at a rate of below 0.1%, similar to 2023.

### Driver Racial/Ethnicity Analysis of Statewide Traffic Stops

- During the current reporting period, for Virginia residents, Black drivers were stopped at a higher rate than White drivers. Although an estimated 19.2% of Virginia’s driving-age population in 2024 was Black, 29.1% of drivers stopped were Black.
  - The proportion of black drivers stopped has decreased from 31% in 2021, 30.4% in 2022, to 29.4% in 2023.
- Black drivers who were stopped were searched at higher rates than White drivers. 2.1% of stopped Black drivers had a search of their person or vehicle conducted, compared to 1.5% of White drivers.
  - In 2023, 2.5% of stopped Black drivers had a search of their person or vehicle conducted, compared to 1.6% of White drivers.
- Black drivers who were stopped were arrested at higher rates than White drivers. 1.4% of Black drivers stopped were arrested, compared to 0.7% of White drivers.
  - These rates are unchanged from 2023.
- Hispanic drivers (of any race) were also stopped at slightly higher rates than White drivers, though not to the same extent as Black drivers. Although Hispanics made up only 9.9% of Virginia’s driving-age population in the dataset, they made up 10.6% of all drivers stopped. Among Virginia resident drivers stopped, 11.2% were Hispanic.
- Hispanic drivers who were stopped were searched at higher rates than White drivers or Black drivers. 2.4% of stopped Hispanic drivers had a search of their person or vehicle conducted, compared to 1.5% of White drivers and 2.1% of Black drivers.
  - In 2023, 2.5% of stopped Hispanic drivers had a search of their person or vehicle conducted compared to 1.6% of White drivers.
- Hispanic drivers who were stopped were arrested at higher rates than either White drivers or Black drivers. 1.7% of stopped Hispanic drivers were arrested, compared to 0.7% of White drivers and 1.4% of Black drivers.
  - These rates are unchanged from 2023.
- Native American drivers were stopped at marginally higher rates than White drivers. While they made up 0.3% of Virginia’s driving-age population in the dataset, they made up 0.4% of drivers stopped. Due to the low frequency of Native American individuals in Virginia’s population, their disparity index rates in these analyses are especially prone to sensitivity. Stopped Native American Drivers were largely underrepresented in searches and arrests.
  - In FY2023, Native Americans made up 0.3% of Virginia’s driving-age population in the dataset and 0.3% of drivers stopped.
- White and Asian/Pacific Islander drivers continue to be stopped at rates near or below their representation in the driving-age population statewide. This underrepresentation occurred not only for drivers stopped but also for all related measures including reasons for stops, searches of drivers and vehicles, and stop outcomes such as arrests or citations.

## Analysis of Traffic Stops: Agency-Level

DCJS examined traffic stop data for Virginia State Police (VSP) as an agency statewide and for 299 individual PDs and SOs.<sup>2</sup> The degree to which each agency's data could be analyzed depended on both the amount of data reported by the agency and the amount of resident population data available for the locality served by the agency. Therefore, findings are presented separately for five different groups of law enforcement agencies: 147 agencies serving cities and counties, 111 agencies serving towns, the seven Divisions of the Virginia State Police, five other state agencies not affiliated with VSP, and 36 agencies serving other local entities (schools, private commercial).

The following figures compare the percentages of agencies which exhibit varying degrees of overrepresentation of White, Black, Hispanic, Asian, and Native American drivers with regard to stops, searches, and arrests based on the Disparity Indices previously described. Due to the smaller percentage of stops involved, figures for state LEAs not affiliated with VSP and figures for local LEAs serving jurisdictions other than Cities, Counties, or Towns are shown in Appendix E.

No overrepresentation (DI  $\leq$  1.09)

Moderate overrepresentation (DI  $>$  1.09 and  $\leq$  1.99)

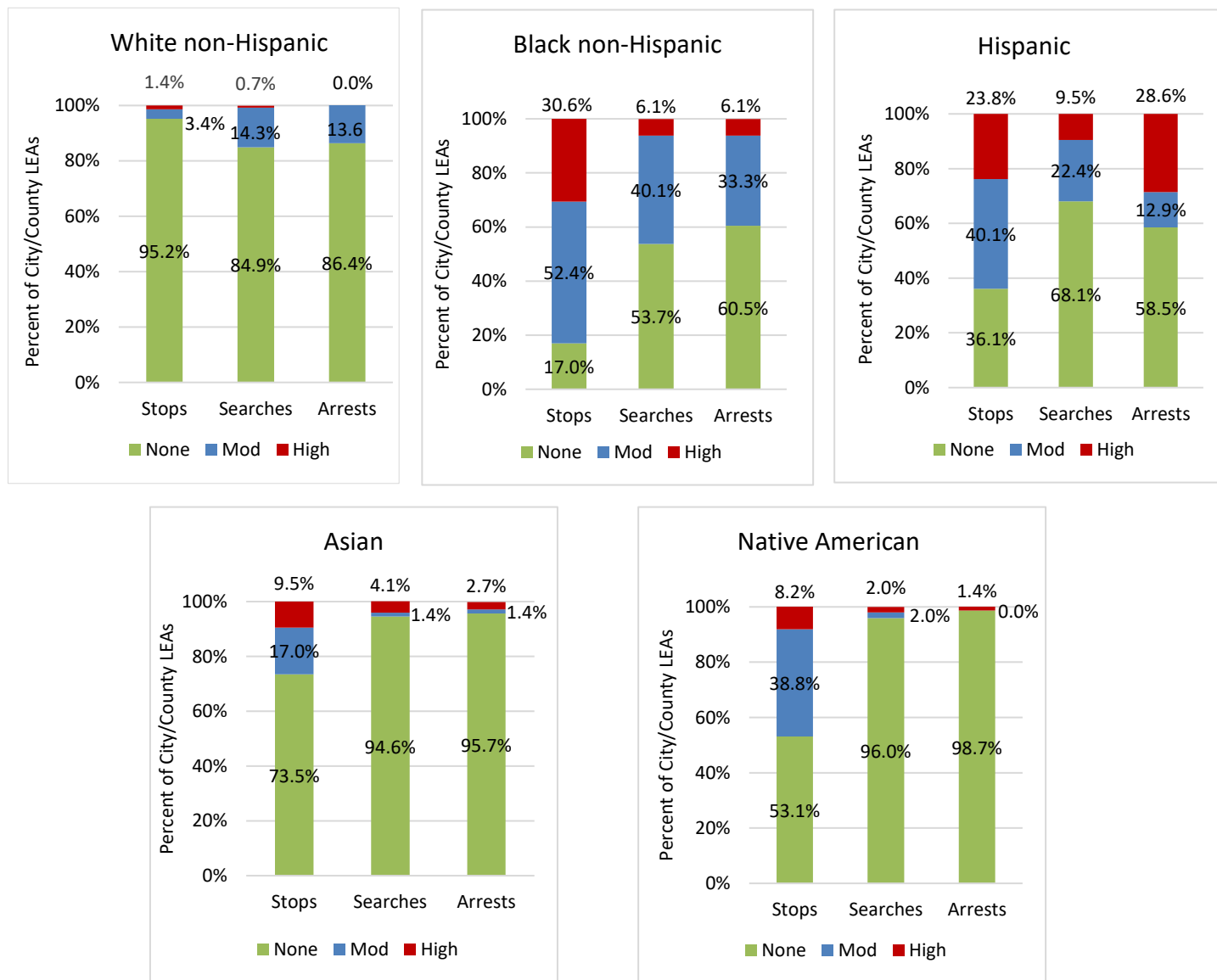
High overrepresentation (DI  $\geq$  2.0)

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<sup>2</sup> Eighty-four (84) Virginia agencies were not included in the analysis because they either do not make any traffic stops, they do not patrol public roadways, or DCJS did not receive their data until after February 18, 2025. See Appendix J for non-reporting agencies.

Figure 1 illustrates the percentage of City and County LEAs with Disparity Indices (DIs) indicating high, moderate, or no overrepresentation for stops, searches, and arrests. 147 City and County LEAs reported stops in 2024. City and County LEAs accounted for 58.1% of all traffic stops reported for 2024.

**Figure 1. Analysis and Disparity Index (DI) for City & County Law Enforcement Agencies (LEA) for Traffic Stops and Subsequent Searches and Arrests by Race/Ethnicity (CY2024)**



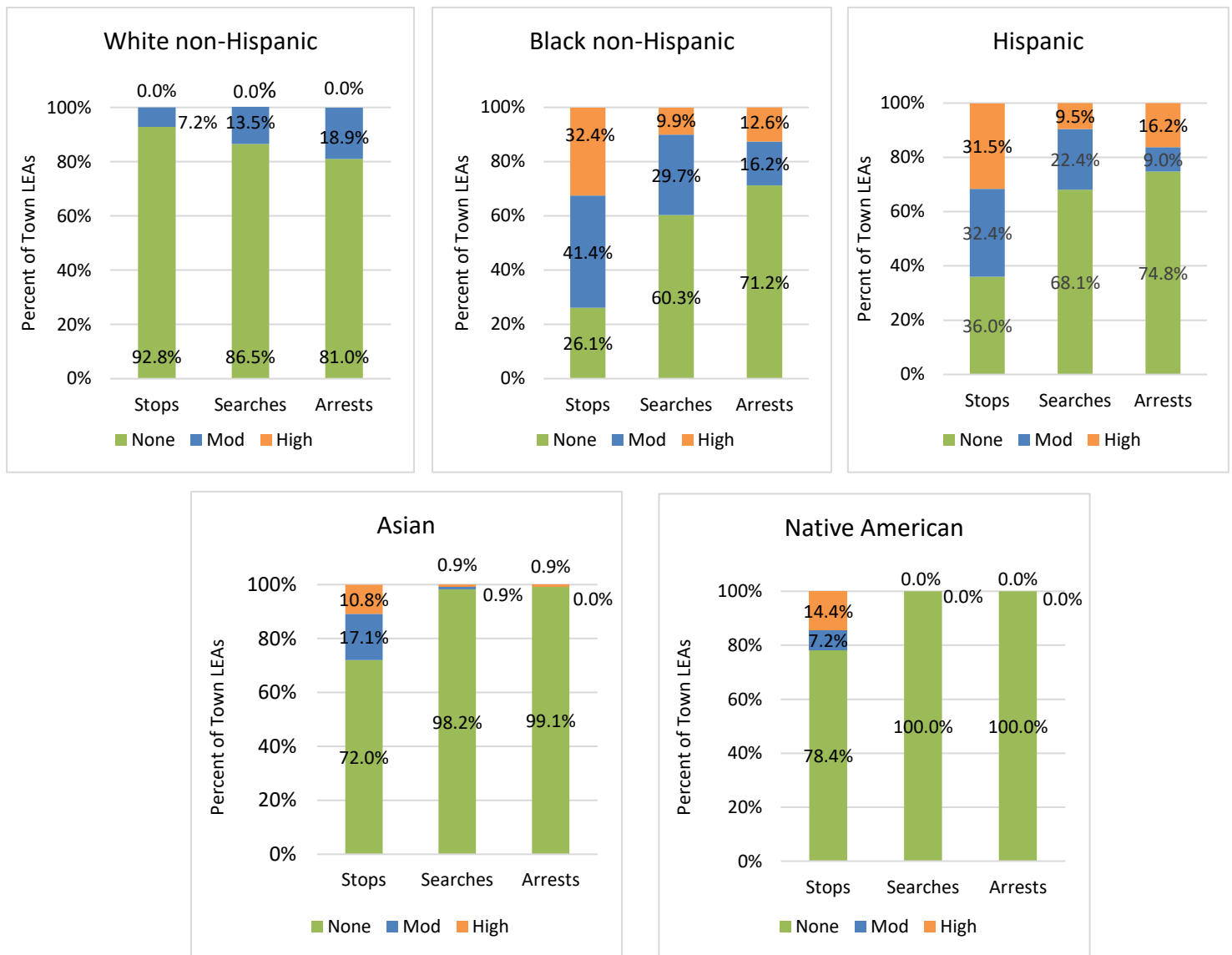
Overrepresentation of Black and Hispanic drivers is found for the majority (83% and 63.9% respectively) of City and County LEAs regarding the number of drivers stopped relative to their proportion of the driving population. This overrepresentation decreases for searches and arrests.

Overrepresentation of White drivers being searched and/or arrested was found for roughly 15% of agencies, while Asian drivers were found to be overrepresented with regard to being stopped by 26.5% of City and County agencies. Native American drivers were found to experience overrepresentation for traffic stops in 47% of agencies, however, the small jurisdiction rates for that population may dramatically inflate Disparity Indices.

Figure 2 illustrates the percentage of Town LEAs with Disparity Indices (DIs) indicating high, moderate, or no overrepresentation) for stops, searches, and arrests. 140 town LEAs reported stops in 2024.

Town LEAs accounted for 12.1% of all traffic stops reported for 2024.

**Figure 2. Analysis and Disparity Index (DI) for Town Law Enforcement Agencies (LEA) for Traffic Stops and Subsequent Searches and Arrests by Race/Ethnicity (CY2024)**

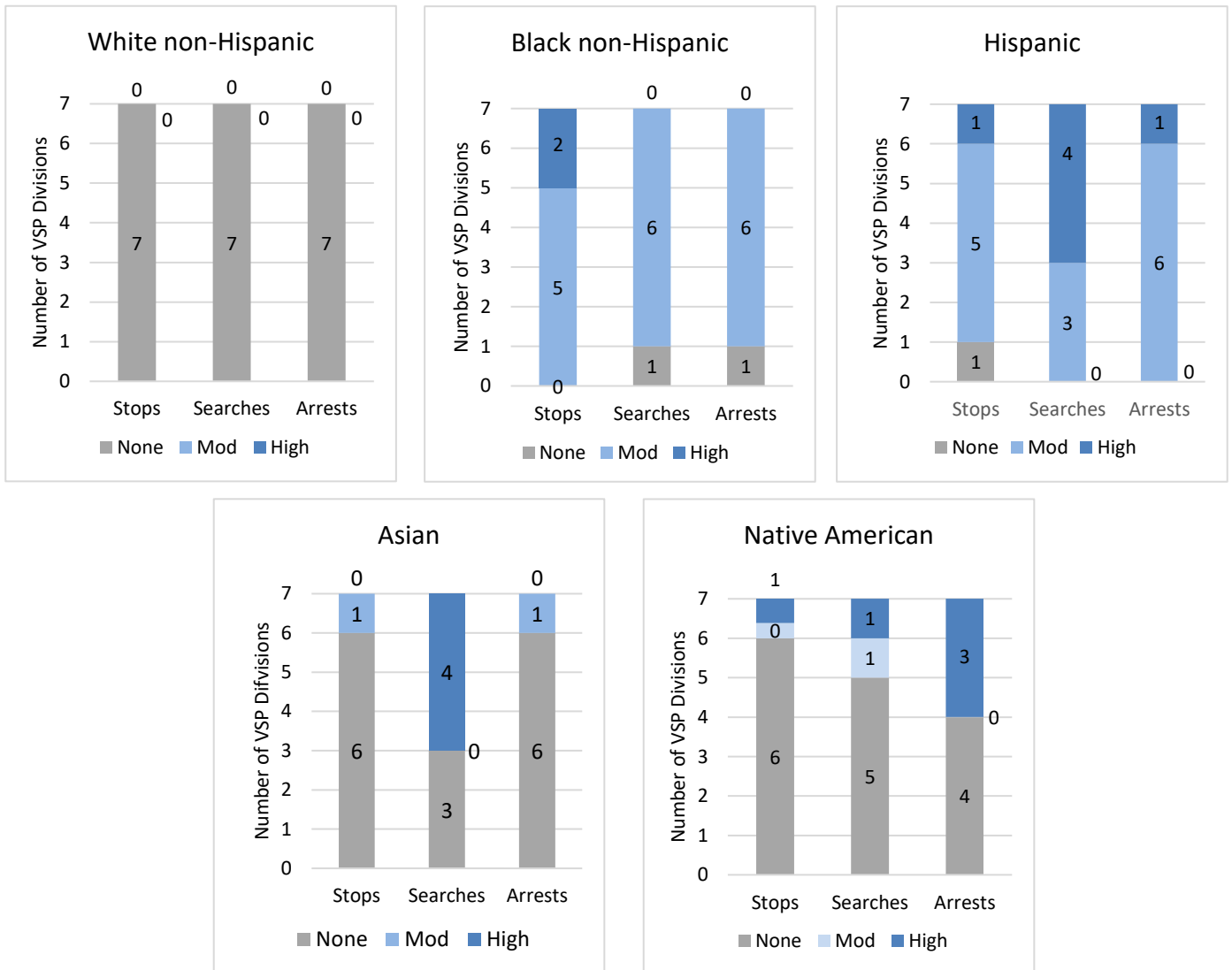


Black and Hispanic drivers experienced overrepresentation with regard to being stopped by 73.8% and 63.9% of town LEAs, respectively. Overrepresentation regarding searches and arrests decreased for both Black drivers and Hispanic drivers. White drivers were overrepresented in arrests by 18.9% of agencies. Asian and Native American drivers experienced some overrepresentation with regard to stops but not searches or arrests.

Figure 3 illustrates the number of (seven) Divisions of the Virginia State Police with Disparity Indices (DIs) indicating high, moderate, or no overrepresentation for stops, searches, and arrests.

VSP accounted for 26.9% of all traffic stops reported for 2024.

**Figure 3. Analysis and Disparity Index (DI) for VSP, Divisions I–VII for Traffic Stops and Subsequent Searches and Arrests by Race/Ethnicity (CY2024)**



Across the seven Divisions of the Virginia State Police, Moderate overrepresentation of Black and Hispanic drivers regarding the number of drivers stopped relative to their proportion of the driving population was noted for nearly all Divisions. Black and Hispanic drivers also experienced overrepresentation for searches and arrests compared to the number of drivers stopped. Overrepresentation of Asian drivers with regard to searches was noted for four Divisions.

## Data on Complaints Alleging Excessive Use of Force

The Community Policing Act also directs DCJS to obtain data from VSP on “*the prevalence of complaints alleging the use of excessive force.*” Use-of-force data is reported to VSP by local LEAs on the VSP SP-335 form. Use-of-force data reporting under HB 1250 began on July 1, 2020. DCJS examined the data that agencies reported to VSP for the period from January 1, 2024–December 31, 2024 (see Appendix O). Due to the limited amount of data reported, no analysis of the data is presented in this report. VSP and DCJS continue to examine future options for reporting use-of-force data to include an online data portal and repository. Therefore, the focus of the current report is on the analysis of traffic stop data.

## Conclusions and Recommendation

The overall finding of this analysis is that, statewide, Black and Hispanic drivers in Virginia were disproportionately stopped by law enforcement when compared to White drivers based on the number of drivers stopped relative to their numbers in Virginia’s driving-age population. This type of disparity was seen among traffic stops made by the majority of the individual law enforcement agencies for which disparity measures could be calculated.

With regard to searches, Black and Hispanic drivers were also disproportionately affected, but at a much lower rate than for stops (39% and 29% respectively). Arrests occurred at slightly lower rates than for searches with the exception of White drivers. While White drivers experienced very little overrepresentation in traffic stops, the number of agencies reporting disproportionate numbers of searches and arrests of White drivers was somewhat higher.

Given the differences in ratio of traffic stops of local resident drivers to stops of all drivers, separate analyses were performed on both Virginia resident drivers and for drivers stopped in the jurisdiction in which they reside (local resident) for traffic stops, searches, and arrests conducted by VSP, City/County, and town agencies. A consistent pattern was noted for all drivers, that local resident drivers of each racial/ethnic group were less likely to be disproportionately stopped compared to drivers who, while not local residents, did reside in Virginia. Virginia resident drivers were also less likely to be stopped disproportionately than out of state drivers.

For searches and arrests, however, results were mixed. There was no consistent pattern as to the likelihood of a driver being stopped given their residency status, although for Black and Hispanic drivers, Virginia residents stopped outside their home jurisdictions were more likely to be searched compared to out of state and local resident drivers. However, White, Black, and Asian drivers were more likely to be arrested disproportionately if they were stopped in their home jurisdiction versus elsewhere in Virginia compared to out of state drivers.

Although this analysis identified disparities in traffic stop rates related to race/ethnicity, **it does not allow us to determine or measure specific reasons for these disparities.** Most importantly for this study, this analysis does **NOT** allow us to determine the extent to which these disparities may be due to bias-based profiling or other factors that can vary depending on race or ethnicity.

Previous research has identified various factors other than bias-based profiling that could help to explain why members of a given racial/ethnic group may be stopped at a higher or lower rate than their presence in the driving-age population would suggest. These include:

- Different driving rates or patterns by different racial groups (perhaps linked to differences in housing or employment locations, in use of public transportation, etc.) (NCSA, 2023; Yoo, 2023).
- Socioeconomic impacts on vehicle maintenance which may lead to racial/ethnic trends in the rate of equipment violations.

- Different rates of policing in different areas (i.e., racial minorities may be more likely to drive in or through higher-crime areas, which are policed more than other areas). (*Cai and Gaebler, 2022*)
- Different agency practices – i.e., some law enforcement agencies differ on how much discretion they give officers in deciding when to make a stop or degree of leniency regarding the severity of a citation (*Goncalves & Mello, 2021*).

A major limitation of this study is that it uses each racial/ethnic group’s proportion of the resident driving-age population as a benchmark for measuring traffic stop disparities. This approach provides only a crude measure of each group’s exposure to potential traffic stops; in other words, a racial/ethnic group’s proportion of the driving age population in a locality provides only a rough *estimate* of that group’s proportion of the *actual* driving population in that locality. The benchmarking issue is made more pertinent with the discontinuation of the federal NCHS Bridged Race dataset used in past CPA estimates. Without the ability to incorporate multi-racial individuals into Virginia population benchmarks, DCJS has lost roughly 2.5% of the total usable intercensal estimate count and risks developing benchmarks that are marginally disproportionate to the demographics developed under bridged race data.

Currently, researchers across the United States have no precise measure of how often drivers of a given racial/ethnic group drive in their communities. Within each racial/ethnic group’s population in a locality, some individuals do not drive at all; they may be incapable of driving, not have a driver’s license or a motor vehicle, or simply choose not to drive even if they can. Others may drive, but rarely, and others still may be more likely to use public transportation than drive. The Residency field has allowed DCJS to more closely estimate the demographics of local drivers in Virginia, but there are still limitations to what this data element can provide. Most notably, only VSP and City and County agencies have a feasible public dataset from which to construct benchmark estimates. Agencies categorized as “Other” with transitory or ambiguous populations may likely never have such a resource available. Furthermore, as with all CPA data elements, the Residency field is subject to the collection and entry methods of each individual officer and other LEA personnel involved in collecting and reporting the CPA data.

***STANDING RECOMMENDATION:*** *The percentages and Disparity Indexes (DIs) presented in this report should not be interpreted to indicate that any individual law enforcement agency is practicing bias-based profiling. Given the limitations noted above, these figures should only be used to identify where the numbers indicate that certain ethnic/racial groups are being disproportionately stopped, which may bear further review to identify why this is occurring and whether any action should be considered to reduce or eliminate it.*

This is a standing recommendation given the limitations of the CPA’s current data fields. In addition, any year- to-year comparison of CPA findings should take into consideration both methodological differences and external factors involved in each year’s report.

## Authority for Report

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In 2020, Virginia policymakers enacted the *Code of Virginia* § 52-30.3, which directed the Virginia State Police to create a uniform statewide database (the Community Policing Report Database) to collect data on law-enforcement motor vehicle and investigatory stops, and on complaints alleging the use of excessive force. All Virginia state and local law enforcement agencies were required to report this data to the Virginia State Police.

In 2020, Virginia policymakers also enacted the *Code of Virginia* § 9.1-192, which directed the Virginia Department of Criminal Justice Services<sup>3</sup> (DCJS) to obtain data contained in the Community Policing Reporting Database, analyze the data to determine the existence and prevalence of the practice of bias-based profiling and the prevalence of complaints alleging the use of excessive force, and prepare an annual report on the findings of this analysis.

### *§ 9.1-192. Community Policing Reporting Database; annual report*

- A. The Department shall periodically access the Community Policing Reporting Database, which is maintained by the Department of State Police in accordance with § 52-30.3, for the purposes of analyzing the data to determine the existence and prevalence of the practice of bias-based profiling and the prevalence of complaints alleging the use of excessive force. The Department shall maintain all records relating to the analysis, validation, and interpretation of such data. The Department may seek assistance in analyzing the data from any accredited public or private institution of higher education in the Commonwealth or from an independent body having the experience, staff expertise, and technical support capability to provide such assistance.
- B. The Director shall annually report the findings and recommendations resulting from the analysis and interpretation of the data from the Community Policing Reporting Database to the Governor, the General Assembly, and the Attorney General beginning on or before July 1, 2021, and each July 1 thereafter. The report shall also include information regarding state or local law enforcement agencies that have failed or refused to report the required data to the Department of State Police as required by §§ 15.2-1609.10, 15.2-1722.1, and 52-30.2. A copy of the Director's report shall also be provided to each attorney for the Commonwealth of the county or city in which a reporting law-enforcement agency is located. *2020, c. 1165, § 9.1-191.*

This report is the fifth report prepared by DCJS in response to the § 9.1-192 mandate.

*DCJS wishes to acknowledge the efforts made by the Virginia State Police, other state law enforcement agencies, and the numerous large and small local police departments and sheriff's offices that worked to establish the traffic stop data collection and reporting system that made this report possible.*

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<sup>3</sup> In the *Code of Virginia*, the "Department" refers to the Virginia Department of Criminal Justice Services (DCJS).

# Introduction

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## The “Bias-Based Profiling” Issue

Traffic stops are one of the most commonly occurring types of encounters between law enforcement and the public. However, the percentage of drivers subject to a traffic stop initiated by a law enforcement officer has been decreasing over the last several years. According to the National Crime Victimization Survey (*Bureau of Justice Statistics, 2024*), 6.8% of the driving population in 2022 were stopped by law enforcement while driving or riding in a motor vehicle. This is a decrease from 9.2% in 2020 and 10.5% in 2018. Given the enduring frequency of these encounters, traffic stop interactions continue to play a major role in shaping how citizens perceive law enforcement officers. As one author noted, “It is no exaggeration to say that traffic stops are the epicenter of police-citizen interactions. Perceptions about their fairness will go a long way toward shaping citizens’ opinions of the police...” (Baumgartner, Epp and Shoub, 2018).

Discussions about fairness in police traffic stops often center around race and ethnicity – do police practice biased-based profiling when deciding who to stop, or in choosing to initiate a search or arrest during a stop? Early studies in New Jersey and Maryland determined that minority drivers were being stopped at much higher rates than White drivers. (Harris, D. 2020).

The death of George Floyd in 2020 and the ensuing public outcry led multiple states to begin pass anti-racial-profiling legislation in the ensuing years. By 2022, all 50 states had introduced legislation to address issues regarding police use of force, data transparency, training and certification, as well as civilian oversight.

## Virginia Legislation

To address the issue of bias-based profiling in Virginia, the 2020 General Assembly session passed HB 1250, The Virginia Community Policing Act (the “Act” or the CPA). The Act, effective July 1, 2020, defines bias-based profiling, prohibits bias-based profiling by law enforcement agencies (LEAs), and requires LEAs to collect traffic stop data, including data on the racial/ethnic characteristics of the drivers stopped.

In addition to directing DCJS to publish an annual report analyzing traffic stop data (§ 9.1-192), the Act contained the following provisions:

### § 52-30.1. Definition.

*For purposes of this chapter, unless the context requires a different meaning, "bias-based profiling" means actions of a law-enforcement officer that are based solely on the real or perceived race, ethnicity, age, gender, or any combination thereof, or other noncriminal characteristics of an individual, except when such characteristics are used in combination with other identifying factors in seeking to apprehend a suspect who matches a specific description.*

### § 52-30.2. Prohibited practices; collection of data.

- A. No State Police officer shall engage in bias-based profiling in the performance of his official duties. State Police officers shall collect data pertaining to motor vehicle or investigatory stops to be reported into the Community Policing Reporting Database. State Police officers shall submit the data to their commanding officers, who shall forward it to the Superintendent of State Police.
- B. Each time a law-enforcement officer or State Police officer stops an Individual or Driver of a motor vehicle, such officer shall collect the following data based on the officer's observation or information provided to the officer by the Individual or Driver: (i) the race, ethnicity, age, and gender of the person

stopped; (ii) the reason for the stop; (iii) the location of the stop; (iv) whether a warning, written citation, or summons was issued or whether any person was arrested; (v) if a warning, written citation, or summons was issued or an arrest was made, the warning provided, violation charged, or crime charged; and (vi) whether the vehicle or any person was searched.

- C. Each state and local law-enforcement agency shall collect the number of complaints the agency receives alleging the use of excessive force.

*§ 52-30.3. (Effective until July 1, 2021) Community Policing Reporting Database established.*

*The Department of State Police shall develop and implement a uniform statewide database to collect motor vehicle and investigatory stop records, records of complaints alleging the use of excessive force, and data and information submitted by law-enforcement agencies pursuant to §§ [15.2-1609.10](#), [15.2-1722.1](#), and [52-30.2](#). The Department of State Police shall provide the Department of Criminal Justice Services with secure remote access to the database for the purposes of analyzing such data as required by subsection A of § [9.1-192](#).*

*§ 52-30.4. Reporting of state and local law-enforcement agencies required.*

*All state and local law-enforcement agencies shall collect the data specified in subsections C and D of § 52-30.2, and any other data as may be specified by the Department of State Police, on forms developed by the Department of State Police.*

*§ 15.2-1609.10. (Effective until July 1, 2021) Prohibited practices; collection of data.*

- A. No sheriff or deputy sheriff shall engage in bias-based profiling as defined in § 52-30.1 in the performance of his official duties.
- B. The sheriff of every locality shall collect data pertaining to motor vehicle or investigatory stops pursuant to § 52-30.2 and report such data to the Department of State Police for inclusion in the Community Policing Reporting Database established pursuant to § 52-30.3. The sheriff of the locality shall be responsible for forwarding the data to the Superintendent of State Police.

*§ 15.2-1722.1. (Effective until July 1, 2021) Prohibited practices; collection of data.*

- A. No law-enforcement officer shall engage in bias-based profiling as defined in § 52-30.1 in the performance of his official duties.
- B. The police force of every locality shall collect data pertaining to motor vehicle or investigatory stops pursuant to § 52-30.2 and report such data to the Department of State Police for inclusion in the Community Policing Reporting Database established pursuant to § 52-30.3. The chief of police of the locality shall be responsible for forwarding the data to the Superintendent of State Police.

Effective July 1, 2021, LEAs must also collect data similar to that above whenever a law enforcement officer stops and frisks a person based on reasonable suspicion, or temporarily detains a person during any other investigatory stop. For traffic and other investigatory stops, data must be collected on whether the person stopped spoke English, whether the law enforcement officer used physical force against any person, and whether any person used physical force against any officer(s) (see Appendix G for the SB 5030 language). LEAs were also required to post their traffic stop data on a publicly available website.

# How the Data Was Collected and Reported

## Virginia State Police (VSP) Data Collection System

### Summary of VSP Traffic Stop Reporting Process

On July 1, 2022, the *Community Policing Data Collection Instructions and Technical Specifications Version 5.3* developed by Virginia State Police took effect for all Virginia law enforcement agencies (LEAs). As with previous versions, this document instructed LEAs on the data required to be reported, defined the data variables and codes to be used in reporting, and provided data file submission specifications.

The variables VSP identified to be reported under the Virginia Community Policing Act are shown in Table 1:

<b>Table 1. Traffic Stop Data Reported Under the Community Policing Act, Effective July 1, 2022</b>		
<i>Incident Details</i>	<i>Subject Details</i>	<i>Additional Stop Details</i>
Record ID	Driver race	Persons searched
Stop date	Driver ethnicity	Vehicle searched
ORI (Originating Agency Identifier)	Driver age	Physical force by officer
Location	Driver gender	Physical force by subject
Jurisdiction Code	Driver English speaking (Y/N)	
Initial Reason for Stop	Driver residency (state or local)	
Person Type	Action taken	
	Type of violation	
	Specific violation	
	Virginia Crime Code (optional)	

### How Law Enforcement Agencies Reported to VSP

Law enforcement agencies began collecting this year’s data on January 1, 2024. From January to June, agencies collected and submitted traffic stop data for each month via their computer-aided dispatch/records management systems, or via manual entry using an Excel spreadsheet, to the Criminal Justice Information Services Division’s Data Analysis and Reporting Team (DART) within VSP. Data for July and subsequent months were submitted via an online data reporting and repository site, [www.Beyond2020.com](http://www.Beyond2020.com). VSP instructed agencies to submit traffic stop data for each month by the 15th of the following month. The data repository is ‘live and in real time’ and agencies can make any needed corrections to traffic data at any time.

### VSP Quality Checks and Assistance to Reporting Agencies

VSP’s DART staff worked with the developers of Beyond2020 to create parameters for data entry in order to ensure correctness and adherence to VSP’s technical specifications. When agencies had questions or issues about CPA data collection and reporting, DART staff worked with them to provide assistance to resolve these issues. Through this process, reporting has substantially improved over time. Another major advantage of the online data reporting portal is that it has decreased the reporting burden for smaller law enforcement agencies.

DART has adapted the previous monthly data file review procedure for use with Beyond2020 to alert and assist agencies with submissions containing missing or incomplete records so that agencies can go back to those records and make the necessary corrections. Agencies only receive credit for such data submissions once the corrected records meet approval standards. Because many quality issues in the traffic stop data can only be resolved through follow-up with the originating LEAs and officers involved, this process enables DCJS to preserve records that would have otherwise been excluded from analysis due to invalid data values.

## VSP Data Dissemination

Although §§ 15.2-1609.10 and 15.2-1722.1 of the *Code of Virginia* did not require LEAs to publicly post their traffic stop data until July 1, 2021, some LEAs began to post their data in late 2020 and early 2021. Some agencies posted this data on their own agency websites, or through social media sites such as Facebook (META) or ‘X’ (formerly Twitter).

Community Policing Act data is now publicly available through the online data repository [va.Beyond2020.com](https://va.Beyond2020.com). The repository also provides a method for agencies without their own capacity to post website data to meet the public reporting requirement. The Community Policing Act data can be found at: [va.Beyond2020.com](https://va.Beyond2020.com).

It should be noted that traffic stop data in this report will not match the data currently available in *Beyond2020* because the data are regularly updated by Agencies and may include additional records or records with corrected data elements. All data used for the analysis in this report was “frozen” on February 18, 2025. The DCJS 2025 Analysis Dataset used for this report (along with supplemental data dictionary and data user guide) will be posted separately on the DCJS Research Center publications page at: [www.dcjs.virginia.gov/research-center/publications-links](https://www.dcjs.virginia.gov/research-center/publications-links).

## Data on Complaints Alleging Use of Excessive Force

In addition to directing DCJS to analyze data on traffic stops, the *Code of Virginia* § 9.1-192 directs DCJS to obtain data on complaints alleging the use of excessive force by law enforcement, and to analyze this data to examine the prevalence of excessive use of force. Use-of-force data is reported to VSP by local LEAs on VSP’s SP- 335 form.

Use-of-force data reporting began on July 1, 2020. Appendix O provides a summary of the data that agencies have reported to VSP for the period from January 1, 2024–December 31, 2024. Due to the limited amount of data reported, no analysis of the data is presented in this report; only the numbers of complaints reported are shown. VSP and DCJS continue to examine future options for reporting use-of-force data.

# How the Data Was Analyzed

## Selection of Data to Analyze

The Virginia Department of Criminal Justice Services retrieved Virginia Community Policing Act data from [www.Beyond2020.com](http://www.Beyond2020.com), the data repository provided by Virginia State Police, in February 2025 via a secure electronic file transfer process, and eventually received a total of 1,138,464 traffic stop records for the period from January 1, 2024 through December 31, 2024. DCJS and VSP then did additional work to review the records, resolve any data issues identified in the records, and identify any remaining records with issues that could affect the analysis and interpretation of the data.

During this review, some traffic stop records were excluded from the analysis dataset for various reasons. Stops made at checkpoints or performed as “Calls for Service” were eliminated because these stops are not discretionary (i.e., all vehicles passing through the checkpoint are stopped). Records were excluded if they were not “reported completely” (that is, if data elements in the record were not reported with valid data values as defined in *VSP Data Collection Instructions and Technical Specifications Version 5.3*).

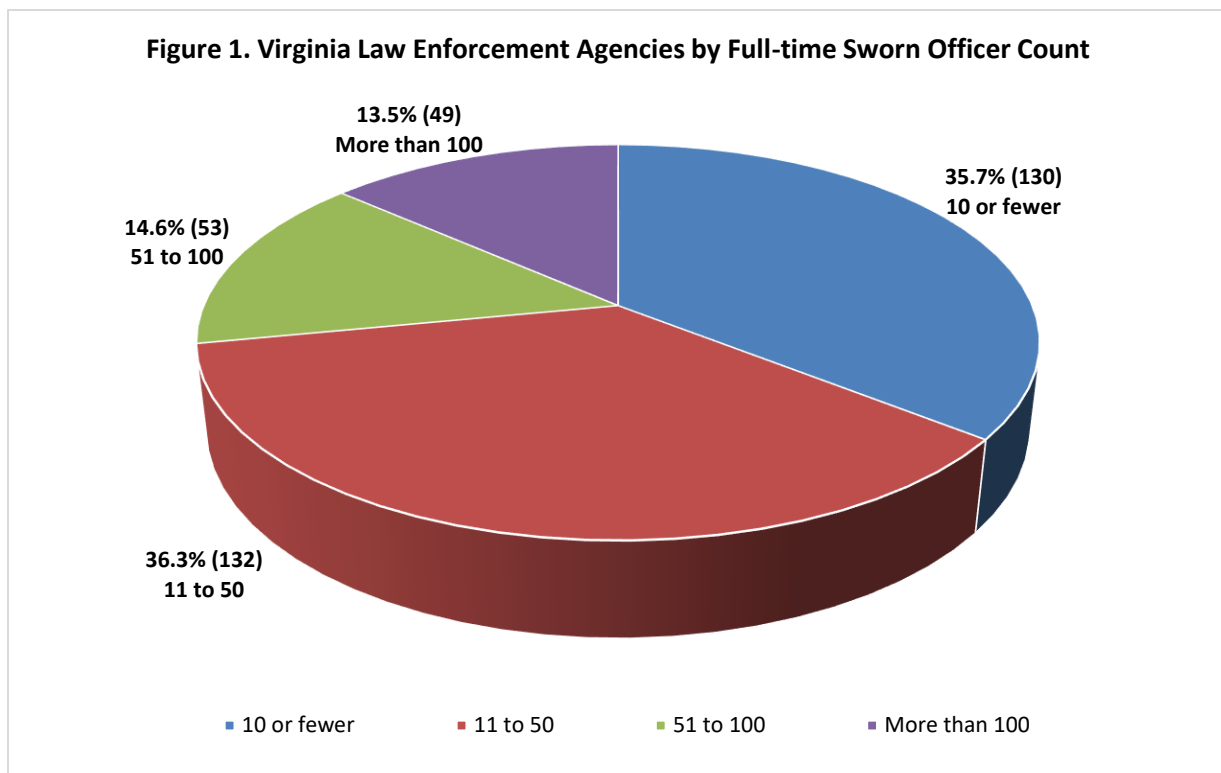
After DCJS reviewed the remaining records, additional records were excluded from the analysis because some of the data variables needed for the analysis had no value coded (null values) or the values coded were outside the bounds of the allowable codes. Records removed for these reasons are listed in Table 2.

<b>Table 2. Records Excluded from Traffic Stop Analysis</b>			
<i>Data Element</i>	<i>Criteria for DCJS Analysis Dataset</i>	<i>Number of records null or out of bounds</i>	<i>Total number of records to exclude</i>
Age	15 or greater	11,254 – age less than 15	11,254
Reason for Stop	“E” Equipment Violation “T” Traffic Violation “S” Terry Stop “O” Other Investigative Stop	8,143 – “A” Accident 24,032 – “C” Calls for Service 5,034 – “P” Checkpoint 6,025 – “W” Warrant Service 1 – null	43,235
Person Type	“D” Driver	3,351 – “P” Passenger 11,092 – “O” Other	14,443
Race	“A” Asian “B” Black “N” Native American “W” White “U” included if Ethnicity is “H”	35,735 – “U” (and Ethnicity “U”) 1 null	35,736
English Speaking	“Y” Yes or “N” No	5 null	5
Person Searched	“Y” Yes or “N” No	3 null	3
Vehicle Searched	“Y” Yes or “N” No	1 null	1
Officer Physical Force	“Y” Yes or “N” No	0	0
Subject Physical Force	“Y” Yes or “N” No	1 null	1
Total Records Excluded from Analysis			104,678

Based on the records review described above, 104,678 of the original 1,138,464 records were excluded, leaving a final statewide analysis dataset containing a total of 1,033,786 (90.8%) records on drivers aged 15 years and older that were stopped by Virginia LEAs from January 1, 2024, through December 31, 2024. These records were based on data retrieved from [www.Beyond2020.com](http://www.Beyond2020.com) on February 18, 2025.

A growing percentage (3.5%) of Virginia’s population identify themselves as being of two or more racial/ethnic identities. Comparably, the initial dataset for this year’s report had 35,736 (3.3%) of the drivers stopped reported as unknown race and ethnicity. Given that the purpose of this report is to explore racial bias, subjects with a reported race of “Unknown” were excluded. Population benchmarking accounted for the exclusion of mixed-race persons as well.

Implementing the traffic stop data collection and reporting continues to be a challenge for Virginia’s smaller LEAs, which struggle to provide the staffing, training, and equipment needed for the CPA data collection. As seen in Figure 1, 72% of local LEAs have 50 or fewer sworn officers, and 130 agencies – over one-third – have ten or fewer officers. Many of these agencies have limited resources, which motivated, in part, the development of the Beyond2020 data reporting portal and repository. Agencies can now login to the website and enter data rather than independently support means of reporting.



## Analysis Approach

The approaches used in this analysis to look for possible indicators of bias-based profiling were as follows:

- For traffic stops, the percentage of drivers stopped in each racial/ethnic group was compared to the percentage of driving-age individuals in each racial/ethnic group. This comparison was made at the state and local level, including by individual law enforcement agencies when appropriate data was available.
  - For events that occurred after a traffic stop was made, such as whether a search was conducted or an arrest was made, the percentage of drivers in each racial/ethnic group stopped was compared to the percentage of drivers for which each event such as a search or arrest occurred. These comparisons were also made at the state, VSP Division, and local level, including by individual law enforcement agencies when appropriate data was available. These post-stop analysis methods are unchanged from prior years.
- To provide a standardized method for identifying and comparing disparities between different racial/ethnic groups in traffic stops and in the events that occurred after a stop was made, DCJS calculated a Disparity Index (DI). The DI indicates the degree to which members of any racial/ethnic group were stopped relative to the group's presence in the driving-age population, or the degree to which members of any group were involved in events that occurred after a stop was made. The DI value for each racial/ethnic group indicates whether drivers in that group were *equally represented or showed no overrepresentation, moderately overrepresented, or highly overrepresented* in traffic stops or post-stop events, relative to what would be expected if no disparities existed. Further details regarding methodology are presented in Appendix M.
- Chi-square residual testing was conducted to determine if the observed number of stops, searches or arrests of each of the racial/ethnic groups performed by individual LEAs was significantly (statistically) different from the number of stops expected given that group's jurisdiction population rate. See Appendix N for further details regarding residual testing methodology.
  - Non-resident drivers were combined with resident drivers to provide a larger dataset for these tests, which required a minimum number of events (stops, searches, arrests) to reach the threshold for meaningful analysis.

# Findings from Analysis of Statewide Traffic Stop Data

## Overview of Statewide Data – All Driver Racial/Ethnic Groups Combined

The final statewide analysis dataset contained a total of 1,033,785 records for drivers aged 15 years and older that were stopped by all Virginia LEAs reporting usable Virginia Community Policing Act data for the period from January 1, 2024, through December 31, 2024<sup>4</sup>. Of these stops, 58.1% (600,178) were reported by LEAs that serve cities and counties, 25% (258,067) were reported by VSP, 12.1% (125,279) were reported by agencies serving towns, and 4.9% (50,261) were reported by other types of LEAs.

This section provides an overview of the statewide data (all drivers combined), including the reasons for the stops, numbers of searches made, and outcomes of the stops.

### Reasons for Traffic Stops

Table 3 shows a breakout of the reasons for the 1,033,785 traffic stops statewide.

Table 3. Reasons for Traffic Stops, Virginia Statewide (CY2024)			
<i>Reason for Stop</i>	<i>Number of Stops</i>	<i>2024 Percent of Stops</i>	<i>2023 Percent of Stops</i>
<b>Violation Total</b>	<b>999,161</b>	<b>96.7%</b>	<b>98.1%</b>
Traffic Violation	907,450	87.8%	89.7
Equipment Violation	91,711	8.9%	8.4%
<b>Investigative Total</b>	<b>34,624</b>	<b>3.4%</b>	<b>1.9%</b>
Other Non-consensual	30,870	3.0%	1.5%
Terry Stop <sup>5</sup>	3,754	0.4%	0.4%
<b>Grand Total</b>	<b>1,033,785</b>	<b>100.0%</b>	<b>100%</b>

Over 96.7% (999,161) of all stops reported were made for traffic or equipment violations. The vast majority (87.8%) of these were for traffic violations; only 8.9% were for equipment violations. This finding is consistent with traffic stop data from previous reports, where violations made up the majority of reasons for stops.

However, a decrease in the percentage of traffic stops stemming from a violation (96.7% in 2024 compared to 98.1% in 2023) was observed along with a corresponding increase in investigative stops. This difference of 1.4% is equivalent to 15,501 stops.

Investigative stops made up 3.4% of all stops. Among the investigative stops, Terry stops, where a suspect is detained under reasonable suspicion of criminal activity, made up 0.4% of all driver stops and is unchanged from 2023. Other non-consensual stops (stops for confirming or dispelling the suspicion of unlawful or unsafe activity or taking enforcement action in response to unlawful activity) made up 3% of all stops, twice that of last year’s rate of 1.5%. This change appears to be the driving factor in the overall change in the ratio of violation to investigative stops.

<sup>4</sup> This is a continuation of the revised data collection window implemented in the previous report. Should the General Assembly amend CPA legislation and adopt a report deadline later in the calendar year, DCJS would be able to analyze fiscal year data (July–July) rather than calendar year (January–December) data. In the 2021, 2022, and 2023 reports, the 4th quarter of the fiscal year (April–June) containing the spring and early summer months, which are notably heavier traffic months, were not included due to the report submission deadline. This report will be the second to contain 12 months of traffic stop data.

<sup>5</sup> Terry stops are stops based on a reasonable suspicion of involvement in criminal activity.

One finding of note between stops of Virginia residents and non-residents was that the percentage of equipment stops for residents was much higher (10.4 %) than that for non-residents (3.2%) while the percentage of other investigative stops was much higher for non-resident drivers (6.0%) than for resident drivers (2.1 %). This difference may be due in part to the likelihood of vehicles with visible equipment issues not being used for out-of-state trips. Another perspective would be that stops of residents for equipment violations may, in fact, be used as pretext for investigative stops.

### Person and Vehicle Searches

Only 1.8% (18,170) of the 1,033,785 stops made resulted in law enforcement searching the driver and/or the vehicle. Table 4 shows a breakdown of searches made during the stops. Due to concerns about the completeness of passenger data in this year’s CPA data, data on passenger searches has not been included.

<b>Table 4. Driver and Vehicle Searches, Virginia Statewide (CY2024)</b>		
	<i>All Drivers (state and non-state residents)</i>	
	<i>Number of Stops</i>	<i>Percent of Stops</i>
No Search	1,015,615	98.2%
Driver, vehicle, or both searched	18,170	1.8%
Grand Total	1,033,785	100.0%

### Outcomes of Stops

Table 5 provides a breakdown of the outcomes for the 1,033,785 traffic stops.

<b>Table 5. Outcome of Driver Stops, Virginia Statewide (CY2024)</b>		
	<i>All Drivers (state and non-state residents)</i>	
	<i>Number of Stops</i>	<i>Percent of Stops</i>
Driver citation/summons issued	641,456	62.1%
Warning issued to driver	343,253	33.2%
No enforcement action to driver	38,571	3.7%
Driver arrested	10,505	1.0%
Grand Total	1,033,785	100.0%

The most frequent outcome of a stop was issuing a citation or summons. A warning was issued in a third of the stops. In only 1% of the stops was a driver arrested. These findings are consistent with previous reports.

### Demographics of Drivers Stopped

Unless stated otherwise, percentages based on population used in this report refer to the Virginia population aged 15 years and above (generally the legal driving age in Virginia). A very small number of drivers stopped were below age 15 years, and these stops were excluded from the analysis as described in the previous section of this report.

Population figures used in this report are from Vintage 2023 post-Census estimates of the resident population of the United States published by the Census Bureau Population Division. Racial/ethnic categories used in this report are based on legacy U.S. Census definitions of four racial groups. The Black category used in this report includes Black or African American; the White category includes Non-Hispanic White or Caucasian; the Native American category includes Non-Hispanic Native Americans or Alaskan Natives; and the Asian category includes Non-

Hispanic Asian, Native Hawaiian, or Other Pacific Islanders. The Hispanic category can include any race with Hispanic origin. More information about the population data used for the calculations in this report can be found in Appendix I. Throughout this report, the labels White, Black, Asian, and Native American should be understood to include only Non-Hispanic individuals within those racial categories.

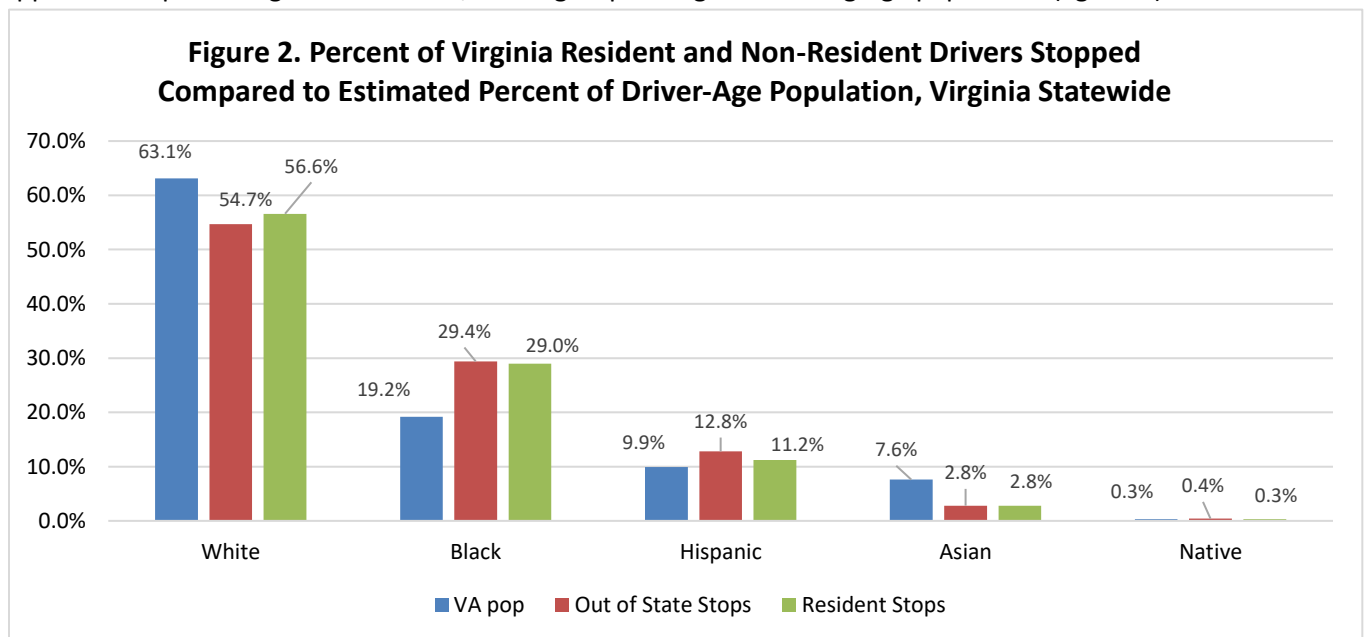
Table 6 shows a breakdown of the race/ethnicity of the 1,033,785 drivers stopped by Virginia law enforcement from January 1, 2024, through December 31, 2024. Counts for Virginia resident drivers as well as out-of-state drivers are shown for context. Local resident stop counts by race/ethnicity for each city and county agency are shown in the stopped driver totals in Appendix C.

Race/Ethnicity	Percent of VA Driver Population	VA Resident Drivers		Out-of-State Drivers		All Drivers	
		Drivers Stopped	Percent	Drivers Stopped	Percent	Drivers Stopped	Percent
White*	63.7%	463,386	56.6%	117,687	54.7%	581,073	56.2%
Black *	19.2%	237,702	29.0%	63,200	29.4%	300,902	29.1%
Hispanic (any race) *	9.2%	91,401	11.2%	27,617	12.8%	119,018	11.5%
Asian *	7.5%	23,119	2.8%	6,016	2.8%	29,135	2.8%
Native American *	0.3%	2,893	0.4%	764	0.4%	3,657	0.4%
Grand Total	100.0%	818,501	100.0%	215,284	100%	1,033,785	100.0%

\* Throughout this report, the labels White, Black, Asian, and Native American should be understood to include only Non-Hispanic individuals within those racial categories.

White drivers continued to make up more than half (56.2%) of all drivers stopped statewide although this is a decrease of 2% from 2023. Black drivers continued to make up 29.1% of all drivers stopped statewide, and slightly higher percentages of Hispanic drivers (11.2%), Asian drivers (2.8%), and Native American drivers (0.3%) made up the remainder of all drivers stopped in Virginia in 2024.

Figure 2 compares the percentage of each racial/ethnic group among Virginia resident and non-resident drivers stopped to the percentage of each racial/ethnic group in Virginia’s driving-age population (age 15+).



As can be seen in Figure 2, although only 19.2% of Virginia’s driving-age population is Black, 29.0% of the state resident drivers stopped by law enforcement were Black. Stops for Hispanic drivers were slightly higher than their share of the population (12.8% and 9.9%, respectively). White and Asian resident drivers were stopped at rates lower than their share of the driving-age population.

**English Speaking Status of Subjects**

<b>Table 7. English Speaking Status of Driver, Virginia Statewide (CY2024)</b>		
<i>English Speaking Driver</i>	<i>Number</i>	<i>Percent</i>
Yes	1,000,658	96.8%
No	33,127	3.2%
Grand Total	1,033,785	100.0%

The majority of drivers stopped (96.8%) spoke English, which is a decrease of 0.5% from 2023. Reciprocally, 3.2% of drivers were reported to not speak English. This is an increase of just over 7,000 drivers from 2023.

**Use of Force**

<b>Table 8. Use of Physical Force (CY2024)</b>			
<i>Type of Force</i>	<i>Number of Stops</i>	<i>Percent Within Stops With Force Reported</i>	<i>Percentage of All Stops</i>
Officer Against Driver Only	626	41.9%	0.061%
Driver Against Officer Only	463	31.1%	0.045%
Both	402	27.0%	0.039%
Any Physical Force	1,491	100.0%	0.144%

The CPA data includes fields on whether an officer used physical force against a subject, or a subject used force against an officer. Instances of either force type continue to constitute less than 0.1% of all traffic stops (1,491 cases combined). Use of force counts by race/ethnicity can be found in the statewide summary Table 13, and the agency tables in Appendices B–E.

**Residency**

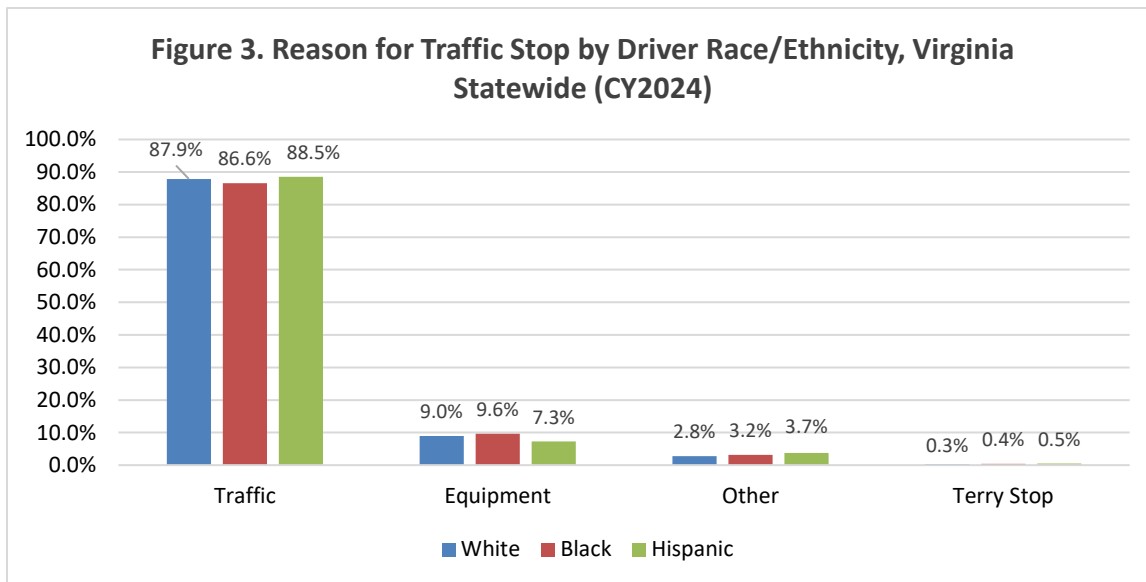
<b>Table 9. Driver Residency Count by Agency Type (CY2024)</b>						
<i>Residency Type</i>	<i>City/County</i>	<i>Other</i>	<i>VSP</i>	<i>Town</i>	<i>All Agencies Total</i>	<i>Percent Total</i>
Resident of town/city/county of stop	278,353	11,408	122,893	46,157	458,811	44.4%
Other Virginia Jurisdiction Resident	210,943	11,456	80,136	49,086	351,621	34.0%
Out of State Resident	103,313	7,235	75,037	29,699	215,284	20.8%
Blank or Unknown	7,469	163	0	337	8,069	0.8%
Grand Total	600,178	30,265	278,066	125,279	1,033,785	100.0%

44.4% of drivers stopped in Virginia in 2024 were identified as residents of the town, city, or county in which the stop occurred. 34% of drivers were reported as Virginia residents from another jurisdiction, and 20.8% were reported as out of state.

Overall, 78.4% of traffic stops conducted in Virginia in 2024 were on drivers residing in Virginia. Similarly, given their statewide jurisdiction, 73% of the drivers stopped by the Virginia State Police are Virginia residents. For county law enforcement agencies and those of independent cities, however, less than half (46.4%) of their traffic stops are of local resident drivers. For towns, the percentage of traffic stops that were of local resident drivers was even smaller (36.8%). The smaller a law enforcement agency’s jurisdictional area, the greater the proportion of that agency’s stops will be of non-local residents. This makes sense given that a smaller jurisdiction is likely to have a small local resident population and a relatively larger number of non-resident daily drivers that come into the jurisdiction. The small number of local resident stops per agency makes it difficult to perform reliable analytics regarding local residents for those jurisdictions.

*Reason for Traffic Stops, by Driver Race/Ethnicity*

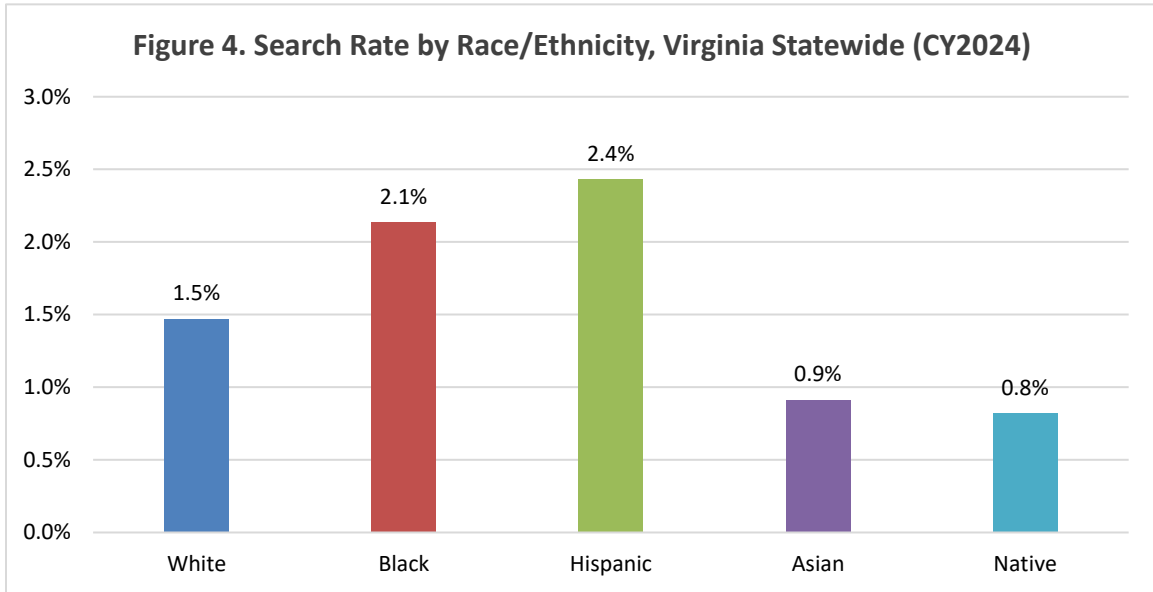
Figure 3 presents the reasons for traffic stops, by driver race/ethnicity. Native American and Asian drivers were excluded from the figure due to the small numbers in each stop category.



Traffic violations were the overwhelming reason for driver stops among all racial/ethnic groups. Black drivers were slightly less likely (86.6%) to be stopped for a traffic violation than White (87.9%) or Hispanic (88.5%) drivers. On the other hand, Black drivers were slightly more likely (9.6%) to be stopped for equipment violations than White (9.0%) or Hispanic (7.3%) drivers.

*Searches Made During Traffic Stops, by Driver Race/Ethnicity*

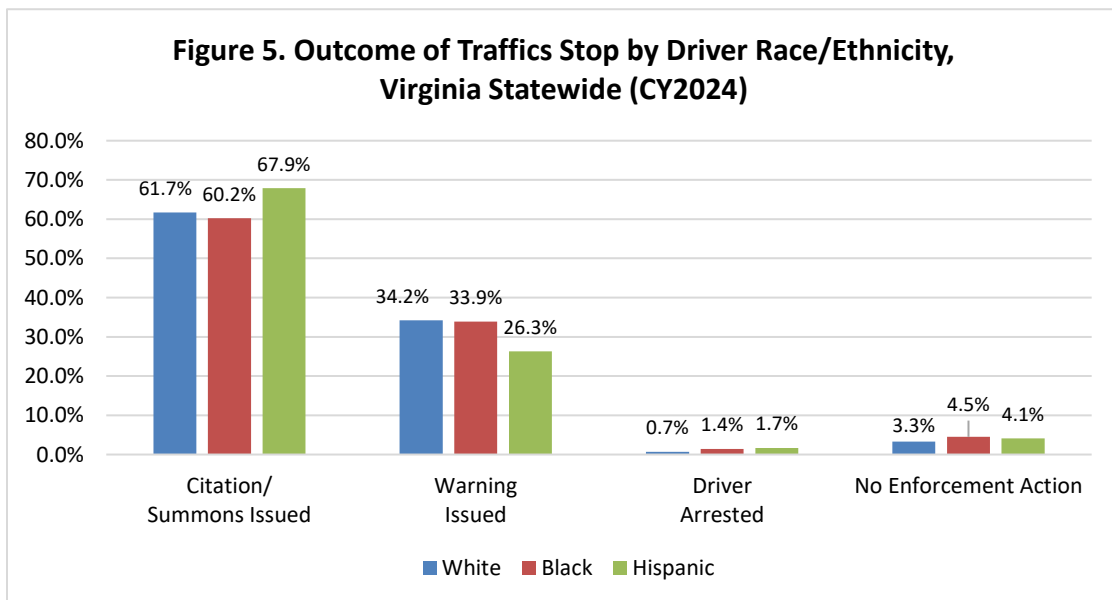
The likelihood of having a law enforcement officer conduct a search of a vehicle or person during a traffic stop remains a relatively uncommon event. Figure 4 shows the percentage of drivers in each racial/ethnic group for which a search was conducted. “Search” means the driver and/or the vehicle was searched.



Overall, searches of drivers and/or vehicles were rare following traffic stops. Only 1.8% (or 1 out of 56) of all driver stops resulted in such a search. As can be seen, Black and Hispanic drivers who were stopped were searched at higher rates than White drivers.

*Outcome of Traffic Stops, by Driver Race/Ethnicity*

Figure 5 presents the outcome of traffic stops, by driver race/ethnicity. Outcomes were coded based on the most serious outcome of the stop, even though more than one outcome was possible for a stop. Native American and Asian drivers were excluded from the figure due to the small numbers in each stop category.



As in previous reports, issuance of a citation or summons was the most likely outcome of a traffic stop in 2024, regardless of driver race/ethnicity. Warnings were the second most likely outcome for all drivers (roughly 26% to 34% of the time) across all driver race/ethnicities.

*Driver Gender, by Race/Ethnicity*

Table 10 presents the reported gender of all drivers stopped, by race/ethnicity.

<b>Table 10. Gender of Drivers Stopped, by Race/Ethnicity, Virginia Statewide (CY2024)</b>						
	<i>White</i>		<i>Black</i>		<i>Hispanic (any race)</i>	
	# of stops	% of stops	# of stops	% of stops	# of stops	% of stops
<i>Male</i>	365,408	62.9%	188,238	62.6%	89,248	75.0%
<i>Female</i>	215,208	37.0%	112,515	37.4%	29,702	25.0%
<i>Other/Unknown</i>	457	0.08%	149	0.05%	68	0.06%
<i>Total</i>	581,073	100.0%	300,902	100.0%	119,018	100.0%
	<i>Native American</i>		<i>Asian</i>		<i>Total</i>	
	# of stops	% of stops	# of stops	% of stops	# of stops	% of stops
<i>Male</i>	2,723	74.5%	19,111	65.6%	664,728	64.3%
<i>Female</i>	929	25.4%	10,007	34.3%	368,361	35.6%
<i>Other/Unknown</i>	5	0.14%	17	0.06%	696	0.07%
<i>Total</i>	3657	100.0%	29,135	100.0%	1,033,785	100.0%

Males made up the majority of drivers stopped, regardless of race/ethnicity. The percentage of male drivers stopped was about equal for both White (62.9%) and Black (62.6%) drivers. Males made up a somewhat higher percentage of Hispanic (75%) and Native American (74.5%) drivers stopped. Males made up 65.6% of Asian drivers stopped.

*Driver Age, by Driver Race/Ethnicity*

Table 11 presents the age of all drivers stopped, by race/ethnicity.

<b>Table 11. Age of Drivers Stopped, by Race/Ethnicity, Virginia Statewide (CY2024)</b>						
	<i>White</i>		<i>Black</i>		<i>Hispanic (any race)</i>	
	# of stops	% of stops	# of stops	% of stops	# of stops	% of stops
<i>15 to 24</i>	125,467	21.6%	62,457	20.8%	32,659	27.4%
<i>25 to 34</i>	134,610	23.2%	88,488	29.4%	35,964	30.2%
<i>35 to 44</i>	114,512	19.7%	65,475	21.8%	26,087	21.9%
<i>45 to 54</i>	87,535	15.1%	41,662	13.8%	15,359	12.9%
<i>55 to 64</i>	69,337	11.9%	28,444	9.5%	6,875	5.8%
<i>65 and older</i>	49,612	8.5%	14,416	4.8%	2,074	1.7%
<i>Total</i>	581,073	100.0%	300,902	100.0%	119,018	100.0%
	<i>Native American</i>		<i>Asian</i>		<i>Total</i>	
	# of stops	% of stops	# of stops	% of stops	# of stops	% of stops
<i>15 to 24</i>	686	18.8%	5,995	20.6%	227,264	22.0%
<i>25 to 34</i>	969	26.5%	6,913	23.7%	266,904	25.8%
<i>35 to 44</i>	938	25.6%	5,981	20.5%	212,993	20.6%
<i>45 to 54</i>	653	17.9%	5,079	17.4%	150,288	14.5%
<i>55 to 64</i>	279	7.6%	3,294	11.3%	108,229	10.5%
<i>65 and older</i>	132	3.6%	1,873	6.4%	68,107	6.6%
<i>Total</i>	3,657	100.0%	29,135	100.0%	1,033,785	100.0%

Similar to previous reports, younger drivers (aged 15–34 years) made up 44.8% of White drivers stopped. 50.2% of Black drivers stopped and 57.6% of Hispanic drivers stopped were also younger drivers. White and Asian drivers had a higher percentage of drivers over age 65 stopped at rates of 8.5% and 6.4% respectively.

### Statewide Disparity Index (DI)

To provide a standardized method for comparing disparities between different racial/ethnic groups in traffic stops, DCJS calculated a Disparity Index (DI). For traffic stops, the DI indicates the degree to which members of any racial/ethnic group were stopped relative to the group’s prevalence in the driving-age population.

The DI for each racial/ethnic group was calculated as:

$$\frac{\text{Group's percentage of all stops reported by agency}}{\text{Group's percentage of population aged 15+ years statewide or in locality served by agency}}$$

With the addition of the Residency data element and the ability to identify state and local residents, separate stop DIs were calculated for both state and local residents. The calculation is the same as above, except that stops are filtered to the residency group of interest (state or local).

The local resident DI for each racial/ethnic group was calculated as:

$$\frac{\text{Group's percentage of all local resident stops reported by (City/County or Town) agency}}{\text{Group's percentage of population aged 15+ years in locality served by (City/County or Town) agency}}$$

The state resident DI for each racial/ethnic group was calculated as:

$$\frac{\text{Group's percentage of all state resident stops reported statewide}}{\text{Group's percentage of population aged 15+ years statewide}}$$

DIs of with a value of 1.0 or less for a group indicate that stops for that group occurred at a rate that is less than or equal to that group’s share of the driving-age population. DIs with a value greater than 1.0 indicate that stops for that group occurred at a rate that is higher than that group’s share of the driving-age population. The interpretation of different DI levels is shown in Table 12.

Table 12. Interpretation of Driver Stop DIs (CY2024)	
DI Range	Traffic Stop DI Interpretation Used in Report
1.09 or less	Driver group had <i>no overrepresentation</i> or is <i>underrepresented</i> in stops when compared to its proportion of the population aged 15+ years
1.10 – 1.99	Driver group had <i>moderate overrepresentation</i> in stops compared to its proportion of the population aged 15+ years
2.0 or higher	Driver group had <i>high overrepresentation</i> in stops compared to its proportion of the population aged 15+ years
<p>Note: The DI descriptors above (under-, moderate-, and high overrepresentation) are not based on tests of statistical significance. They are used merely as descriptors to differentiate between the levels of disparity observed. Some agencies had calculated driver stop DIs of 3.0 and higher, indicating very high overrepresentation for a driver group in stops. These higher DIs should be interpreted cautiously, especially among the “all drivers” stop DIs, because they may be skewed by large differences between the group’s resident population and the number of stopped drivers in the group who are transient drivers and are not part of the resident population. Also, DIs of 3.0 or higher may be the result of very low population percentages coupled with a very low number of stops.</p>	

DCJS also calculated a separate DI to indicate the degree to which drivers in each group were involved in events following traffic stops, including the reason for stops, whether persons and/or vehicles were searched, and actions taken towards drivers (summons/citation issued, warning given, arrest, etc.). The DI for events occurring after the stop for each racial/ethnic group was calculated as:

$$\frac{\text{Group's percentage for each stop reason, search, or stop outcome reported}}{\text{Group's percentage of all stops reported by agency}}$$

DIs for events occurring after the stop, were calculated using the percentage of drivers stopped by a given law enforcement agency in each group. Because these events are not measured against the census-derived data, the “all drivers stopped” pool of drivers is the appropriate group to use for these DIs rather than state or local resident filters.

Statewide DIs for Virginia resident drivers stopped, and for events following the stop, for each driver racial/ethnic group are displayed in Table 13.

To illustrate how the data is presented in Table 13, the “Population Demographics” section shows that Black drivers made up 19.2% of Virginia’s driving-age population used in the dataset, yet in the “Drivers Stopped” section of Table 13, they made up 29.0% of the state resident drivers stopped in Virginia. The comparison of the percentage of Black state resident drivers stopped to the percentage of Virginia’s Black driving-age population produces a traffic stop DI of 1.5 for Black state resident drivers statewide (29.0%/19.2% = 1.5). DIs for out of state drivers can be found in Appendix A.

An unusually high traffic stop DI can occur when a racial or ethnic group comprises a very small percentage of a locality’s driving-age population. This is especially true when a local LEA reports a small number of stops to begin with. For example, the Liberty University Police Department had a notably high DI of 4.6 for Terry Stops of Hispanic drivers in this report. This group made up only 4.63% of the jurisdiction’s total driving-age population and 3.12% of the drivers stopped by the LEA (26 out of 834, DI=0.7). However, for Terry Stops, there were only seven. The one Hispanic driver who was the subject of a Terry Stop accounts for 14.3% of those kinds of stops.

$$\frac{14.3\% \text{ (the percentage of Terry Stops that involved Hispanic drivers)}}{3.1\% \text{ (the percentage of stops that involved Hispanic drivers)}} = 4.6$$

In this case, the DI should not be considered meaningful because of the small number of stops involved.

Importantly, **the DI does NOT tell us the reason(s) why** members of a particular racial/ethnic group are being stopped at a higher or lower rate than their presence in the population. The DI simply tells us that members of a group are being disproportionately stopped compared to their presence in the population. It cannot tell us the motivations of the officers making the stops. (See the section “Interpretation of Findings” for a further explanation of why disparities in numbers of stops or in the outcomes of traffic stops cannot automatically be assumed to be evidence of bias-based profiling.)

Note: For Table 13, read percentages in rows:

Total = 100% and percentage of each racial group represented is described across that row.

For more information about Disparity Indexes, see Table 12.

- 1.0 or less = no overrepresentation (or is underrepresented);
- 1.1 – 1.9 = moderate overrepresentation;
- 2.0 or more = high overrepresentation

**Table 13: State Residents Only Traffic Stop Report: Virginia Statewide  
Stops Dated January 1, 2024–December 31, 2024**

	Total	White	Black- African American	Hispanic (any race)	Native American or Alaska Native	Asian- Other Pacific Islander
<b>Population Demographics</b>						
Number Aged 15+ Years in CY2023 Population	6,445,185	4,054,024	1,234,994	635,380	18,981	491,825
Percent Aged 15+ Years 15+ in CY2023 Population	99.85%	62.90%	19.16%	9.86%	0.29%	7.63%
<b>Drivers Stopped</b>						
Number of Drivers Aged 15+ Years Stopped	810,432	459,199	234,763	90,601	2,879	22,990
Percent of Drivers Aged 15+ Years Stopped	100.00%	56.66%	28.97%	11.18%	0.36%	2.84%
Disparity Index		0.9	1.5	1.1	1.2	0.4
<b>Reason for Stop</b>						
Number Stopped for Traffic Violation	705,303	399,636	201,485	80,379	2,622	21,181
Percent Stopped for Traffic Violation	100.00%	56.66%	28.57%	11.40%	0.37%	3.00%
Disparity Index		1.0	1.0	1.0	1.0	1.1
Number Stopped for Equipment Violation	84,587	48,552	26,677	7,648	223	1,487
Percent Stopped for Equipment Violation	100.00%	57.40%	31.54%	9.04%	0.26%	1.76%
Disparity Index		1.0	1.1	0.8	0.7	0.6
Number Stopped for Terry Stop	3,183	1,601	959	522	11	90
Percent Stopped for Terry Stop	100.00%	50.30%	30.13%	16.40%	0.35%	2.83%
Disparity Index		0.9	1.0	1.5	1.0	1.0
Number Stopped for Other Reason	17,359	9,410	5,642	2,052	23	232
Percent Stopped for Other Reason	100.00%	54.21%	32.50%	11.82%	0.13%	1.34%
Disparity Index		1.0	1.1	1.1	0.4	0.5
<b>Outcome of Stop</b>						
Number of Stops with Warning Issued	285,483	168,161	83,951	24,317	918	8,136
Percent of Stops with Warning Issued	100.00%	58.90%	29.41%	8.52%	0.32%	2.85%
Disparity Index		1.0	1.0	0.8	0.9	1.0
Number of Stops with Citation/Summons issued	488,922	274,110	137,174	61,542	1,888	14,208
Percent of Stops with Citation/Summons issued	100.00%	56.06%	28.06%	12.59%	0.39%	2.91%
Disparity Index		1.0	1.0	1.1	1.1	1.0
Number of Stops with Driver Arrested	9,366	3,703	3,733	1,772	10	148
Percent of Stops with Driver Arrested	100.00%	39.54%	39.86%	18.92%	0.11%	1.58%
Disparity Index		0.7	1.4	1.7	0.3	0.6
Number of Stops with No Enforcement Action	26,661	13,225	9,905	2,970	63	498
Percent of Stops with No Enforcement Action	100.00%	49.60%	37.15%	11.14%	0.24%	1.87%
Disparity Index		0.9	1.3	1.0	0.7	0.7
<b>Additional Details of Stop</b>						
Number of Stops with Driver or Vehicle Search	15,969	7,744	5,668	2,358	21	178
Percent of Stops with Driver or Vehicle Search	100.00%	48.49%	35.49%	14.77%	0.13%	1.11%
Disparity Index		0.9	1.2	1.3	0.4	0.4
Number of Stops with Office Force Against Subject	897	424	334	113	2	24
Percent of Stops with Office Force Against Subject	100.00%	47.27%	37.24%	12.60%	0.22%	2.68%
Disparity Index		0.8	1.3	1.1	0.6	0.9
Number of Stops with Subject Force Against Officer	769	354	309	83	2	21
Percent of Stops with Subject Force Against Officer	100.00%	46.03%	40.18%	10.79%	0.26%	2.73%
Disparity Index		0.8	1.4	1.0	0.7	1.0

Data sources:

Community Policing Data Collection, Virginia Department of State Police, February 2025.

Vintage 2021 postcensal estimates of the resident population of the United States (July 1, 2024), by year, county, binned age, race, Hispanic origin, and sex.

Available from: [www2.census.gov/programs-surveys/popest/datasets/2020-2023/counties/asrh/cc-est2023-alldata-51.csv](http://www2.census.gov/programs-surveys/popest/datasets/2020-2023/counties/asrh/cc-est2023-alldata-51.csv) as of May 15, 2023.

Prepared by: Virginia Department of Criminal Justice Services Research Center, July 1, 2025.

Search can involve driver, vehicle, or both.

The disparity index for small numbers of stops and small populations should be interpreted with caution because of the small numbers involved.

## Summary of Statewide Race/Ethnicity Analysis

A review of the statewide data for January 1, 2024–December 31, 2024 shows that Black and Hispanic drivers were disproportionately stopped and tended to have higher rates of search and arrest when they were stopped, compared to Non-Hispanic White, Asian, or Native American drivers in Virginia. This finding is consistent with findings of previous reports. This summary includes both out of state drivers and Virginia residents. Differences between out of state, Virginia resident drivers, and local resident drivers are noted where significant. See Appendices A for complete DI tables and Appendices B–E for individual agency Stop Tables.

- During the 2024 reporting period, Black drivers were Moderately overrepresented in traffic stops. Although only 19.2% of Virginia’s driving-age population in the dataset was Black, 29.0% of drivers stopped were Black, resulting in a DI of 1.5, which is a slight decrease from the 2023 DI of 1.6.
- Black drivers were also Moderately overrepresented among stopped drivers who were searched (DI=1.2) or arrested (DI=1.4).
- Hispanic drivers (of any race) were also stopped at higher rates than White drivers, although not to the same extent as Black drivers. Although Hispanics made up only 9.9% of Virginia’s driving-age population in the dataset, they made up 11.2% of drivers stopped, resulting in a DI of 1.2, which is an increase of 0.1 from 2023.
- Hispanic drivers were also Moderately overrepresented among stopped drivers who were searched (DI=1.3) or arrested (DI=1.7).
- Native American Drivers were stopped at marginally higher rates than White drivers. While they made up 0.29% of Virginia’s driving-age population in the dataset, they made up 0.36% of state resident drivers stopped. Due to the low frequency of Native American individuals in Virginia’s population, their disparity index rates in these analyses are especially prone to sensitivity. Stopped Native American Drivers were largely underrepresented in searches and arrests.
- White and Asian/Pacific Islander drivers continue to be stopped at rates near or below their representation in the driving-age population statewide. This underrepresentation occurred not only for drivers stopped but also for all related measures including reasons for stops, searches of drivers and vehicles, and stop outcomes such as arrests or citations.

# Findings from Analysis of Agency-Level Data

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The analysis of statewide driver stop data showed that Black and to a lesser extent Hispanic drivers were disproportionately stopped, and experienced higher rates of searches and arrests during those stops, than other drivers. This section provides a summary of the findings from the analysis of traffic stop data for individual law enforcement agencies (LEAs) in Virginia. Tables providing stop details for each individual agency are provided in Appendices B through E.

First, data is presented showing how likely drivers in each racial/ethnic group were to be stopped by LEAs. Second, data is presented on the events that occurred after each stop was made (searches made, stop outcome) for each driver racial/ethnic group. Third, any significant differences between Virginia resident, local resident, and out of state drivers is noted.

The VSP provided DCJS with a list of 364 LEAs in Virginia. However, only 300 of these agencies were included in the traffic stop analysis. Agencies not included (see Appendix J) were for reasons such as:

- The agencies are no longer operational.
- The agencies did not begin reporting traffic stop data to VSP or were unable to submit a file that passed VSP review until after the VSP review cutoff of February 18, 2025.
- The agencies have no primary law enforcement duties (typically a sheriff's office that provides staff and security for jails and courthouses) or reported their stops under the primary agency for their jurisdiction due to a shared data collection system.
- All of the agencies' cases were removed from the DCJS analysis dataset per the exclusion criteria.
- The agencies' jurisdictions do not include public roadways (typically agencies serving some colleges or universities or commercial properties).

The traffic stop analyses for these 300 agencies are presented separately for four different types of LEAs, depending upon the amount of driver traffic stop and driver demographic data available for the areas they serve. The four agency types are: Virginia State Police, local agencies serving cities and counties, local agencies serving towns, and other state, local, and private agencies.

## Virginia State Police Traffic Stop Analysis

VSP provides traffic enforcement on state roadways and interstate highways throughout Virginia. Due to Virginia's geography and size, these enforcement duties are divided among seven VSP divisions, with each division including multiple counties, cities, and towns. Traffic stop data was provided for stops made by VSP officers in each VSP division. Separate Disparity Indices (DIs) were calculated for both Virginia and out of state drivers stopped by VSP. DIs were also calculated for each group of drivers for the events following the stop. Post-stop outcomes (searches and arrests) were benchmarked against the actual number of stopped drivers rather than the census-derived estimates. The Vintage 2023 Statewide driving age population estimates for aged 15 years and older by race and ethnic group was used to calculate DIs for VSP driver stops.

For the following figures, a combined driver population (resident and out of state) is used to calculate the DIs for searches and arrests pursuant to traffic stops conducted by VSP. For each Division of the Virginia State Police, detailed DI information for traffic stops and post-stop events is provided in Appendix B which includes separate tables for both out of state drivers and Virginia residents.

### *Analysis of Events Following VSP Traffic Stops*

This section examines two major events that can occur once a traffic stop is made: Are there racial/ethnic disparities in how often a driver or vehicle is searched, or in how often a driver is arrested? In this section, for any single stop, a search was counted if a search of a driver, vehicle, or both of these, occurred. It is considered one search; they are not counted separately. Also, in this section, the analysis of arrests examines only driver arrests. Some data on passenger arrests was also included in the data collection but is excluded from the analysis.

The DIs for events following a traffic stop can be calculated more precisely than the DI regarding whether or not a driver was stopped in the first place. The driver stop DI is based on a comparison of the percentage of drivers in each racial/ethnic group stopped by VSP statewide to the percentage of driving-age individuals in each group in the resident population statewide. Because the benchmark used for stopped drivers is based on an estimate of Virginia residents, the stopped driver sample is filtered to Virginia residents to create a more precise analysis. As previously stated, knowing the resident population aged 15+ years for each racial/ethnic group is not the same as knowing the actual number of drivers on the road in each group. It is only an approximation. This method gives us the best means of pairing an appropriate benchmark and dataset.

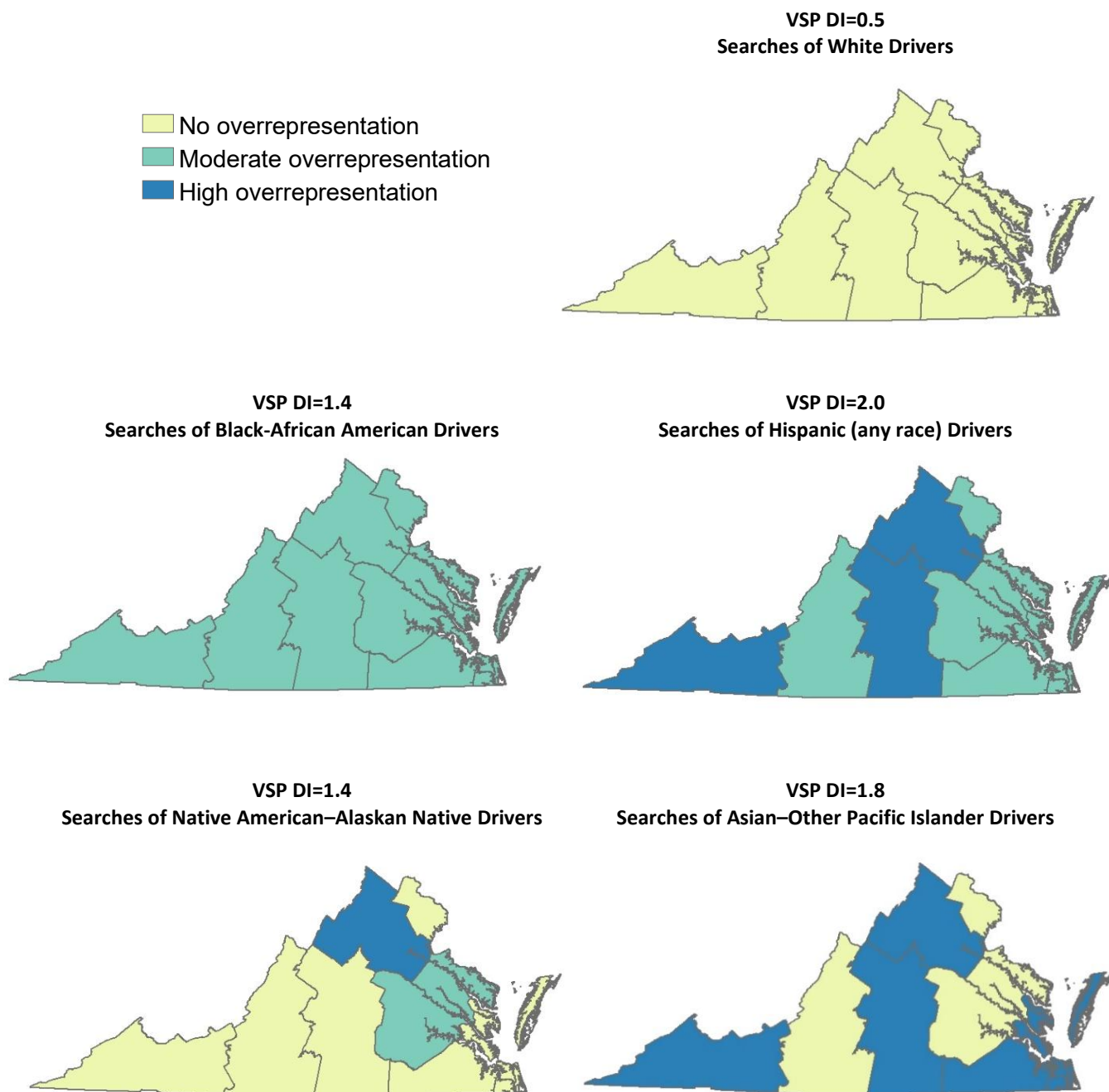
However, once a stop occurs, the actual percentage of drivers in each group who were stopped is known, and we know the actual percentage of drivers in each group where a person or vehicle search occurred, and/or we know if the driver was arrested. Because of this difference in baselining, analysis of post-stop events draws from the entire pool of drivers stopped by VSP regardless of residency status.

## Geographic Presentation of VSP Search DIs

The maps in Figure 6 illustrate which driver racial/ethnic groups had high, moderate, or no overrepresentation in searches conducted by VSP among all drivers stopped. Black and Hispanic drivers had moderate to high overrepresentation for searches across VSP Divisions. Asian, and Native American drivers had mixed results

**Figure 6**  
**VSP Statewide Maps for Searches by Driver Race/Ethnicity**

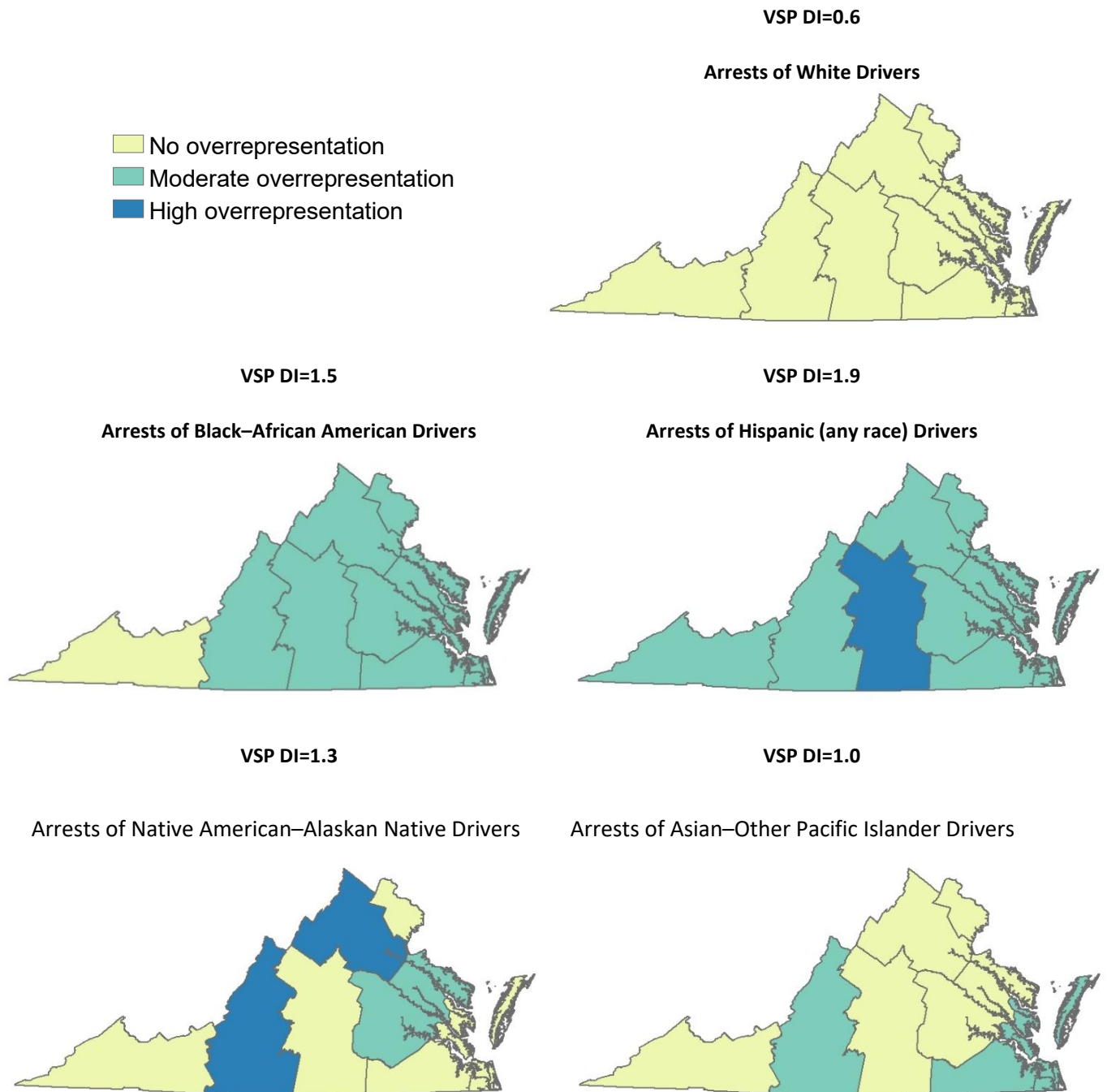
A search may have been conducted of the driver only, of the vehicle only, or both driver and vehicle.



## Geographic Presentation of VSP Driver Arrest DIs

The maps in Figure 7 illustrate which driver racial/ethnic groups had moderate or no overrepresentation for driver arrests conducted by VSP among all drivers stopped. Black and Hispanic drivers were moderately overrepresented in driver arrests conducted by VSP. Native American and Asian drivers had mixed results.

**Figure 7**  
**VSP Statewide Maps for Driver Arrests by Driver Race/Ethnicity**



### *Comparison of Stops, Searches, and Arrests by Residential Status*

- Four divisions reported moderate overrepresentation in arrests of White Virginia resident drivers compared to two divisions for out of state drivers. *(Resident drivers more likely to be arrested.)*
- All seven divisions reported moderate overrepresentation for stops of Black resident drivers. Comparatively, for out of state drivers, three divisions also reported high overrepresentation. Overall, Black resident drivers experienced less overrepresentation than out of state drivers. However, resident drivers were more likely to be overrepresented regarding searches and arrests.
- Overrepresentation regarding stops of Hispanic drivers was more pronounced for out of state drivers than Virginia residents. Searches and arrests of Hispanic drivers, while overrepresented in all divisions for resident drivers was slightly higher for out of state drivers.
- Asian/API drivers from out of state experienced more overrepresentation in stops and searches compared to Virginia resident drivers. However, moderate overrepresentation for arrests was reported by two additional divisions for resident drivers.

### **City and County Agency Traffic Stop Analysis**

These 147 local agencies serve cities and counties. Racial/ethnic data for the resident population aged 15+ years was available for localities served by these agencies. A DI was calculated for each group of drivers who were stopped, and for the events following the stop (i.e., reason for stop, whether a search was conducted, and outcomes of the stop). For stop DIs, findings are shown for all drivers stopped by each agency and then by a filtered subset of only drivers reported as local residents (meaning resident of the city or county jurisdiction of the LEA performing the stop). Similar to the state resident analyses of statewide stop DIs, the local resident stop DIs for city and county agencies allow us to more closely match the benchmark estimates and stop data populations they represent, generating more precise DIs compared to the all drivers results. See Appendix A for a comprehensive listing of driver stop DIs for each individual city and county agency. As before, a DI of 2.0 or higher is identified as having high overrepresentation, a DI of 1.10–1.99 is identified as having moderate overrepresentation, and a DI of 1.09 or less is identified as having no overrepresentation.

DIs for individual agencies serving cities and counties are shown in Appendix C.

## Driver Stop DIs for City and County Agencies

Figure 8 breaks out the 147 LEAs by those with driver stop DIs indicating High, Moderate, or No overrepresentation<sup>6</sup>, by driver race/ethnicity, for **all drivers stopped regardless of residency** when compared to their local resident driving-age population.

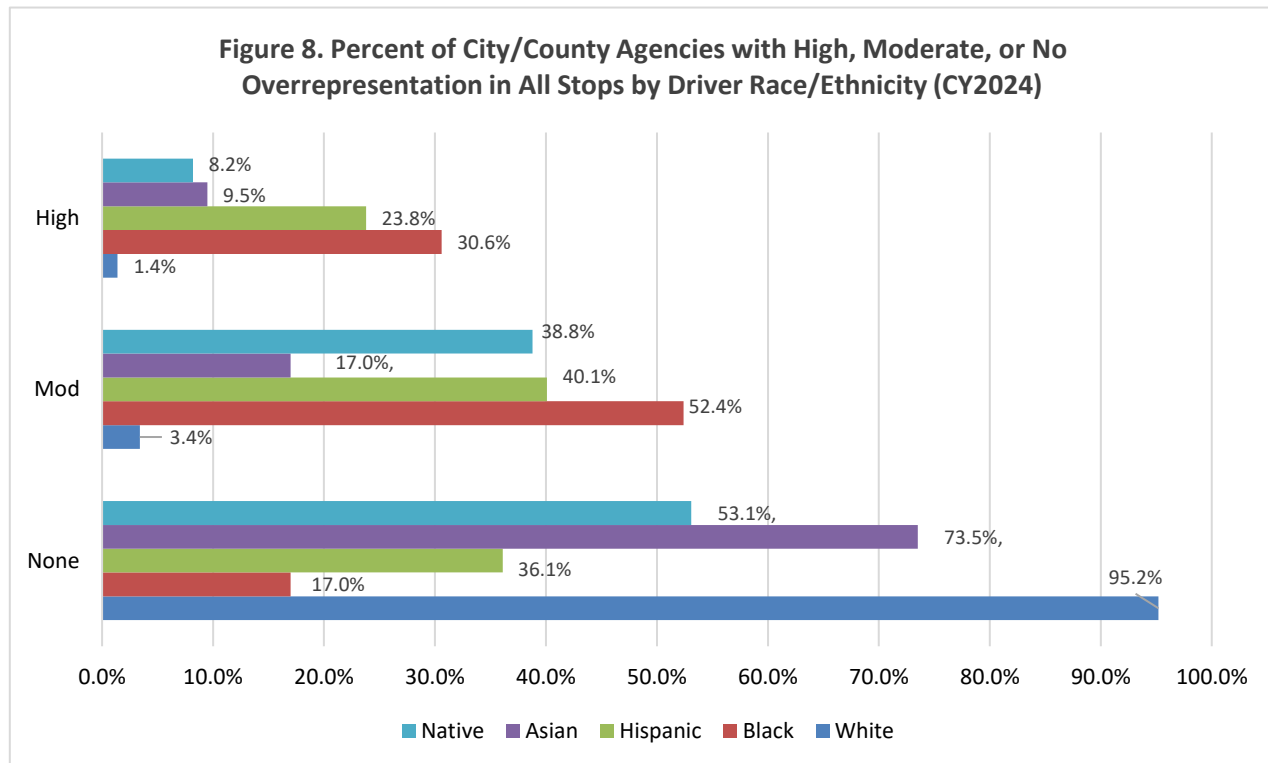


Figure 8 illustrates that when analyzing all stops regardless of residency, across all 147 agencies:

- More agencies reported High or Moderate overrepresentation in stops of Black and Hispanic drivers than for other racial/ethnic groups with the exception of Native American drivers.
  - Between 2023 and 2024, the proportion of agencies reporting moderate overrepresentation of Native American drivers increased from 9.0% to 38.8%. A reciprocal decrease from 79.3% to 53.1% in the proportion of agencies reporting no overrepresentation was observed.
  - Between 2023 and 2024, other than the above noted exception, the pattern of overrepresentation across driver groups remained consistent.

<sup>6</sup> City and county agencies with zero stops, and therefore DIs of zero, are included in Figure 9 under the “No Overrepresentation” category.

## Analysis of Events Following Traffic Stops for City and County Agencies

### Searches Conducted

Figure 9 breaks out the 147 LEAs by those with driver search DIs indicating High, Moderate, or No overrepresentation<sup>7</sup>, by race/ethnicity, when compared to drivers stopped.

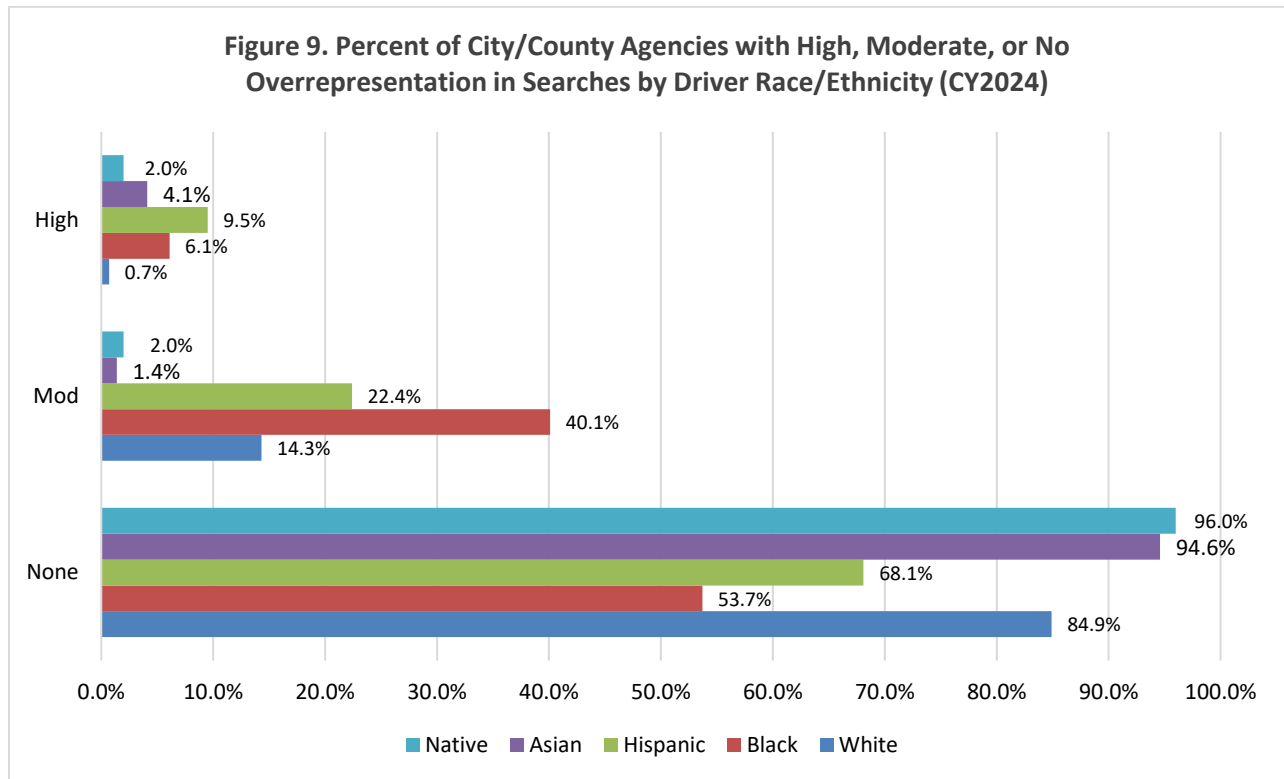


Figure 9 illustrates that when analyzing all searches regardless of residency, across all 147 City and County LEAs:

- More agencies reported High or Moderate overrepresentation in searches of Black and Hispanic drivers than for other racial/ethnic groups. However, the percentage of agencies reporting no overrepresentation for Black and Hispanic drivers increased substantially from 2023:
  - Between 2023 and 2024, the proportion of agencies reporting no overrepresentation in searches of Black drivers increased from 13.3% to 53.7%.
  - Between 2023 and 2024, the proportion of agencies reporting no overrepresentation in searches of Hispanic increased from 56.7% to 68.1%.

In figures illustrating searches and arrests, agencies with zero stops of drivers of a given racial/ethnic group were included in the no overrepresentation group. Agencies with at least one stopped driver but no searches for that group are included as well.

<sup>7</sup> Agencies with zero stops of drivers of a given racial/ethnic group as well as agencies with at least one stopped driver but no searches for that group are included as overrepresentation.

### Driver Arrests

Figure 10 breaks out the 147 LEAs by those with driver search DIs indicating High, Moderate, or No overrepresentation, by race/ethnicity, when compared to drivers stopped.<sup>8</sup>

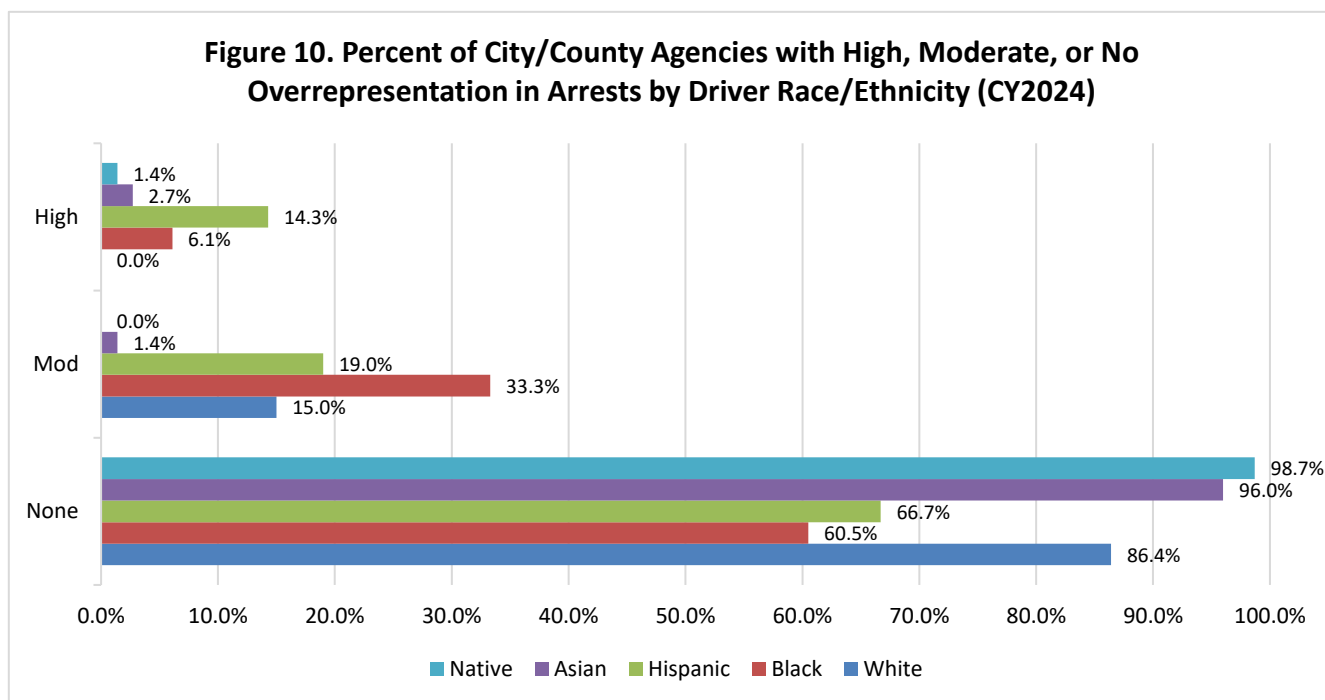


Figure 10 shows that when analyzing arrests pursuant to a traffic stop for all drivers, across 147 LEAs:

- As was the case for searches, more agencies reported High or Moderate overrepresentation in arrests of Black and Hispanic drivers than for other racial/ethnic groups. However, the percentage of agencies reporting no overrepresentation for Black and Hispanic drivers increased from 2023:
  - Between 2023 and 2024, the proportion of agencies reporting no overrepresentation in arrests of Black drivers increased from 44.9% to 60.5%.
  - Between 2023 and 2024, the proportion of agencies reporting no overrepresentation in arrests of Hispanic increased from 53.8% to 66.7%.

For stops and searches of Black and Hispanic Virginia resident drivers, the percentage of City and County LEAs reporting no overrepresentation was slightly higher than that of the percentage of City and County LEAs reporting no overrepresentation of all drivers combined. For arrests, however, the percentage of City and County LEAs reporting no overrepresentation for Black and Hispanic drivers residing in Virginia was slightly lower than that of all drivers combined.

Comparably, when looking at residents of the jurisdiction in which the traffic stop was conducted, we find that the proportion of agencies reporting no overrepresentation in stops increased substantially with the exception of White drivers, who saw a slight decrease. For searches there was no significant difference in the percentage of agencies reporting no overrepresentation. Arrests, however, exhibit an increase in no overrepresentation for all drivers. See appendices F and G for resident and non-resident driver comparisons.

<sup>8</sup> Agencies with zero stops of drivers of a given racial/ethnic group as well as agencies with at least one stopped driver but no arrests for that group are included as no overrepresentation.

## Town Agencies Traffic Stop Analysis

These 111 local police departments serve towns. Racial/ethnic data for the resident population aged 15+ years was not available for these smaller jurisdictions; therefore, population benchmarks for the surrounding City/County jurisdiction were used to compare traffic stop data for these agencies. A DI was calculated for each group of drivers who were stopped, and for the events following the stop (i.e., reason for stop, whether a search was conducted, and outcomes of the stop). For stop DIs, findings are shown for all drivers stopped by each agency and then by a filtered subset of only drivers reported as local residents (meaning resident of the town of the LEA performing the stop). Similar to the state resident analyses of statewide stop DIs, the local resident stop DIs for town agencies allow us to more closely match the benchmark estimates and stop data populations they represent, generating more precise DIs compared to the all drivers results. See Appendix D for a comprehensive listing of driver stop DIs for each individual town agency. As before, a DI of 2.0 or higher is identified as having High over representation, a DI of 1.10–1.99 is identified as having Moderate overrepresentation, and a DI of 1.09 or less is identified as having No overrepresentation.

DIs for individual agencies serving towns are shown in Appendix D.

### Driver Stop DIs for Town Agencies

Figure 11 shows the percentages of the 111 Town Law Enforcement Agencies with driver stop DIs indicating High, Moderate, or No overrepresentation<sup>9</sup> for all drivers stopped regardless of residency when compared to the local resident driving-age population of the jurisdiction in which the towns are located.

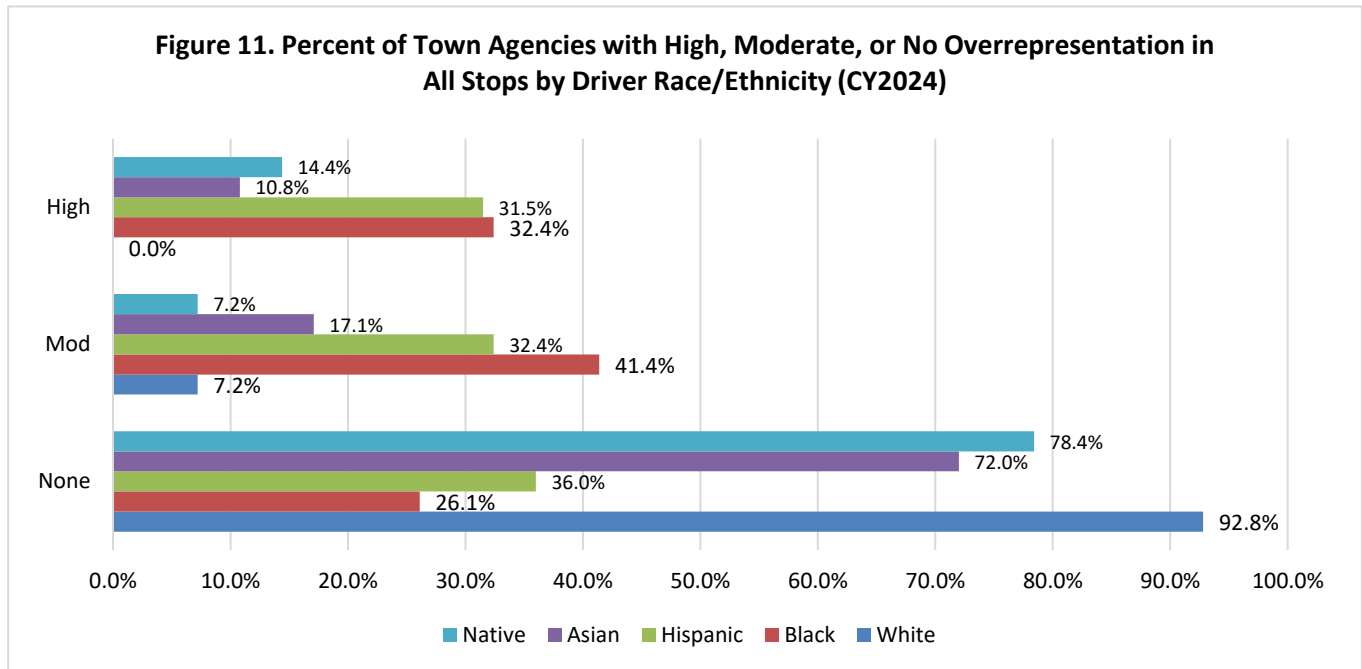


Figure 11 shows that when analyzing all stops regardless of residency, across all 111 agencies:

- Black and Hispanic drivers predominate in both high and moderate overrepresentation although an overall decrease in overrepresentation was observed.

<sup>9</sup> Town agencies with zero stops, and therefore DIs of zero, are included in Figure 13 under the “No Overrepresentation” category.

- Between 2023 and 2024, the proportion of agencies reporting no overrepresentation of in traffic stops of Black and Hispanic drivers stopped increased from 20.2% to 26.1%.
- Between 2023 and 2024, the proportion of agencies reporting no overrepresentation of Hispanic drivers in traffic stops increased from 27.2% to 36.0%.
- For Asian Drivers, a marked decrease in the proportion of agencies showing high overrepresentation (3.0% in 2023 to 10.8% in 2024) was accompanied by a reciprocal increase in the proportion of agencies showing no overrepresentation (45.0% in 2023 to 72.0% in 2024).

### Analysis of Events Following Traffic Stops for Town Agencies

#### Searches Conducted

Figure 12 shows the percentages of the 111 Town LEAs with driver search DIs indicating High, Moderate, or No overrepresentation for each racial/ethnicity group compared to the number of drivers stopped for each group.

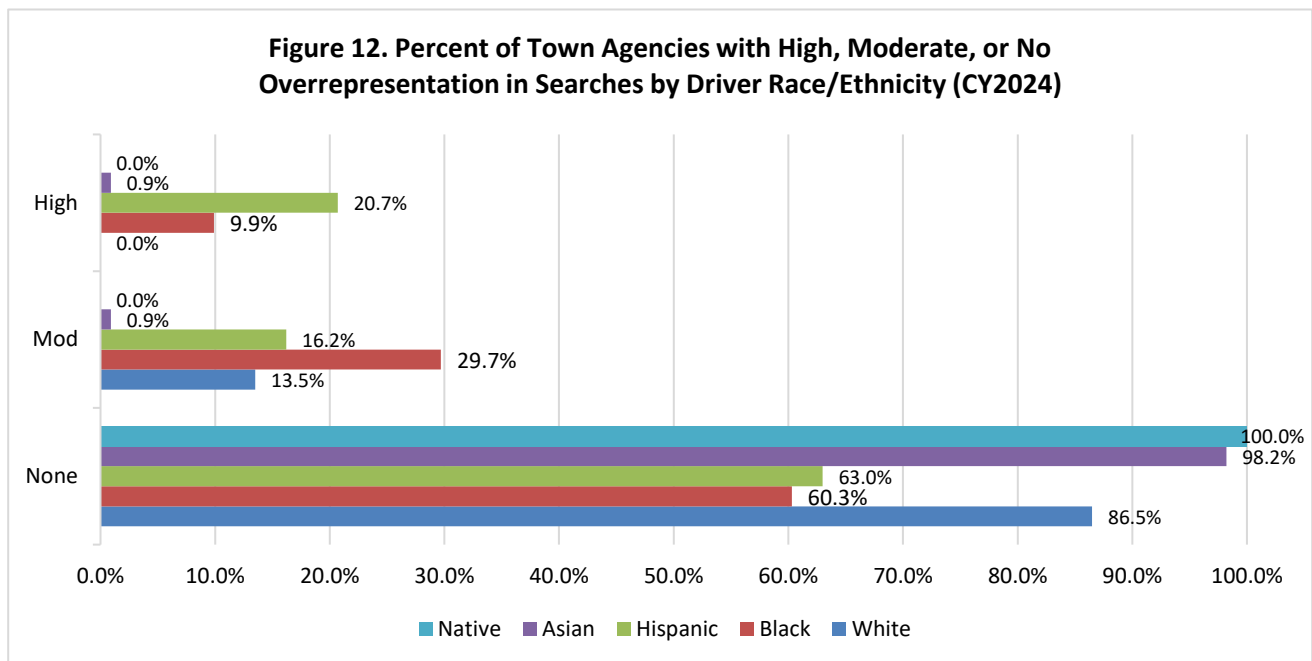


Figure 12 shows that when analyzing all stops regardless of residency, across all 111 agencies:

- As with city and county agencies, more town agencies reported High or Moderate overrepresentation in searches of Black and Hispanic drivers than for other racial/ethnic groups. However, the percentage of agencies reporting no overrepresentation for Black and Hispanic drivers increased substantially from 2023:
  - Between 2023 and 2024, the proportion of agencies reporting no overrepresentation in searches of Black drivers increased from 51.7% to 60.3%.
  - Between 2023 and 2024, the proportion of agencies reporting no overrepresentation in searches of Hispanic increased from 56.1% to 63.0%.

*Driver Arrests*

Figure 13 shows the percentages of the 111 Town LEAs with driver arrest DIs indicating High, Moderate, or No overrepresentation for each racial/ethnicity group, compared to the number of drivers stopped for each group.

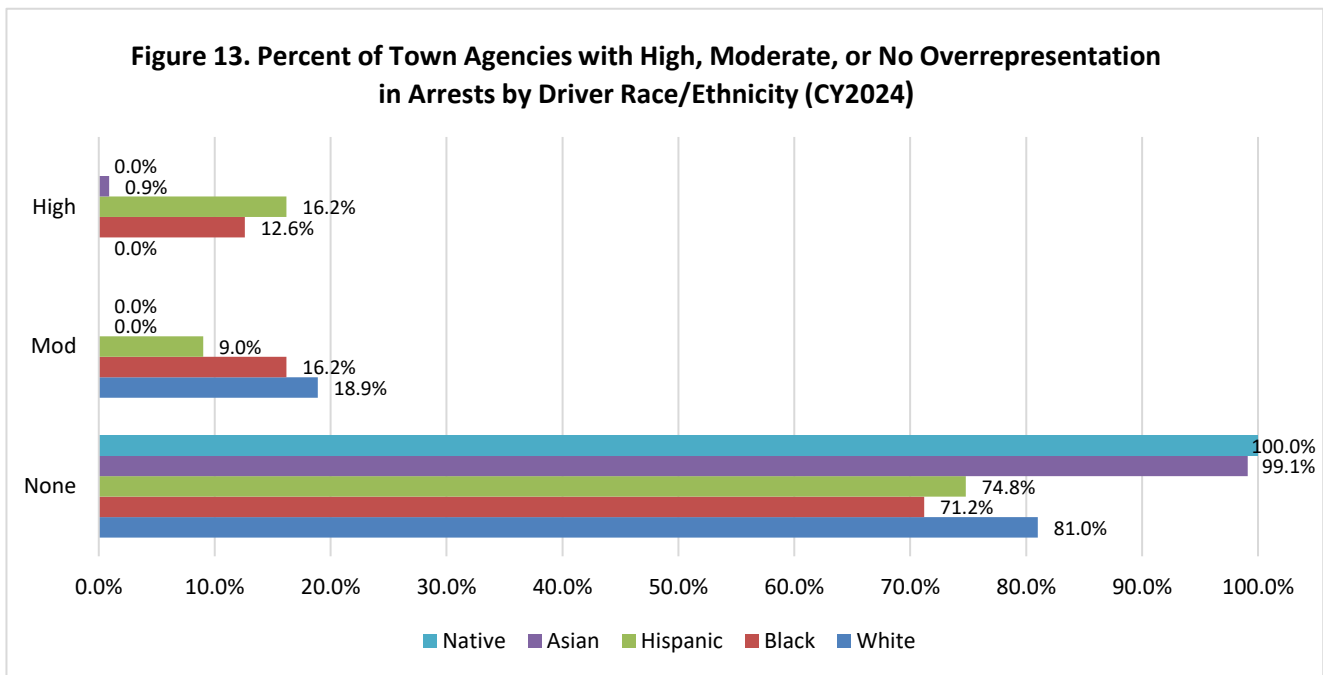


Figure 13 shows that when analyzing all stops regardless of residency, across all 111 agencies:

- More town agencies reported high overrepresentation in arrests of Black and Hispanic drivers than for other racial/ethnic groups, but more agencies reported slightly more moderate overrepresentation for White drivers than for other groups.
  - The proportion of town agencies reporting moderate overrepresentation of White drivers decreased from 32.5% in 2023 to 18.9% in 2024. A reciprocal increase in no overrepresentation was observed.
- The percentage of town agencies reporting no overrepresentation for Black and Hispanic drivers increased from 2023:
  - Between 2023 and 2024, the proportion of agencies reporting no overrepresentation in arrests of Black drivers increased from 56.1% to 71.2%.
  - Between 2023 and 2024, the proportion of agencies reporting no overrepresentation in searches of Hispanic increased from 65.9% to 74.8%.

Results were mixed regarding traffic stops of Virginia resident drivers compared to all drivers. There was an increase in no overrepresentation for stops of Black and White Virginia resident drivers when compared to all drivers. However, with the exception of White drivers, the proportion of agencies reporting no overrepresentation increased when comparing local resident drivers to drivers residing anywhere in Virginia.

## **Geographic Presentation of Stop, Search, and Arrest DIs for City, County, and Town Agencies**

The maps in Figures 14 and 15 illustrate which local areas of Virginia had high, moderate, or no overrepresentation for searches of drivers or vehicles and driver arrests following traffic stops for each racial/ethnic group for stops of all drivers occurring in 2024. Figures illustrating stops, searches, and arrests for local resident drivers only are available in Appendix G.

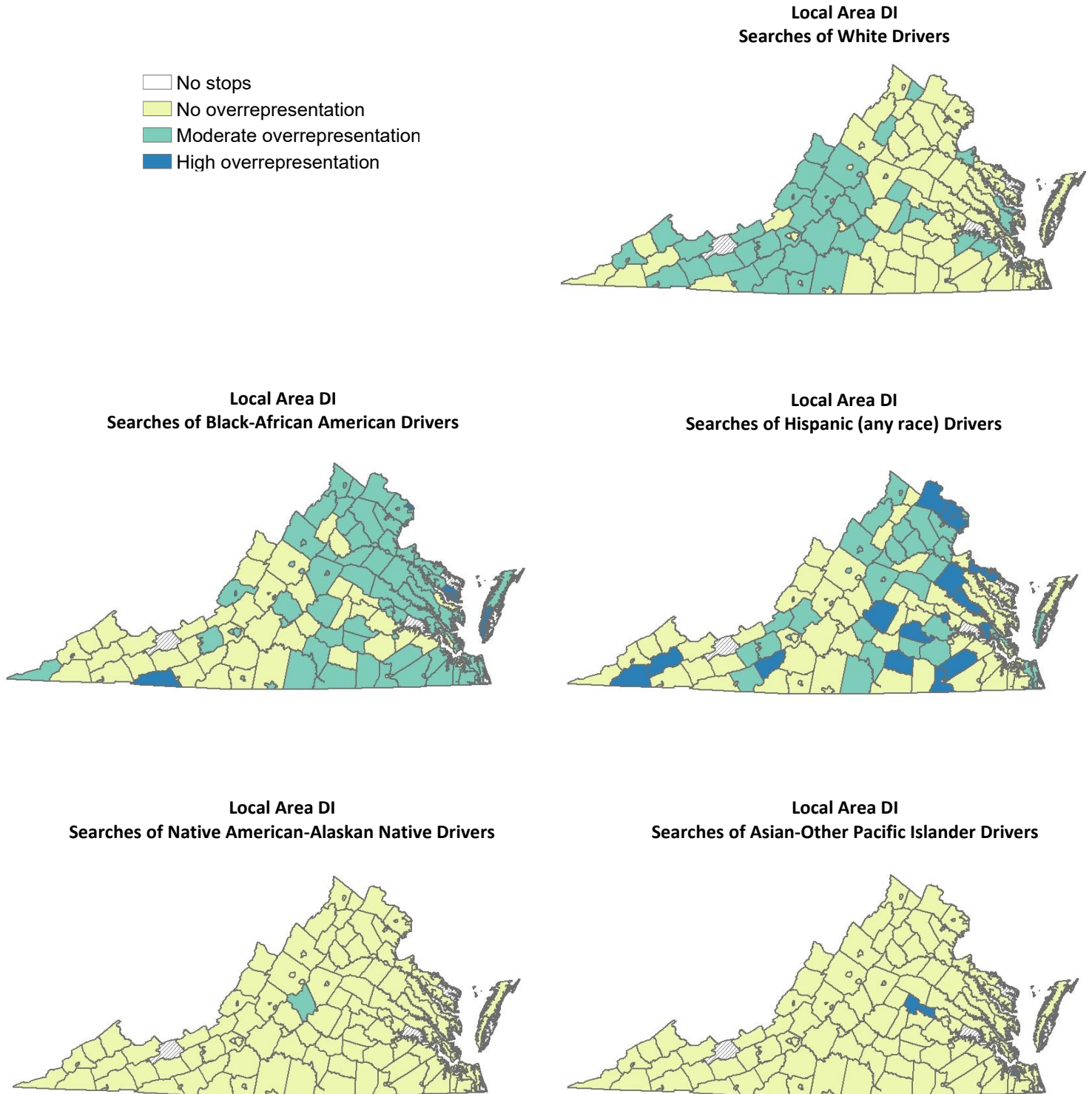
The local area boundaries shown on the maps are city and county boundaries. Town boundaries are not shown, but their stop data is included in the DI calculated for their surrounding county. This means that the county DIs used for the maps were calculated differently from the county LEA DIs shown earlier in this report. The county DIs shown previously were based on only stops reported by each LEA that serves the county, whereas the county DIs used for the following maps include stops reported by all agencies that serve the county, as well as stops reported by agencies that serve any town located within the county. The same applies for DIs calculated for searches and arrests (for more details on how the DIs were calculated for the maps, see Appendix I).

Note that York-Poquoson Sheriff's Office is represented in York County on the following maps. City or County jurisdictions left blank reported no CPA data for 2024 prior to February 18, 2025.

**Figure 14**





**Local Area Maps for Searches by Driver Race/Ethnicity, All Stops**

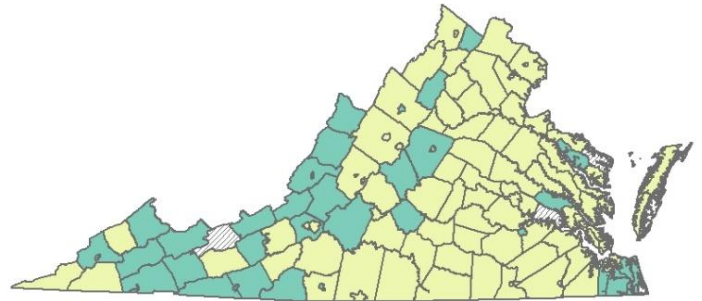
A search may have been conducted of the driver only, of the vehicle only, or both driver and vehicle.



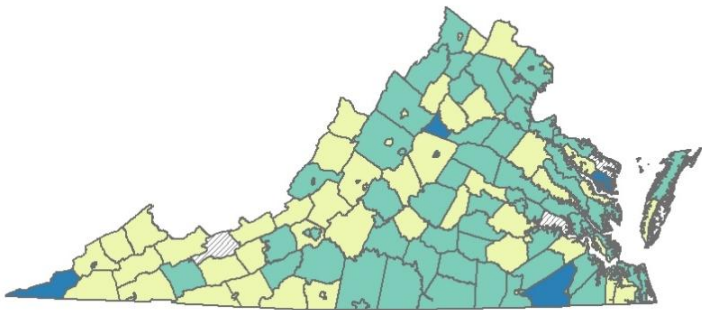
**Figure 15**  
**Local Area Maps for Arrests by Driver Race/Ethnicity, All Stops**

**Local Area DI**  
**Arrests of White Drivers**

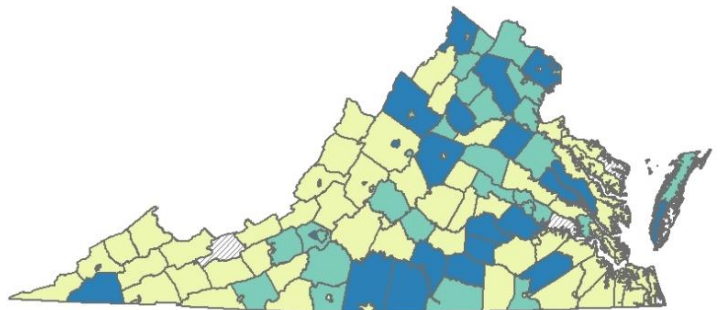
-  No stops
-  No overrepresentation
-  Moderate overrepresentation
-  High overrepresentation



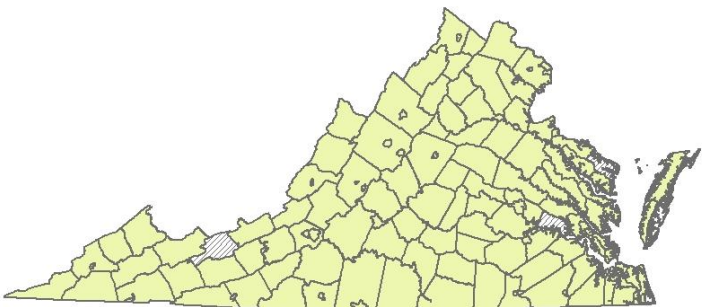
**Local Area DI**  
**Arrests of Black-African American Drivers**



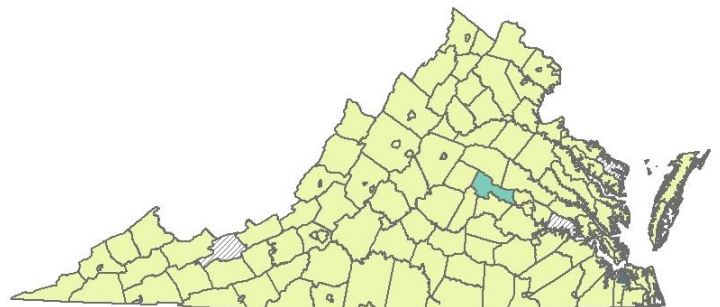
**Local Area DI**  
**Arrests of Hispanic (any race) Drivers**



**Local Area DI**  
**Arrests of Native American-Alaskan Native Drivers**



**Local Area DI**  
**Arrests of Asian-Other Pacific Islander Drivers**



## Other Agencies Traffic Stop Analysis

There were 41 “Other” state, local and private agencies serving locations that have no defined, stable population. Typically, these were agencies that serve larger college/university campuses with public roads or locations such as state parks, airports, railroads, or other commercial locations.

### Traffic Stops for Other Agencies

Due to the limited jurisdiction areas of the smaller agencies in this group compared with the broader jurisdictions of other agencies, the driving-age population data for each racial/ethnic group was not available for the areas served by these agencies. Driver stop DIs are, therefore, not considered to be a reliable measure due to the benchmarking difficulties. However, it was possible to examine the percentage of drivers in each racial/ethnic group among stops made by these agencies and these percentages were compared to those for groups of all drivers stopped statewide.

		VA Resident Drivers		Out-of-State Drivers		All Drivers	
Race/Ethnicity	Percent of VA Driver Population	Drivers Stopped	Percent	Drivers Stopped	Percent	Drivers Stopped	Percent
White	63.10%	12,085	52.86%	3,658	49.45%	15,743	52.02%
Black	19.20%	7,083	30.98%	2,408	32.55%	9,491	31.36%
Hispanic	9.90%	2,344	10.25%	1,025	13.86%	3,369	11.13%
Asian	7.50%	1,283	5.61%	298	4.03%	1,581	5.22%
Native	0.30%	69	0.30%	9	0.12%	78	0.26%
Total	100.00%	22,864	100.00%	7,398	100.00%	30,262	100.00%

Table 14 reflects the percentages of driver stops from each racial/ethnic group. “Other” agencies accounted for 2.75% of statewide traffic stops in 2024 and exhibit the same pattern as is present in the larger dataset. Black drivers are stopped at a rate higher than would be expected, given their proportion of the population. Same for Hispanic drivers, although to a much lesser degree. White drivers have a lower proportion of stops. This disparity is much less pronounced for Virginia resident drivers than for out of state drivers.

### Analysis of Events Following Traffic Stops for Other Agencies

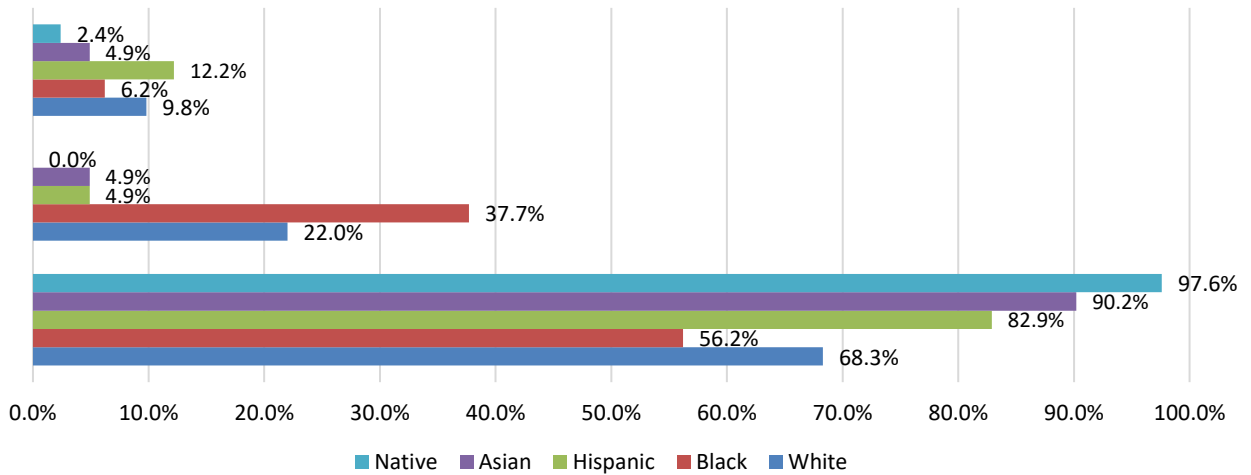
Once a stop was made, a DI could be calculated to examine racial/ethnic driver overrepresentation for searches and arrests made following the stop. These are discussed below.

#### Searches Conducted

Figure 16 shows the percentages of the 41 other LEAs with driver search DIs indicating High, Moderate, or No overrepresentation<sup>10</sup> for each racial/ethnicity group, compared to the number of drivers stopped for each group.

<sup>10</sup> Other agencies with zero searches, and therefore DIs of zero, are included in Figure 13 under the “No Overrepresentation” category.

**Figure 16. Percent of Other Agencies with High, Moderate, or No Overrepresentation in Searches by Driver Race/Ethnicity (CY2024)**

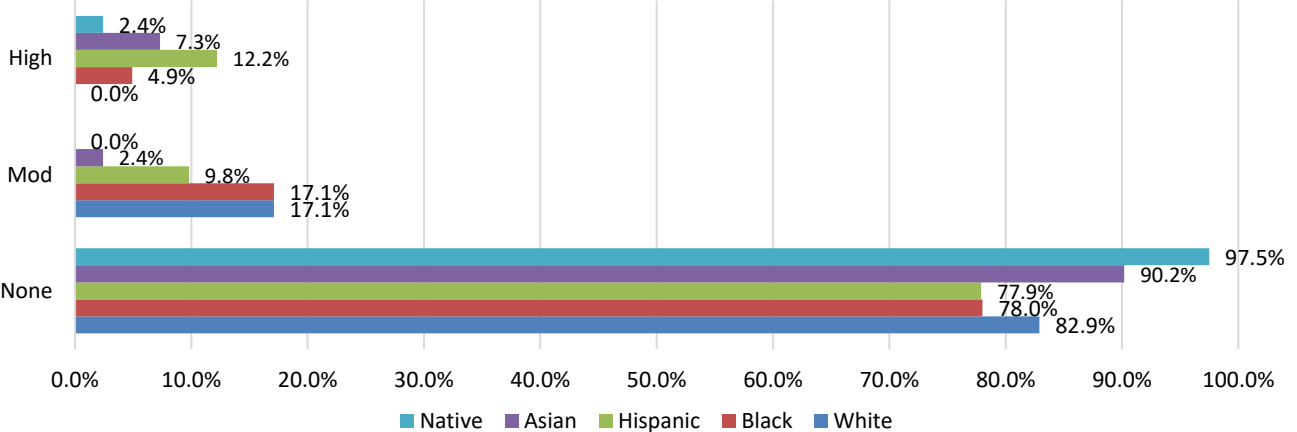


- Black drivers experienced more overrepresentation with regard to being searched than other groups of drivers.
  - The proportion of Other agencies reporting moderate overrepresentation of Black drivers with regard to searches increased from 20.0% in 2023 to 37.7% in 2024. A reciprocal decrease in the percentage of other agencies reporting no overrepresentation for Black drivers decreased from 77.5% to 56.2%.
  - Between 2023 and 2024, the proportion of Other agencies reporting no overrepresentation in searches of Hispanic drivers increased from 70.0% to 82.9%.

*Driver Arrests*

Figure 17 shows the percentages of the 41 other LEAs with driver arrest DIs indicating High, Moderate, or No overrepresentation<sup>11</sup> for each racial/ethnicity group, compared to the number of drivers stopped for each group.

**Figure 17. Percent of Other Agencies with High, Moderate, or No Overrepresentation in Arrests by Driver Race/Ethnicity (CY2024)**



<sup>11</sup> Other agencies with zero arrests, and therefore DIs of zero, are included in Figure 17 under the “No Overrepresentation” category.

When high and moderate categories of overrepresentation are combined, 5% more agencies reported more overrepresentation of Black and Hispanic drivers than of White drivers.

- Between 2023 and 2024, the proportion of agencies reporting high overrepresentation in arrests of Black drivers decreased from 10.0% to 4.9%.
- Between 2023 and 2024, the proportion of agencies reporting high overrepresentation in arrests of Hispanic drivers decreased from 15.0% to 12.2%.

DIs for individual “Other” agencies are shown in Appendix E.

## Chi-Square Residual Testing for Searches and Arrests

### Comparison of Observed and Expected Frequencies

Agencies were unlikely to search and arrest different demographic groups at exactly equal rates. Some degree of variation was expected due to random chance. Therefore, an analytical technique known as a chi-square test was used to identify cases where search or arrest rates differed between demographic groups to a greater extent than one would expect based on random chance.<sup>12</sup> Statistically significant chi-square test results indicated that random chance could be ruled out as an explanation for the disparate rates at which an agency searched or arrested members of different demographic groups. Ruling out random chance means that the difference in rates is related to some difference between the demographic groups. Unfortunately, chi-square testing cannot determine whether this difference between groups is demographic identity per se (i.e., a case of bias-based profiling) or some other difference that aligns with demographic group membership. Summary results of chi-square testing are presented in the table below with testing based on stops of all drivers (i.e., including resident and non-resident drivers) during 2024.

The chi-square testing described above involved the calculation of an “expected” number of minority searches and arrests for each agency. Expected searches and arrests represent a scenario where the agency searched or arrested minority drivers and White non-Hispanic drivers at equal rates. The charts below show the extent to which agencies with statistically significant chi-square results surpassed their expected number of searches or arrests. (See Appendix L for detailed results.) The difference between actual and expected searches or arrests is charted along the horizontal axis, and the percentage difference is charted along the vertical axis. While the charts show many high percentage differences, it is important to note that absolute differences are generally low or moderate (typically less than 50 searches or arrests over the one-year period).

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<sup>12</sup> Technically, chi-square testing is based on the underlying tabulations (e.g., the number of stops per demographic group that did or did not result in a search or arrest) that were used to calculate arrest and search rates.

<b>Table 15. Agencies where minority drivers were searched or arrested at significantly higher rates than White non-Hispanic drivers (2024)</b>				
Demographic	Tested <sup>1</sup>	Significant <sup>2</sup>	% Significant of Agencies Tested	% Significant of Agencies Overall
Black				
Searches	109	30	28%	10%
Arrests	65	16	25%	5%
Hispanic				
Searches	59	23	39%	8%
Arrests	29	16	55%	5%
Asian/Pacific Islander				
Searches	11	1	9%	<1%
Arrests	6	0	0%	0%
Native American				
Searches	1	0	0%	0%
Arrests	0	0	–	0%
<p><sup>1</sup> Although the data set included 306 agencies, most were not eligible for chi-square testing because they failed to meet procedural requirements related to “expected” frequencies. In essence, ineligible agencies conducted extremely few searches or arrests, particularly of minority drivers.</p> <p><sup>2</sup> Agencies were counted in the “Significant” column if (a) drivers from the minority group were stopped or searched at a higher rate than White non-Hispanic drivers and (b) testing confirmed the difference in rates to be statistically significant at <math>p &lt; 0.01</math>. Testing did not show any instances of agencies searching or arresting White non-Hispanic drivers at significantly higher rates than a minority group of drivers.</p>				

## Interpretation of Findings

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The overall finding of this analysis is that, statewide, Black and Hispanic drivers in Virginia were disproportionately stopped by law enforcement when compared to White drivers, based on the number of drivers stopped relative to their numbers in Virginia’s driving-age population. This type of disparity was seen among traffic stops made by most of the individual law enforcement agencies for which disparity measures could be calculated.

The finding that minority drivers are more likely to be stopped by law enforcement is consistent with traffic stop research conducted in other states. Two recent large-scale studies, one using data from 20 million and another using data from nearly 100 million traffic stops, illustrate this. (See Baumgartner, Epp, and Shoub, 2018 and Pierson et al, 2020).

Although this Virginia traffic stop analysis identified disparities in traffic stop rates related to race/ethnicity, it does not allow us to determine or measure specific reasons for these disparities, nor does it allow us to parse out what may be disparities due to bias-based profiling from other possible factors.

Previous research has identified various factors that could contribute to why members of a racial/ethnic group may be stopped at a higher or lower rate than their presence in the population, including:

- Bias (explicit or implicit) by law enforcement officers towards a racial/ethnic group (*Baumgartner, Epp, and Shoub, 2018; Pierson et. al, 2020*).
- Different driving rates or patterns by different racial/ethnic groups – perhaps linked to differences in housing or employment locations, in use of public transportation, etc. (*NCSA, 2023; Yoo, 2023*).
- Different rates of policing in different areas – i.e., minorities may be more likely to drive in or through higher crime areas, which are policed more than other areas (*Cai and Gaebler, 2022*).
- Different agency practices, such as LEAs differing on how much discretion they give officers in deciding when to make a stop as well as tendencies toward leniency on an individual officer level (*Goncalves & Mello, 2021*).

The Virginia Department of Criminal Justice Services did not attempt to make a judgement about what Disparity Index (DI) values constitute a “good” or a “bad” degree of overrepresentation. The DI is a way of showing that a disparity existed and, to some extent, the relative degrees of disparity that existed between different LEAs.

The Community Policing Act directed DCJS to obtain driver traffic stop data “for the purposes of analyzing the data to determine the existence and prevalence of the practice of bias-based profiling and the prevalence of complaints alleging the use of excessive force.”

The overriding challenge to empirically determining to what extent bias-based profiling may be contributing to these disparities is what is referred to as the “benchmark problem.” To help determine if bias is a factor in driver stops, one would need to be able to compare the proportion of stops made for each racial/ethnic group to the appropriate benchmark: the number of drivers in each racial/ethnic group who are actually driving on the road and subject to being stopped. No one has yet found an accurate way to do this.

This analysis, and analyses conducted in other states, used each racial/ethnic group’s proportion of the resident population as a benchmark for measuring traffic stop disparities. However, resident population provides, at best, a crude measure of exposure to traffic stops. A given racial/ethnic group’s proportion of the resident population aged 15+ years in a locality is not the same as that group’s proportion of the *driving* population in that locality. The driving population for a group is what is exposed to potential traffic stops, not the entire aged 15+ years residential population. Some residents do not drive at all. They may be incapable of driving, not have a driver’s license or a motor vehicle, or simply choose not to drive. Not all residents of a locality drive. Others may drive, but

rarely. In some localities, some racial/ethnic groups may be more likely than others to use public transportation rather than drive. All of these variables affect drivers time spent on the road and thus, their exposure to being stopped.

Transient drivers also complicate comparisons of stopped drivers with the demographics of the resident driver-age population. A locality may have a small number of Black residents, but a large number of Black drivers from other localities that regularly drive through or into that locality (for example, someone living in one locality but driving daily into another locality where they work). Therefore, a much higher number of Black drivers could be subject to traffic stops than there are in the Black resident population to which these drivers are compared. This could drastically inflate the calculated disparity rate for the agency serving this locality.

Virginia is not alone in its search for better approaches to using traffic stop data to look for indicators of bias-based profiling. Previous research examining traffic stop data has highlighted that racial/ethnic disparities exist, and found indications that bias-based profiling plays a role in these disparities (*Baumgartner, Epp, & Shoub 2018*) The problem is finding a method of determining how much of this disparity may be due to bias and how much may be due to other factors:

“Our inability to devise a universally acceptable method for measuring racial and ethnic proportions within an ever-changing driving population remains one of the most controversial methodological challenges in racial profiling research... Racial profiling studies based on poorly constructed benchmarks cause political and public relations problems and sometimes result in ill-fated legislation.” (Withrow and Williams, 2015, p.1).

“Most of the analyses reported show that police traffic stops are not proportional to the racial distribution of that jurisdiction's resident population, but most studies do not conclude that the police are engaged in racial profiling.” (McMahon et. al., 2002, p. 1) The U.S. General Accounting Office reviewed available data on bias in traffic stops from Florida, Maryland, New Jersey, and Pennsylvania, and concluded:

“The quantity and quality of information that these analyses provided varied, and the findings are inconclusive for determining whether racial profiling occurred. Although inconclusive, the cumulative results of the analyses indicate that in relation to the populations to which they were compared, African Americans in particular, and minorities in general, may have been more likely to be stopped on the roadways studied... These limitations notwithstanding, we believe that in order to account for the disproportion in the reported levels at which minorities and Whites are stopped on the roadways, (1) police officers would have to be substantially more likely to record the race of a driver during motorist stops if the driver was a minority than if the driver was White, and (2) the rate and/or severity of traffic violations committed by minorities would have to be substantially greater than those committed by Whites. We have no reason to expect that either of these circumstances is the case.” (U.S. General Accounting Office, 2000, pgs. 4, 9).

Some researchers have identified methods that allow for a better understanding of the factors that can confound measures of traffic stop disparities, and these include:

- Comparing the percentages of traffic stops made for each driver racial/ethnic group during daylight hours to those of drivers stopped during nighttime hours. (*Pierson et al, 2020*)
- Comparing the percentage of traffic stops made for drivers in each racial/ethnic group to the percentage of these drivers involved in traffic accidents. (*Yoo, 2023*)
- Comparing how often contraband is found when searches are made involving stopped drivers in each racial/ethnic group.
- Identifying traffic stops in which the role of bias-based profiling may be minimal or nonexistent.

Virginia could use the methods above to improve its traffic stop data collection, reporting, and analysis.

## Conclusions and Recommendation

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The overall finding of this analysis is that, statewide, Black and Hispanic drivers in Virginia were disproportionately stopped by law enforcement when compared to other drivers, based on the number of drivers stopped relative to their numbers in Virginia's population. This type of disparity was seen among traffic stops made by many individual law enforcement agencies for which disparity measures could be calculated. Stops of Black and Hispanic drivers were also more likely to result in a search or an arrest. This finding is consistent with traffic stop research conducted in other states.

**When examining local resident drivers only, *less overrepresentation* was seen with regard to traffic stops, searches, and arrests across all racial/ethnic groups, particularly for Black and Hispanic drivers. This finding was consistent for law enforcement agencies serving cities, counties, and towns across Virginia.**

**Although this Virginia traffic stop analysis identified disparities in traffic stop rates related to race/ethnicity, it does *not* allow us to determine or measure specific reasons for these disparities. Most importantly for this study, it does *not* allow us to determine the extent to which these disparities may be due to bias-based profiling or due to other factors that can vary depending on race or ethnicity.**

***STANDING RECOMMENDATION:*** *The percentages and Disparity Indexes (DIs) presented in this report should not be interpreted to indicate that any individual law enforcement agency is practicing bias-based profiling. Given the limitations noted above, these figures should only be used to identify where the numbers indicate that certain ethnic/racial groups are being disproportionately stopped, which may bear further review to identify why this is occurring and whether any action should be considered to reduce or eliminate it.*

This is a standing recommendation given the limitations of the CPA's current data fields. In addition, any year-to-year comparison of CPA findings should take into consideration both methodological differences and external factors involved in each year's report.

### **New Recommendation for 2026**

There are no new recommendations for this year's report. Past recommendations can be found in Appendix T.

## Appendices (*available online*)

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All Appendices can be found at the following webpage:

[www.dcjs.virginia.gov/content/community-policing-reports](http://www.dcjs.virginia.gov/content/community-policing-reports)

**Appendix A: Disparity Indices for Stops, Searches, and Arrests by Agency Drivers**

**Appendix B: Traffic Stop Table for Virginia State Police**

**Appendix C: Traffic Stop Tables for Law Enforcement Agencies Serving Cities and Counties**

**Appendix D: Traffic Stop Tables for Law Enforcement Agencies Serving Towns**

**Appendix E: Traffic Stop Tables for Other Law Enforcement Agencies**

**Appendix F: Disparity Indices for Resident Drivers by Agency Type**

**Appendix G: Disparity Indices for Non-Resident Drivers by Agency Type**

**Appendix H: VSP Traffic Stops of Resident Drivers by Division**

**Appendix I: Statewide Stop Tables**

**Appendix J: Traffic Stops of Resident Drivers by City/County Jurisdiction**

**Appendix K: Chi-Square Methodology**

**Appendix L: Chi-Square Results**

**Appendix M: Law Enforcement Agencies Not Reporting Traffic Stop Data**

**Appendix N: Bias-Based Profiling Legislation (SB 5030) Effective July 1, 2021**

**Appendix O: VSP Community Policing Data Collection Instructions and Technical Specifications (V 5.3)**

**Appendix P: Notes on Disparity Index (DI) Calculation Methodology**

**Appendix Q: Notes on Chi Square and Residual tests Methodology**

**Appendix R: Use of Force Data**

**Appendix S: References**

**Appendix T: Recommendations from Past Reports**

**Appendix U: Data Dictionary**

**Appendix V: Data User Guide**