Analysis of Driving Under the Influence (DUI) Data for the Virginia Department of Motor Vehicles

Code of Virginia §46.2-223.1. Collection and reporting of data related to driving under the influence of alcohol, drugs, or a combination thereof.

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VIRGINIA TECH
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Executive Summary

Introduction

Virginia legislation (§46.2-223.1) mandates the annual collection and reporting of data on driving under the influence (DUI) of alcohol, drugs, or both, overseen by the Department of Motor Vehicles (DMV) starting in 2024. This initiative aims to strengthen DUI law enforcement and improve data accuracy. To drive meaningful change, a thorough assessment of Virginia's current data collection and reporting practices is essential. This will help identify opportunities for better resource allocation and areas for improvement.

Methods

The Virginia Tech Transportation Institute (VTTI) evaluated 13 objectives under §46.2-223.1, covering topics such as the number of vehicles with ignition interlock devices (IIDs), law enforcement distribution by county, incarceration sentencing, license restrictions, and drug and alcohol enforcement measures. To achieve these goals, VTTI collaborated with various stakeholders to access necessary data.

Results

In several areas—including the number of charges and convictions, referrals to the Virginia Alcohol Safety Action Program (VASAP), and active IIDs—figures were higher in 2019, declined in 2020, and gradually increased again by 2023.

Peak Year (2019)

In 2019, DUI-related metrics, including charges, convictions, and referrals to VASAP, reached notable peaks, coinciding with increased law enforcement efforts. These peaks were observed across areas such as charges and convictions under §18.2-266, active IIDs, underage drinking, and a high volume of standard field sobriety tests (SFSTs), special conditions hours, checkpoint contacts, and saturation patrols. The data suggests a correlation between enforcement and outcomes, though increased enforcement may reflect better detection rather than an actual rise in unsafe behaviors. More arrests and charges may result from intensified efforts, not necessarily from a higher prevalence of offenses.

Year of Decline (2020)

The decline in 2020 can likely be attributed to several factors related to COVID-19, including reduced law enforcement patrols, fewer specialized programs such as saturation patrols and checkpoints, and a decreased likelihood of officers administering breathalyzer tests. Furthermore, despite reduced traffic volumes, drivers who remained on the road may have exhibited riskier behaviors, such as speeding or impaired driving.

Years of Incremental Increase (2021 – 2023)

In 2021, Virginia legalized the recreational use and possession of cannabis, though the sale of recreational cannabis remains prohibited. This legalization may have led to an increase in driving

under the influence, however, this finding is not conclusively determined by this study. The observed increase in DUI-related metrics from 2021 to 2023 may not necessarily reflect a rise in drug use but rather a return to pre-pandemic conditions as road traffic increased and enforcement programs resumed. Additionally, in 2023, changes to testing protocols—mandating blood tests for all drivers suspected of DUI—resulted in an almost 15-fold increase in positive cannabis test results compared to 2022.

DUI Charges

The study also looked at the effect of sentencing on the likelihood of repeat DUI-related offenses. The majority of DUI charges were filed under statute §18.2-266, with 93.5% being reduced to lesser charges. This raises important questions about recidivism rates among individuals who received leniency compared to those formally charged with a DUI. The data indicates that some individuals qualified for DUI charges but were instead given lesser charges by law enforcement. However, the recidivism rates for both those initially charged with a DUI and those who received lesser charges remain unclear. It is crucial to determine whether individuals granted leniency are less likely to reoffend. Understanding the circumstances surrounding these charges could reveal which drivers might benefit from a one-time leniency and which may exploit the system. The current dataset, as maintained by the Supreme Court of Virginia, contains case numbers; however, these values do not appear to be applied on a per-defendant basis. Such information would be invaluable in determining recidivism and highlighting high-risk individuals.

Polydrug Use

The study also found that polydrug use was common among offenders. Analysis of drug testing among both commercial and non-commercial drivers showed significant drug use. Among those at or above the legal alcohol DUI limit, 47.6% of commercial drivers and 38.3% of non-commercial drivers tested positive for drugs. Notably, from 2019 to 2022, the percentage of non-commercial drivers with a blood alcohol concentration (BAC) of zero who tested positive for drugs rose dramatically. Conversely, the percentage of non-commercial drivers testing positive for drugs who also had a BAC of 0.08% or higher increased until 2021 but declined in 2022. It remains unclear whether this decline represents a true trend change or an anomaly influenced by other factors. Commercial drivers exhibited a similar pattern, with an increased proportion overall (i.e., regardless of BAC level) testing positive for drugs from 2019 to 2022. Of particular concern is the increasing number of those at or above the DUI level, which continues to increase through to 2022.

Data from the Department of Forensic Science revealed notable levels of concurrent alcohol and cannabis use. Among drivers with a BAC of zero, 20.4% tested positive for cannabis, rising to 30% for those with a BAC of 0.08% or higher. This rise in alcohol and cannabis use was particularly evident in 2023, with an almost 15-fold increase in the number of positive tests from 2022 to 2023 (i.e., 41 to 608). While this increase may suggest greater cannabis use among drivers following the legalization of cannabis in 2021, it may also be related changes in state toxicology testing protocols. As of 2023, all DUI-arrested drivers in Virginia are required to have blood samples tested for cannabis, leading to a significant increase in the total number of samples submitted for testing—from an average of 2,575 tests (2019-2022) to 4,306 in 2023—which coincides with the drastic increase in positive results for both BAC ≥ 0.08 and cannabis. This underscores the

importance of thoroughly considering all aspects of blood sample collection and testing for alcohol and drugs when interpreting these results.

Recommendations

This report is based on data collected from six different state agencies and departments, which currently cannot be matched or linked. Ideally, as individuals move from initial roadside testing through forensic analysis, sentencing, and enrollment in programs, their data should be traceable from administration to release. Achieving this requires standardizing data across all agencies and departments. Additionally, assigning a unique identifier for each individual and case would facilitate the creation of a unified tracking system, which would enable accurate analyses, process evaluations, and the identification of repeat offenders, while also enhancing inter-agency communication.

Limitations

Much of the data were analyzed using raw counts. While these counts provide a broad overview, they overlook important nuances that can be revealed by incorporating rates. For instance, raw counts of DUIs or checkpoint contacts that seem high in populated areas may actually be less significant when adjusted for population size. Considering local demographics can offer deeper insights and highlight underserved communities that raw counts might miss.

Additionally, the location of an infraction determines where data are recorded, which may exclude individuals who travel into urban areas from predominantly rural regions. This affects data integrity, raising questions about whether resources should be focused on the site of the infraction (urban area) or the driver's origin (rural area) to improve safety-related behaviors.

Lastly, drug metabolites remain detectable in the body for varying durations; thus, the presence of a metabolite does not necessarily indicate intoxication or the degree of intoxication.

List of Acronyms

BAC	Blood Alcohol Concentration
CIV	Civilian
CMV	Commercial Motor Vehicle
DMV	Department of Motor Vehicles
DUI/DWI	Driving Under the Influence/Driving While Intoxicated
DUID	Driving Under the Influence of Drugs
DRE	Drug Recognition Expert
EMS	Emergency Medical Services
FARS	Fatality Analysis Reporting System
IID	Ignition Interlock device
LEO	Law Enforcement Officer
LOS	Length of Stay
MSO	Most Serious Offense
NHTSA	National High Traffic Safety Administration
PCP	Phencyclidine
RAMD	Remote Alcohol-Monitoring Device
SFST	Standard Field Sobriety Test
SR NCC	State Responsible New Court Commitments
SWSC	Statement of Work and Special Conditions
TF	Task Force
TSRP	Traffic Safety Resource Prosecutor
VASAP	Virginia Alcohol Safety Action Program
VCC	Virginia Crime Code
VTTI	Virginia Tech Transportation Institute

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Introduction

The detrimental impact of alcohol on motor vehicle safety has a long and well-established history in the United States, with the first case-control studies conducted in the mid-1930's using crash data from injured drivers and a control group of drivers randomly selected from a comparable area of Illinois (Holcomb, 1938). Approximately 60 years later, the National Highway Traffic Safety Administration (NHTSA) cited 738 pertinent papers on the topic (Jones & Lacey, 2001). The effects of alcohol on the brain and body interfere with even the most experienced driver's ability to drive safely. Alcohol affects judgement, alertness, motor coordination, vision, and depth perception, all of which are critical to the safe operation of a motor vehicle (CAMH, 2024). Indeed, crash statistics indicate that approximately one third of all traffic crash fatalities in the United States involve drunk drivers, with 13,524 traffic fatalities resulting from these types of motor vehicle crashes—or one fatality every 39 minutes (National Center for Statistics and Analysis, 2024).[1]

Unlike the numerous studies pertaining to alcohol, the effect of other drugs on motor vehicle safety and the prevalence of these drugs in drivers has not been as well-documented, likely due to challenges in data collection, analysis, and reporting. Yet, given the widespread legalization of cannabis, the ongoing opioid crisis, and findings from National Roadside Surveys (NHTSA, 2007; NHTSA, 2015), there is a pressing societal need to quantify the extent of drugged driving, as well as to continue examining alcohol-impaired driving and investigate the issue of polydrug use (i.e., the use of multiple non-alcohol drugs or alcohol plus drugs). The effective collection, reporting, tracking, and management of data related to driving under the influence (DUI) of alcohol, drugs, or a combination of both is critical to understand and address this problem. The resulting data can be used to identify emerging trends in traffic harm, to evaluate the effects of changing policies on judicial outcomes, and to facilitate and improve countermeasure development and evaluation.

The Commonwealth of Virginia legalized recreational cannabis use and possession in 2021, although the sale of recreational cannabis remains illegal. Regardless, the potential increase in concurrent use while driving a motor vehicle is cause for concern. Legislation introduced in the state (§46.2-223.1) requires collection/reporting of data related to DUI of alcohol, drugs, or a combination of both. This process—which will be conducted annually by calendar year—is to be administered by the Department of Motor Vehicles (DMV). This legislation's outcomes are intended to serve as a foundation for enhancing enforcement of DUI laws and improving the accuracy and collection of relevant data. However, to effect meaningful change, it is essential to accurately assess Virginia's current standing across multiple dimensions pertaining to collection/reporting; that way, the state can begin to investigate optimal resource allocation and determine opportunities for improvement. The DMV has accordingly collaborated with the Virginia Tech

[1] "Drunk driving" is generally defined via the metric blood alcohol concentration (BAC). It specifies the mass of alcohol per volume of blood and is commonly expressed as a percentage. The legal BAC limit is 0.08% for non-commercial drivers ages 21 or older in most states, the District of Columbia, and Puerto Rico (i.e., 0.08 grams of alcohol per deciliter of blood); Utah has a stricter limit (viz. 0.05%). A charge of "Driving Under the Influence" (DUI) typically involves operating a vehicle while impaired by alcohol or other drugs, including prescription medications. "Impairment" is typically determined by observing the driver's behavior and conducting field-sobriety tests. Virginia is subject to per se law (i.e., a driver can be charged with DUI if the BAC is above the legal limit, regardless of the impairment assessment).

Transportation Institute (VTTI) to gain a thorough understanding of previously collected data from a variety of sources.

Objectives

The assignments/objectives for VTTI were pursuant to the data collection/analysis/reporting portion of §46.2-223.1 (i.e., "collection and reporting of data related to DUI of alcohol, drugs, or a combination thereof"). Specifically, after receiving, verifying, and cleaning the data from each department/agency, VTTI was tasked to conduct analyses based on the objectives enumerated below and to produce an annual report.

1. The number of motor vehicle and commercial motor vehicle (CMV) crashes, injuries, serious injuries, and fatalities that involved alcohol, drugs, or a combination of alcohol and drugs, as maintained by the DMV.
2. The number of drivers, passengers, bicyclists, and pedestrians killed in motor vehicle and CMV crashes, including the blood alcohol concentration (BAC) and any drugs identified in the blood of each decedent driver, as maintained by the Office of the Chief Medical Examiner.
3. The number of full-time, sworn officer positions allotted to each law-enforcement agency and the number of full-time, sworn officers employed by each law-enforcement agency, as maintained by the Department of State Police.
4. The number of arrests for violations of §§18.2-36.1, 18.2-51.4, 18.2-266, 18.2-266.1, 18.2-268.3, 18.2-270.1, 18.2-272, 46.2-341.24, 46.2-341.26:3, 46.2-341.29, and 46.2-341.31, as maintained by the Department of State Police.
5. The number of charges and convictions for violations of §§18.2-36.1, 18.2-51.4, 18.2-266, 18.2-266.1, 18.2-268.3, 18.2-270.1, 18.2-272, 46.2-341.24, 46.2-341.26:3, 46.2-341.29, and 46.2-341.31 across all district and circuit courts, as maintained by the Executive Secretary of the Supreme Court of Virginia or any circuit court clerk who maintains an independent case management system;
6. The number of adults sentenced to a term of incarceration for violations of §§18.2-36.1, 18.2-51.4, 18.2-266, 18.2-266.1, 18.2-268.3, 18.2-270.1, 18.2-272, 46.2-341.24, 46.2-341.26:3, 46.2-341.29, and 46.2-341.31, including the active period of incarceration imposed and the length of time that the person was incarcerated, as maintained by the Compensation Board and the Department of Corrections.
7. The number of individuals ordered to report to the Virginia Alcohol Safety Action Program (VASAP) and the number of individuals under the supervision of such program, as maintained by VASAP.
8. The number of ignition interlock devices (IIDs) installed on motor vehicles and the number of remote alcohol-monitoring devices (RAMDs) applied to individuals, as maintained by VASAP.
9. The number of breath alcohol tests administered and the average BAC test results, as maintained by the Department of Forensic Science.
10. The number of DUI-related blood sample submissions and any drugs or drug classes identified in such samples, as maintained by the Department of Forensic Science.

11. The total number of restrictions, suspensions, and revocations of Virginia driver's licenses and commercial driver's licenses for DUI, as maintained by the DMV.
12. The number of specific DUI-related enforcement measures conducted by law-enforcement agencies, such as sobriety checkpoints, saturation patrols, and any other relevant measures, as maintained by the DMV.
13. The total amount of grant money awarded to Virginia, each law-enforcement agency, and any other entity that is not a law-enforcement agency by the National Highway Traffic Safety Administration, as maintained by the DMV; and
14. Any other data deemed relevant and reliable by the DMV.

For the report, statewide data were aggregated based on the calendar year over a period of typically 5 years (i.e., 2019 to 2023) except where noted. Moreover, to the extent possible, data were aggregated by locality and by law-enforcement agency over the same period. Finally, where possible, data were stratified to distinguish between alcohol, drug, or alcohol + drug-impaired driving.

Methods

VTTI coordinated with several state agencies and departments to acquire the necessary data for analysis. Table 0.1 shows the agencies and departments contacted and the corresponding analysis objectives.

Table 0.1. Data sources used for analyses

Data Source	Analysis Objectives
Virginia DMV	1, 11, 12, 13
Office of the Chief Medical Examiner (obtained from DMV)	2
Department of State Police	3, 4
Executive Secretary of the Supreme Court of Virginia	5
Compensation Board	6
Department of Corrections	6
Department of Forensic Science	9, 10
VASAP	7, 8

Data Cleaning and Assumptions

Upon receiving the datasets from each agency, data were evaluated and cleaned to prepare for analysis. Where warranted, VTTI coordinated with the providing agency or department to better understand coding procedures and potential limitations. The bullet points below summarize the overall analysis assumptions and data-cleaning strategies.

- Obvious outliers: If a value was obviously incorrect, intent-based judgment was applied (e.g., “2201” for a year was corrected to “2021” or “20219” was corrected to “2019”).
- Duplicate records: Where obvious, these were eliminated from subsequent analyses.
- Partial duplicate records (i.e., a record is repeated, but under a separate jurisdiction): In these cases, VTTI was advised to rely on the first iteration of a non-duplicate record.

- Missing data: Where data were missing and able to be corroborated via another means, VTTI included the previously missing values. An example in the current report was related to the original Fatality Analysis Reporting System (FARS) dataset received for objective 2 that showed zero pedestrian and bicycle fatalities for 2020. VTTI checked Virginia's Crash Facts site, which indicated there had been 114 pedestrian and 8 bicyclist fatalities in 2020.

Caveats and Considerations

Drug and Alcohol Data

There are several caveats that need to be kept in mind when interpreting the results presented in this report. There are many traffic databases that offer high quality data on outcomes, such as arrests, crashes, and fatalities, as well as contributing or associated factors, such as alcohol impairment, for example. However, drug data (i.e., non-alcohol) is notoriously difficult to collect and interpret for a variety of reasons. Barriers to the collection of high-quality drug data include the complex drug testing equipment required for testing, the cost associated with toxicology testing for drugs, and inconsistent procedures regarding who is tested and what tests are performed. These inconsistencies and lack of standardization in testing protocols and procedures make it difficult to understand the prevalence and frequency of drug use by drivers, both on the roads and in crashes (Dunn & Kelley-Baker, 2021). It is critical to note that changes in procedures, whether that is the number of people tested overall, the drugs that are tested for, or variations in toxicology testing protocols, may drastically impact the number of positive test results (e.g., the rate at which law enforcement officers administer tests directly correlates with findings). This, in turn, may give the false impression that the prevalence of drug use by drivers on the roads or in crashes is increasing when it is not. For example, when a state decides to legalize recreational cannabis use, a corresponding decision might be to more closely monitor trends in cannabis-impaired driving and/or crashes. A new protocol is put into place to drug test all drivers arrested for a DUI for cannabis use. As a result of increased drug testing, the number of positive cannabis test results more than triples compared to the years prior to legalization. This could easily be misinterpreted as being due to cannabis legalization (i.e., "cannabis was legalized, so more people are consuming cannabis and driving"); however, given the change in testing protocols, it would be erroneous to attempt to make that connection.

Finally, another issue that makes the interpretation of non-alcohol drug data difficult is drug metabolites. These are the chemical byproducts of drugs that are produced as these drugs are metabolized (i.e., broken down) by the body. The presence of metabolites is a reliable indicator that the driver used/consumed the "parent" drug of that metabolite; however, metabolites are detectable in the body much longer than the parent drug and thus are not reliable indicators of intoxication, impairment, or recency of use. For this reason, directly linking drug test results to outcomes, such as crashes, is not a straightforward process. Metabolites can be present in the body for days or even weeks following drug consumption, while a crash happens at a specific moment in time during the metabolism process. Yes, the metabolites are present at the time of the crash, but that does not mean the driver was impaired or under the influence of drugs when they crashed. For example, a driver crashes their car and is subjected to a blood test to determine if they were under the influence of drugs or alcohol at the time of the crash. The sample tests positive for benzoylecgonine, the primary metabolite of cocaine, and the driver is charged with a DUI and the

crash is attributed to drug-impaired driving in the relevant crash databases. The issue with this example is that the sample only tested positive for the metabolite, not the parent drug, and the metabolite is detectable in the blood for 48 hours after cocaine use. Based on the drug test results, the link between this crash and cocaine use is tenuous; thus, attributing the crash to drug-impaired driving is also problematic and may inflate prevalence estimates.

Collection Bias

Relatedly, roadside-testing data also involves some unknown degree of selection/testing/efficiency bias. There is currently no set standard for testing, particularly drug testing, in terms of the circumstances under which a driver should be tested. Whether or not to administer an alcohol or drug test is entirely up to the discretion of the law enforcement officer at the scene. For example, if a driver has a BAC above the legal limit of 0.08g/dL, further testing for drugs may not occur, as the officer already has enough evidence to charge the driver with a DUI. This suggests that, in some cases, the positive BAC result may obviate subsequent drug testing, thereby introducing the potential for underestimating the incidence of testing positive for both alcohol and drugs (i.e., polydrug use).

COVID-19

In late 2019, the novel coronavirus COVID-19 emerged in Wuhan, China. Shortly afterwards, in early 2020, cases began appearing in the United States. As a result, several mechanisms went into place to slow the spread of the virus. Among those included social distancing, lockdowns, and mask wearing. In Virginia, this resulted in key factors of importance that need to be taken into consideration when interpreting the results presented in this report. For example, a moratorium on jury trials in 2020 and 2021 slowed the judicial system and had a significant effect on felony orders and processing time. Additionally, the social distancing and lockdown procedures instigated fewer law enforcement actively patrolling, fewer special programs (such as saturation patrols and checkpoints), officers being less inclined to administer breathalyzer tests, and an increase in risky behaviors such as speeding or impaired driving. It is likely that many subsequent analyses will be affected by COVID; that is, it would be practical to see lower counts during the period of lockdown (2020 and 2021) with a return to pre-COVID levels afterwards.

Counts vs. Rates

For the present study, the primary objective was to analyze the data as maintained by various agencies and departments. Therefore, many of the analyses are presented in the form of raw counts. Without additional data, such as population per jurisdiction or county, to create rates (e.g., rate per 1,000 people), jurisdictions with larger populations will inherently experience higher raw counts of many of the variables of interest, such as crashes, arrests, or positive drug tests. As a result, population-dense locations may appear to experience high levels of target behaviors and outcomes, even though on a per-person basis these behaviors and outcomes are no more prevalent than less-populated areas.

Incident Location

Another limitation of the data involves the recorded location of the DUI-related incident. Specifically, a crash, DUI, or arrest is linked to a specific location. However, the involved driver may

not necessarily be from that area. Such attribution can bias the data, potentially leading to incorrect assumptions that may impact possible impaired driving countermeasures, such as education or high visibility enforcement campaigns. Similarly, interjurisdictional task forces can impact data in a variety of ways. Protocol differences or proclivities between organizations can result in different approaches and standards to data collection. Additionally, confusion may result from overlapping jurisdictions as to where an arrest is officially recorded.

Limitation of Legislation

While the objectives listed in §46.2-223.1 (i.e., "collection and reporting of data related to DUI of alcohol, drugs, or a combination thereof") are comprehensive and cover a wide variety of data sources, there is an element missing from the legislation that is critical in providing a more complete picture of the DUI problem. Objective 2 of the legislation focuses on the number of drivers, passengers, bicyclists, and pedestrians killed in motor vehicle and CMV crashes, including the BAC and any drugs identified in the blood of each deceased driver. Only investigating the drugs and alcohol identified in the blood of the deceased driver means those intoxicated drivers who did not die because of the crash, but who killed, injured, or seriously injured another driver, passenger, bicyclist, or pedestrian, are not represented in these analyses. Considering the size and weight differential between vehicles and non-motorized pedestrians, it would be safe to assume that alcohol and/or drug-related crashes in which a bicyclist or pedestrian is killed or injured have a high survivability likelihood for the intoxicated driver. However, these data are currently not included in any of the datasets provided to the VTTI team for this report. For future analyses, additional datasets will be investigated to determine which would include such information.

Incongruent Datasets

Finally, the objectives cover a wide variety of topics and rely on several different datasets maintained by different agencies and departments. Unfortunately, data intended to measure the same objective, but maintained by different departments, may not necessarily be congruent. For example, drug data from the FARS likely do not align with drug data from the Department of Forensic Science.

Results

Objective 1: Crashes, Injuries, Serious Injuries, and Fatalities

The goal for Objective 1 was to investigate the number of motor vehicle and CMV crashes, injuries, serious injuries, and fatalities that involved alcohol, drugs, or a combination of alcohol and drugs. Data were provided by the Virginia DMV, and, unless otherwise noted, all data and related figures and tables in this section pertained to 2019–2023.

Overall

Figure 1.1 shows the distribution of alcohol- and/or drug-related crashes, injuries, serious injuries, and fatalities by year. The figure's bases were as follows: 38,147 crashes, 24,145 injuries, 5,985 serious injuries, and 1,441 fatalities over the studied years. The figure indicates that crashes, injuries, serious injuries, and fatalities were relatively steady over the 5 years. In 2022, there was a slight decrease in serious injuries, with 1,095 cases; in 2023, there was a slight increase in fatalities, with the total reaching 311.

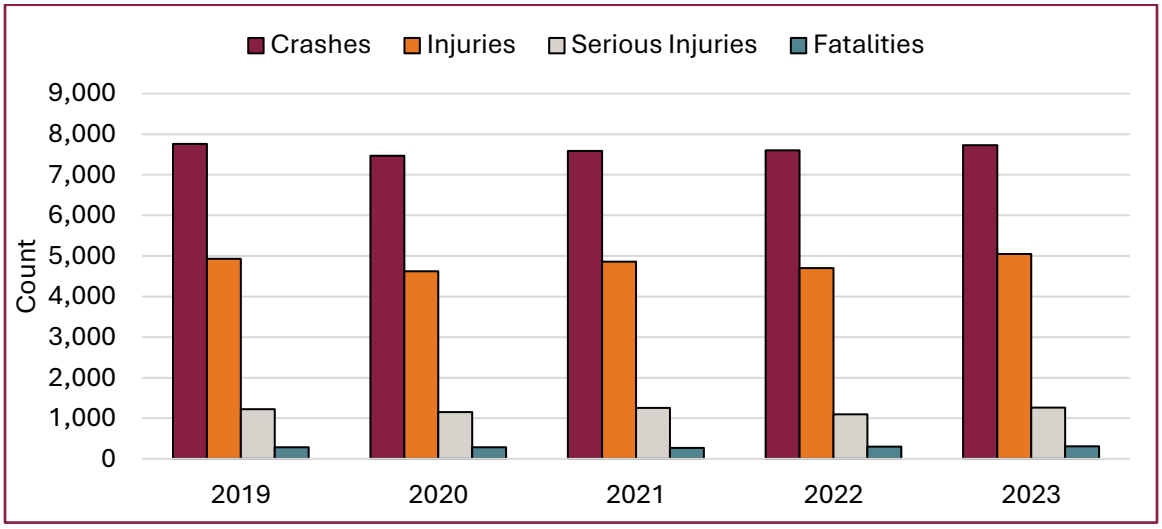

Figure 1.1. Number of alcohol- and/or drug-related crashes, injuries, serious injuries, and fatalities by year

Figure 1.2 shows the attendant aggregate plot pertaining to the previous figure. It indicates that alcohol-related crashes were the most prevalent when considering the three groups of alcohol, drugs, and alcohol + drugs.

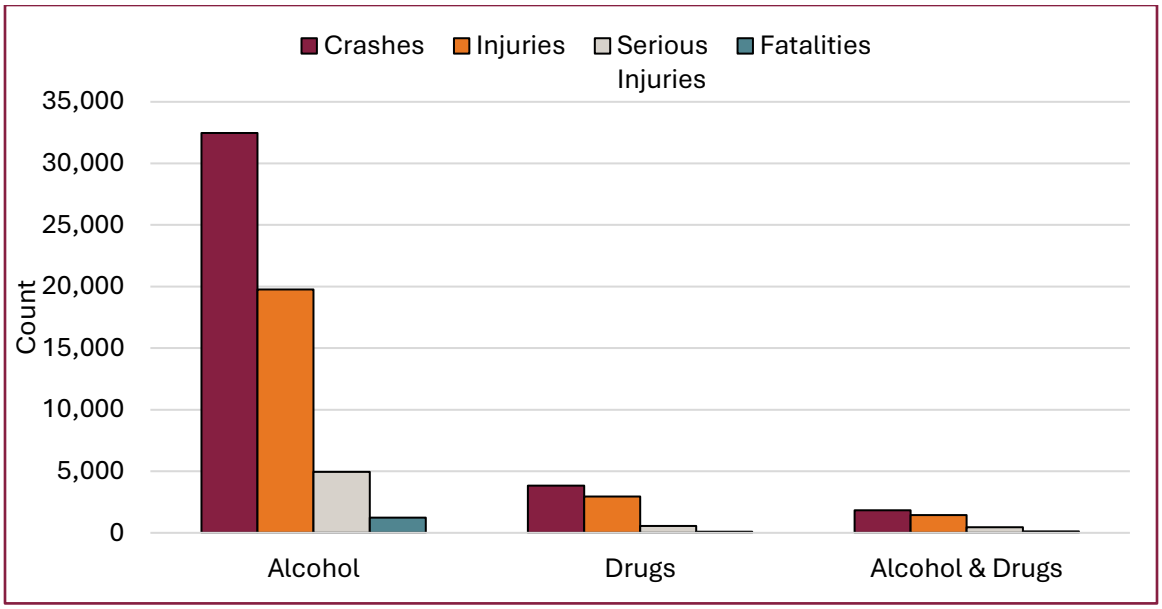

Figure 1.2. Number of alcohol- and/or drug-related crashes, injuries, serious injuries, and fatalities

Figure 1.3 shows the breakdown by both severity and year. In general, alcohol-related events were more likely than drug-related events. In 2023, alcohol-related fatalities peaked (281); however, drug-related and alcohol + drug-related fatalities were relatively low.

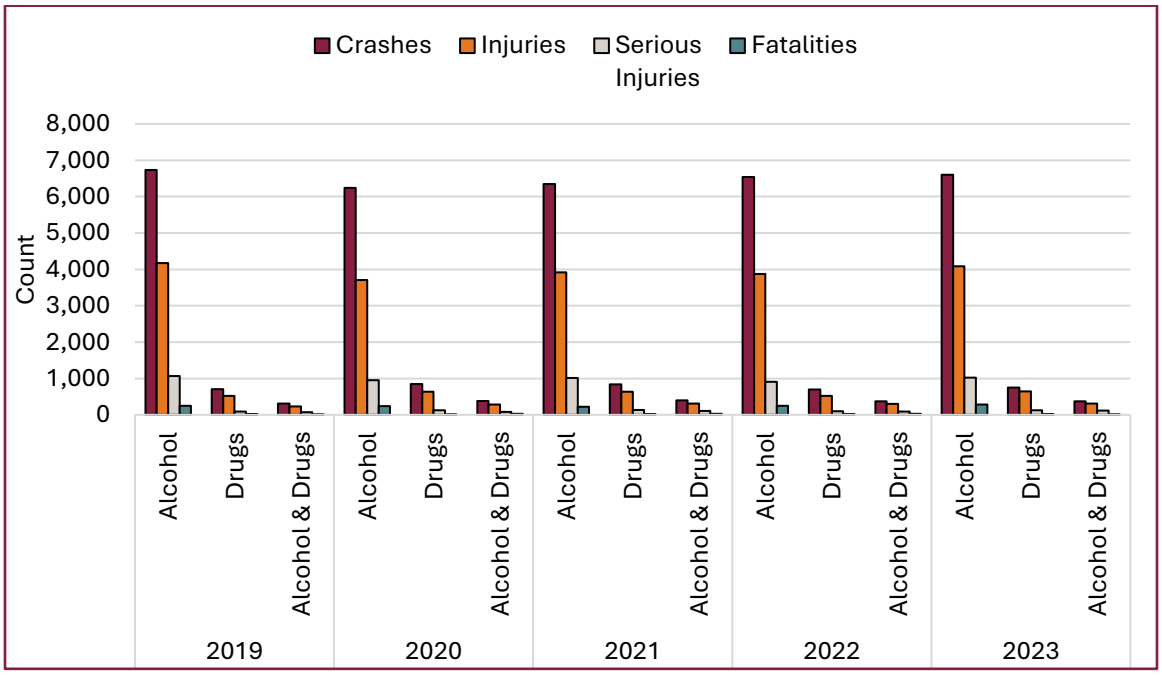

Figure 1.3. Number of alcohol- and/or drug-related crashes, injuries, serious injuries, and fatalities by year

Figure 1.4 shows the results for the number of events by time of day. A u-shaped pattern emerged, where each of the different levels of severity peaked between midnight and 2:59 a.m. and then again from 6:00 p.m. until 11:59 p.m.

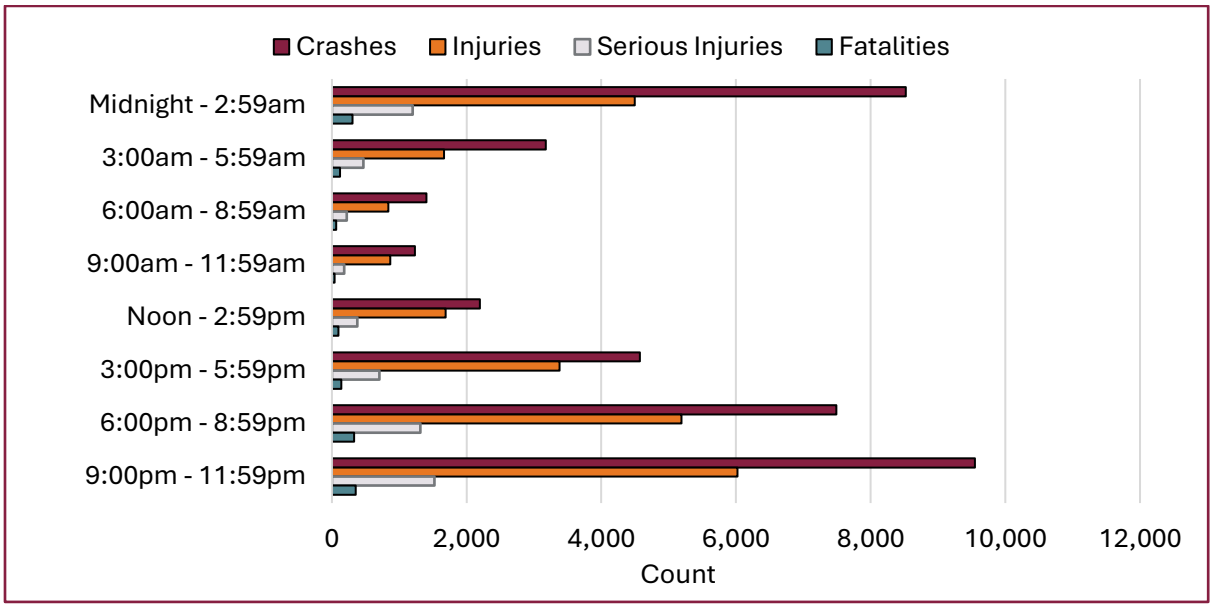

Figure 1.4. Number of alcohol- and/or drug-related crashes, injuries, serious injuries, and fatalities by time of day

Alcohol

Motor Vehicles

Figure 1.5 shows the number of alcohol-related crashes, injuries, serious injuries, and fatalities for personal motor vehicles by year. The figure's bases were as follows: 31,785 alcohol-related crashes, 19,257 injuries, 4,804 serious injuries, and 1,169 fatalities over the studied years. Each year yielded a similar number of crashes, with 2020 recording the fewest at 6,138 and 2019 the most at 6,606. Fatalities peaked in 2023 at 259.

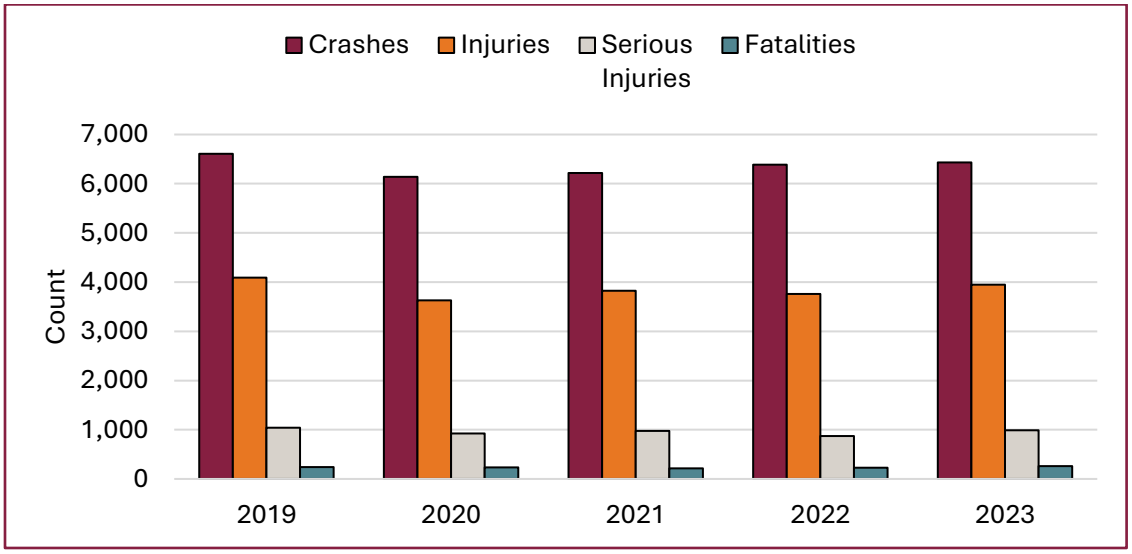

Figure 1.5. Alcohol-related crashes, injuries, serious injuries, and fatalities

Figure 1.6 shows the results of an evaluation of the alcohol-related events by time of day. The figure indicated a trend: most events, regardless of severity, occurred between midnight and 2:59 a.m. or after 6:00 p.m.

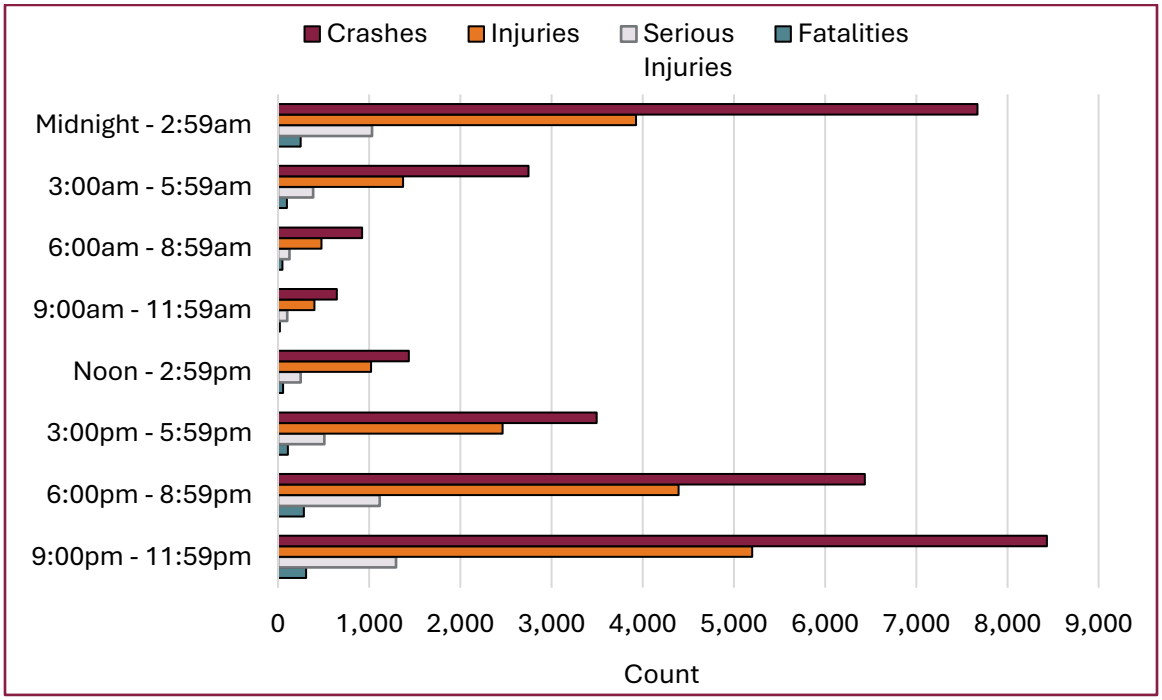

Figure 1.6. Alcohol-related crashes, injuries, serious injuries, and fatalities by time of day

Commercial Vehicles

Figure 1.7 shows the number of alcohol-related crashes, injuries, serious injuries, and fatalities for CMVs by year.[2] The figure's bases were as follows: 686 crashes, 493 injuries, 149 serious injuries, and 71 fatalities over the studied years. The figure indicates an upward trend in all severities from 2020 to 2023: crashes (2020: 106 to 2023: 170), injuries (2020: 75 to 2023: 135), serious injuries (2020: 22 to 2023: 38), and fatalities (2020: 9 to 2023: 22).

[2] In this report, motor vehicles took on two designations: "Commercial Motor Vehicles" (CMVs) and "Non-Commercial Motor Vehicles" (non-CMVs). A motor vehicle is designated a CMV if it has a gross vehicle weight rating of 10,001 pounds or more, has been designed to transport 9+ passengers (including the driver) for compensation; 16+ passengers if not for compensation, or is used to transport hazardous materials (FMCSA, 49 CFR 390.5).

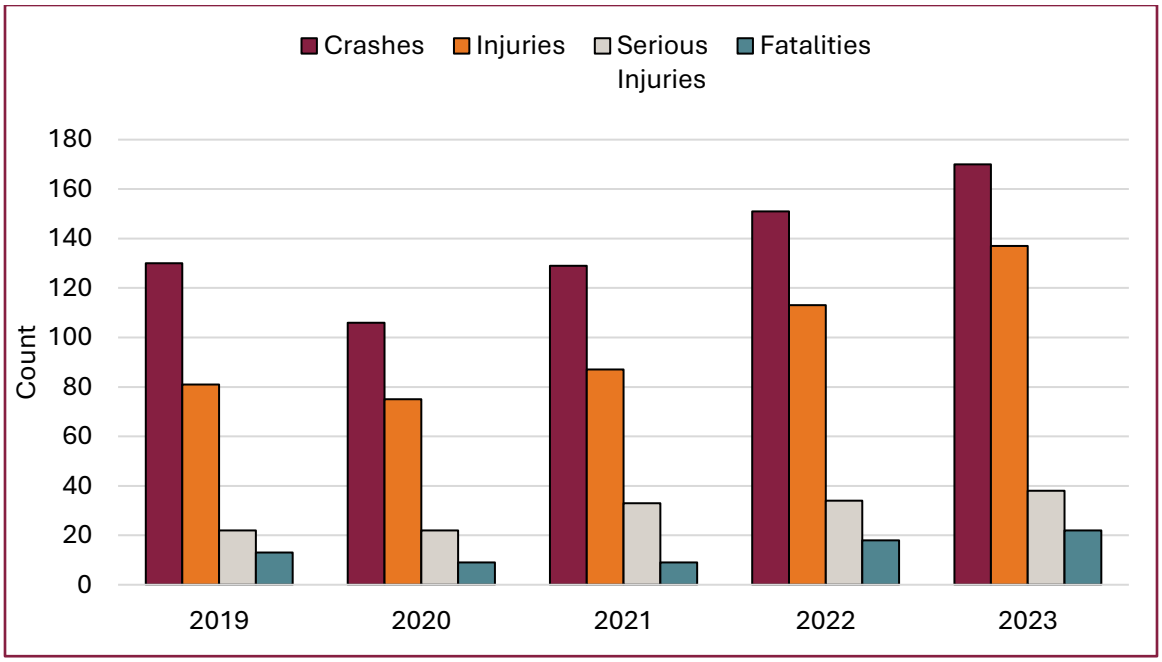

Figure 1.7. Alcohol-related crashes, injuries, serious injuries, and fatalities for CMVs

Figure 1.8 shows the number of alcohol-related crashes, injuries, serious injuries, and fatalities for CMVs by time of day. The figure indicates that the distributions of events by time of day for CMVs were remarkably similar to those of personal motor vehicles. Most events happened early in the morning or in the evening/at night. On aspect that did differ was fatalities; they appeared to be more prevalent between 6:00 p.m. and 8:59 p.m. than after 9:00 p.m.

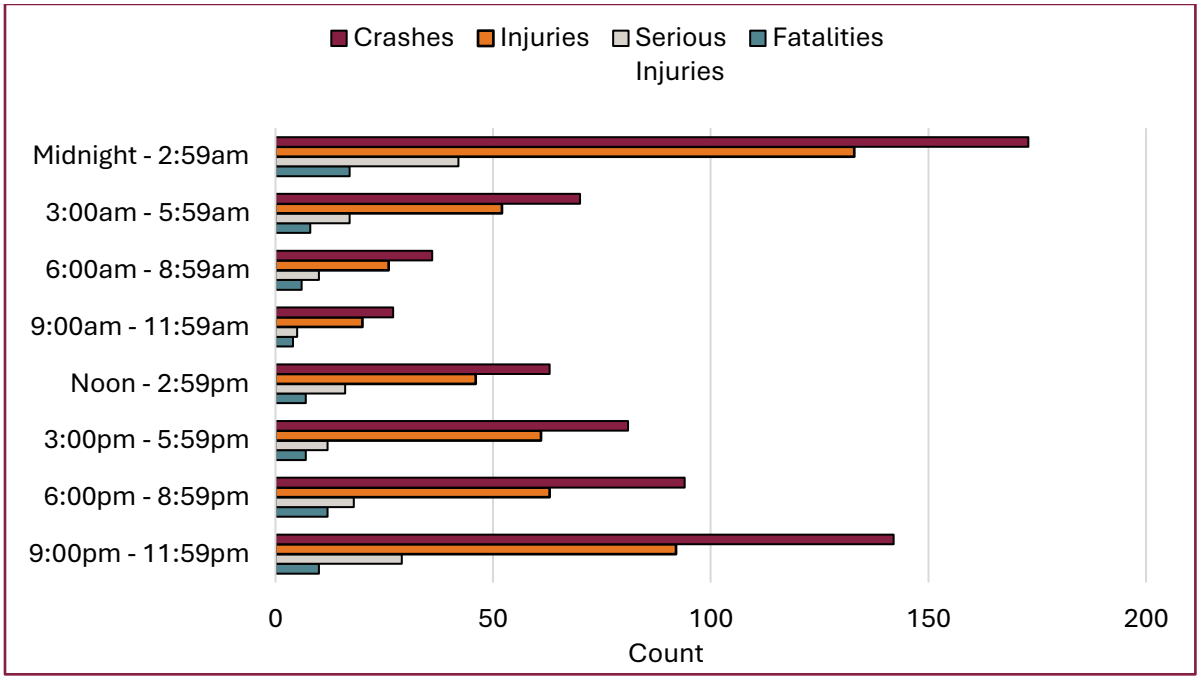

Figure 1.8. Alcohol-related crashes, injuries, serious injuries, and fatalities for CMVs by time of day

Drugs

Motor Vehicles

Figure 1.9 shows the number of drug-related crashes, injuries, serious injuries, and fatalities. The figure's bases were as follows: 3,688 drug-related crashes, 2,822 injuries, 538 serious injuries, and 86 fatalities over the studied years. A slight rise in crashes was noted for the earlier studied years (2019: 688 to 2020: 820), but the count reduced thereafter (2021: 803 to 2023:708). Additionally, peak serious injuries were observed in 2021 (128).

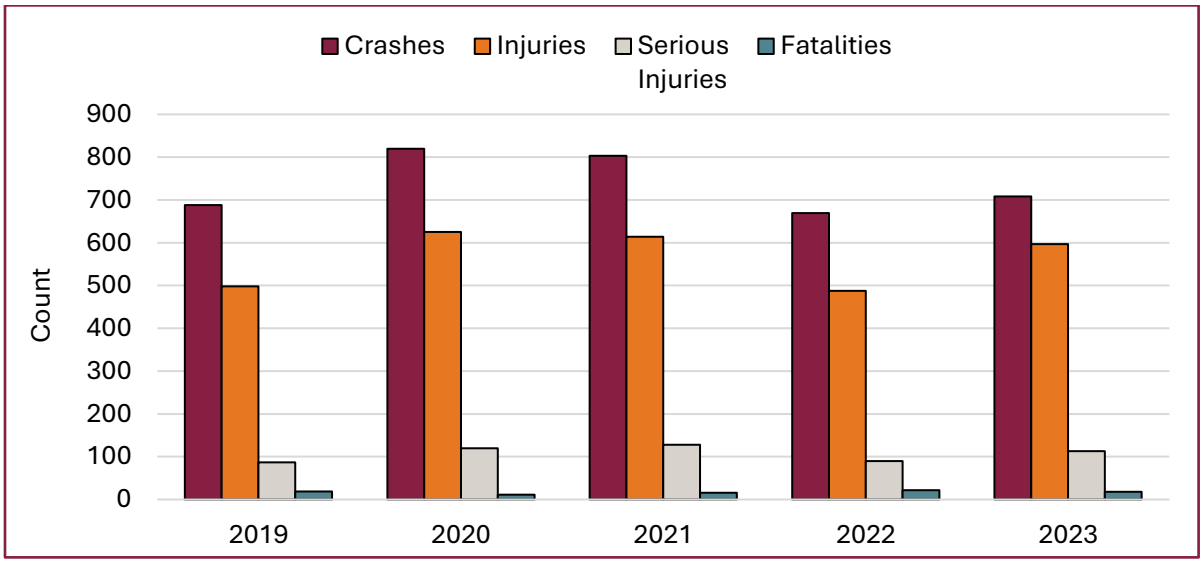

Figure 1.9. Drug-related crashes, injuries, serious injuries, and fatalities

Figure 1.10 shows the time of day pertaining to the prior figure. Drug-related events followed a different pattern than alcohol-related events. Peak crashes, injuries, and serious injuries all occurred between 3:00 p.m. and 8:59 p.m. Peak fatalities occurred earlier in the day between noon and 2:59 p.m.

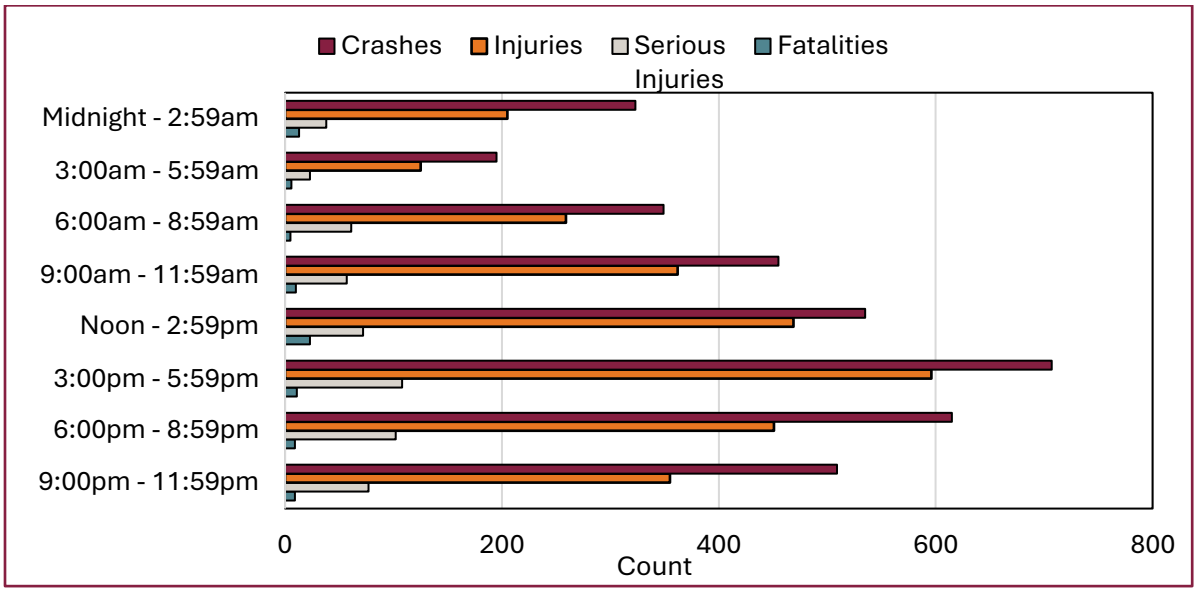

Figure 1.10. Drug-related crashes, injuries, serious injuries, and fatalities by time of day

Commercial Vehicles

Figure 1.11 shows the number of drug-related crashes, injuries, serious injuries, and fatalities in CMVs. The figure's bases were as follows: 149 drug-related crashes occurred with CMVs; among these were 137 injuries, 22 serious injuries, and 5 fatalities over the studied years. The number of injuries demonstrated a "hockey stick" shape over calendar years, with a minimum in 2020. The same phenomenon was observed for the number of serious injuries. For both of those shapes, the post-2020 slopes were greater than the pre-2020 slopes. Consequently, an upward trend was noted between 2020 and 2023 for both injuries and serious injuries.

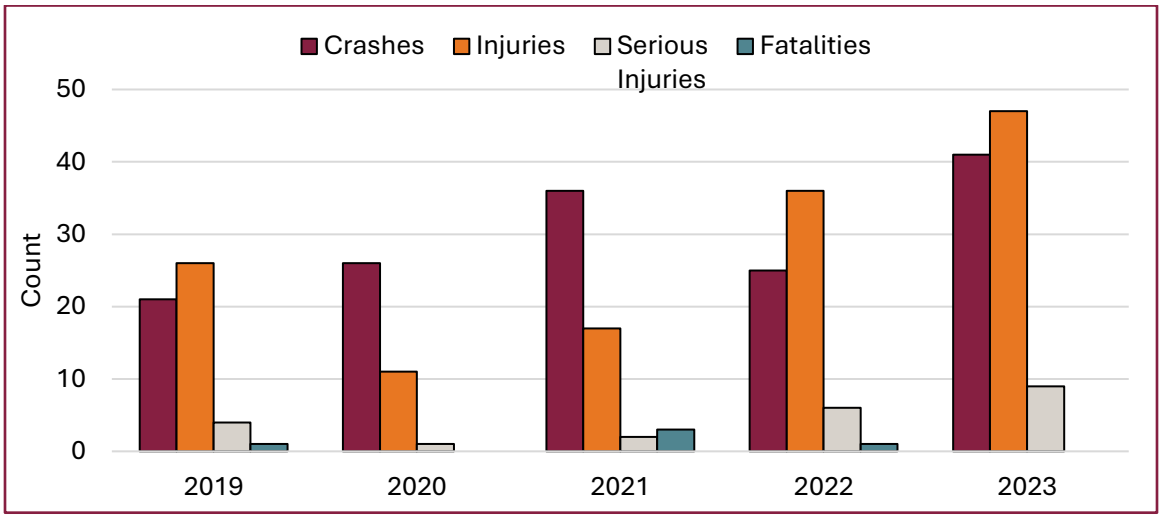

Figure 1.11. Drug-related crashes, injuries, serious injuries, and fatalities in CMVs

Figure 1.12 shows the number of drug-related crashes, injuries, serious injuries, and fatalities for CMVs by time of day. Commercial vehicles experienced peak crashes and serious injuries between 9:00 a.m. and 11:59 a.m., and peak injuries occurred later in the day (3:00 p.m. to 5:59 p.m.). However, peak fatalities occurred between midnight and 2:59 a.m.

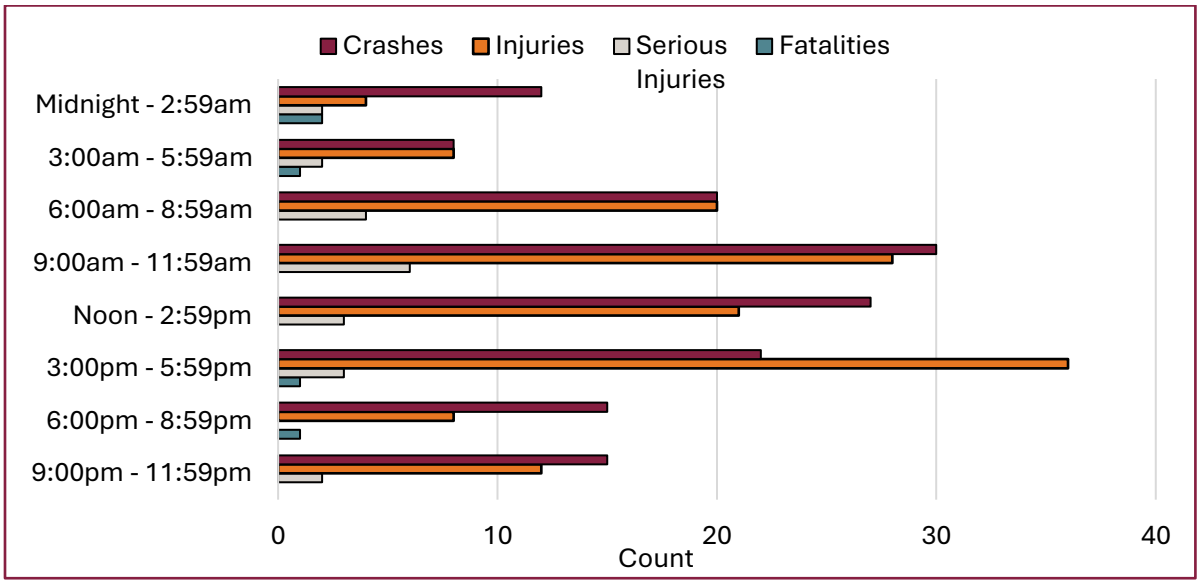

Figure 1.12. Drug-related crashes, injuries, serious injuries, and fatalities for CMVs by time of day

Alcohol + Drugs

Motor Vehicles

Figure 1.13 shows the number of alcohol- and drug-related crashes, injuries, serious injuries, and fatalities by year. The figure's bases were as follows: 1,793 alcohol- and drug-related crashes, 1,390 injuries, 455 serious injuries, and 106 fatalities over the studied years. Each category of severity remained relatively stable across the years. However, in 2023, there was a slight uptick in injuries (304) and serious injuries (112), but there was a low in fatalities (12).

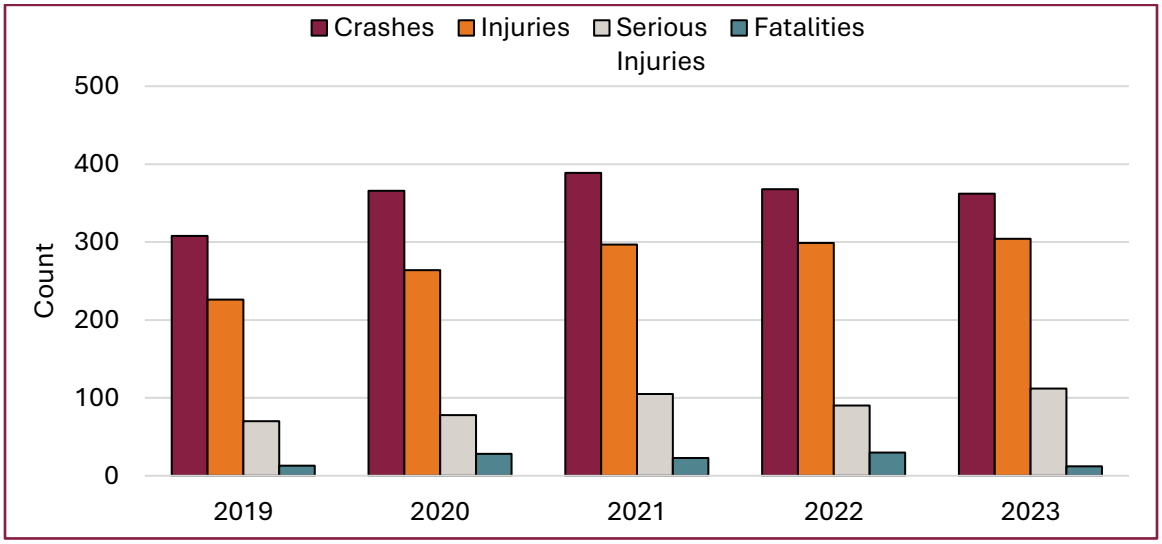

Figure 1.13. Alcohol- and drug-related crashes, injuries, serious injuries, and fatalities by year

Figure 1.14 shows the number of alcohol- and drug-related crashes, injuries, serious injuries, and fatalities by time of day. For those crashes involving both drugs and alcohol, all event severity levels tended to follow a similar pattern (i.e., higher numbers in the early morning and evening/nighttime).

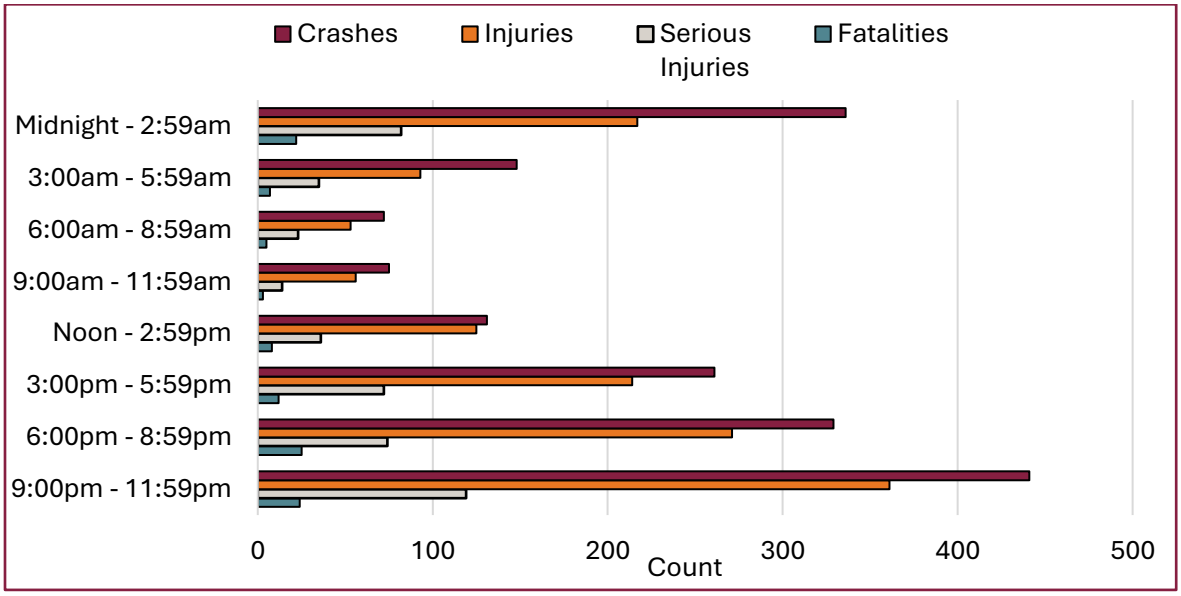

Figure 1.14. Alcohol- and drug-related crashes, injuries, serious Injuries, and fatalities by time of day

Commercial Vehicles

Figure 1.15 shows the number of alcohol- and drug-related crashes, injuries, serious injuries, and fatalities for CMVs by year. The figure's bases were as follows: 46 commercial- vehicle crashes, 46 injuries, 13 serious injuries, and 4 fatalities. Injuries peaked in 2020 (15), and serious injuries peaked in 2021 (6). Only two years involved fatal drug and alcohol-involved crashes (viz., 2020 and 2021).

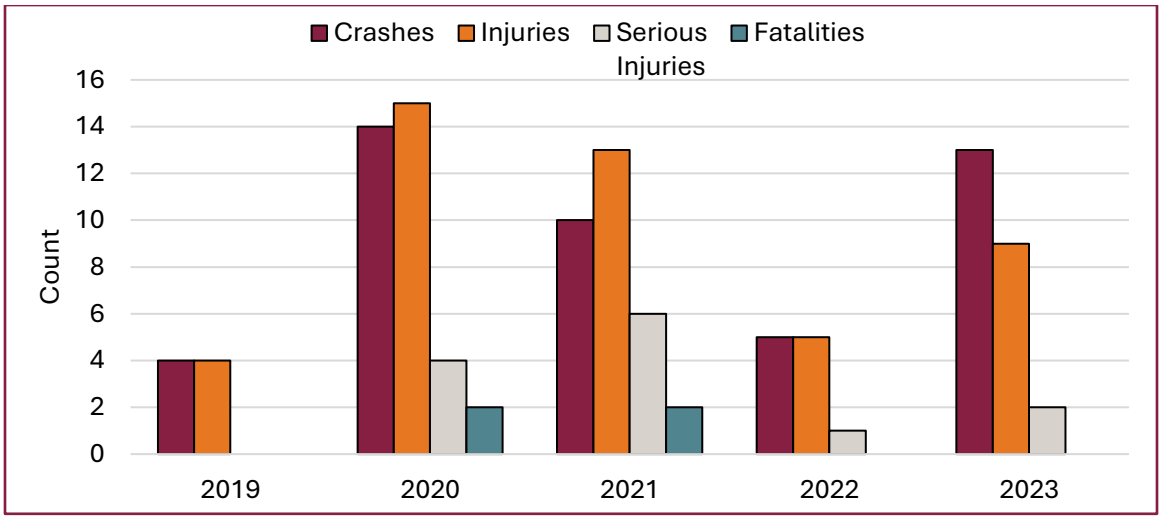

Figure 1.15. Alcohol- and drug-related crashes, injuries, serious injuries, and fatalities for CMVs by year

Figure 1.16 shows the number of alcohol- and drug-related crashes, injuries, serious injuries, and fatalities for CMVs by time of day. The figure indicates that commercial-vehicle events involving alcohol and drugs saw peaks for each of the severity level during the 3:00 a.m. to 5:59 a.m. timeframe.

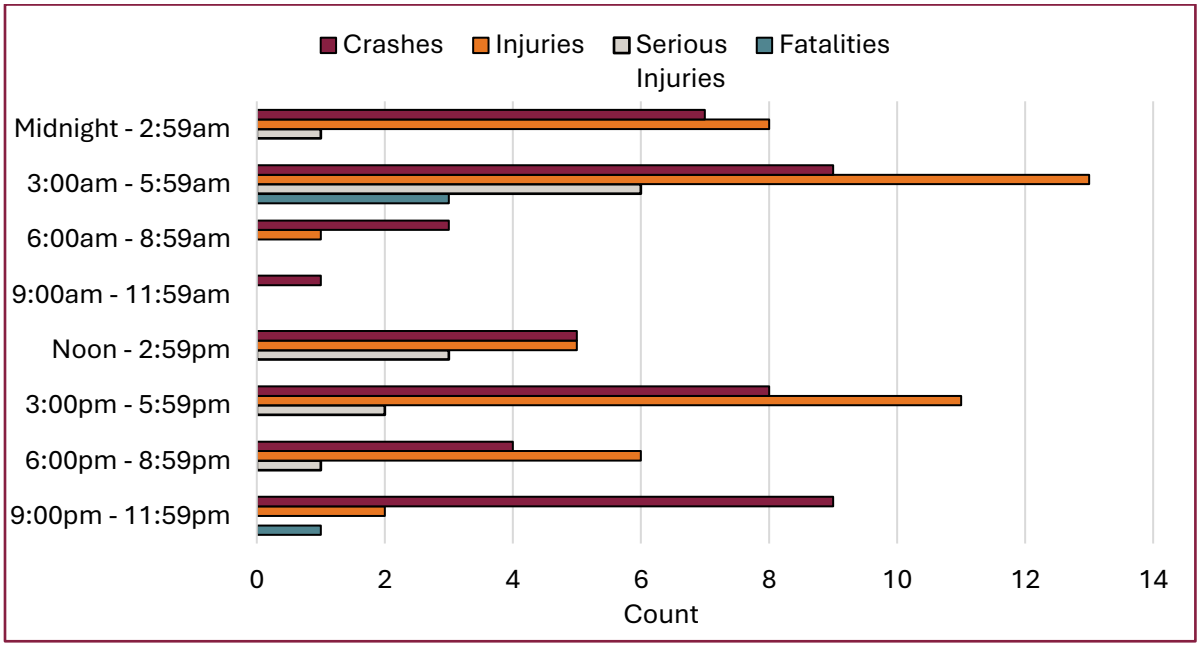

Figure 1.16. Alcohol- and drug-related crashes, injuries, serious Injuries, and fatalities for CMVs by time of day

Objective 2: Fatalities

The goal for Objective 2 was to investigate the number of drivers, passengers, bicyclists, and pedestrians killed in motor vehicle and CMV crashes, including the BAC and any drugs identified in the blood of each decedent driver. Data were maintained by the Office of the Chief Medical Examiner then provided to the Virginia DMV for entry into FARS. The Virginia DMV supplied VTTI with the most recent FARS data, which was only available through the end of 2022; thus, all data and related figures and tables in this section pertained to the years 2019–2022.

Motor Vehicle Fatalities

Figure 2.1 shows there was a year-over-year increase in fatalities for the driver of the motor vehicle, with 2022 representing the current peak. Additionally, a sharp increase was noted in the number of pedestrian fatalities between 2021 and 2022.

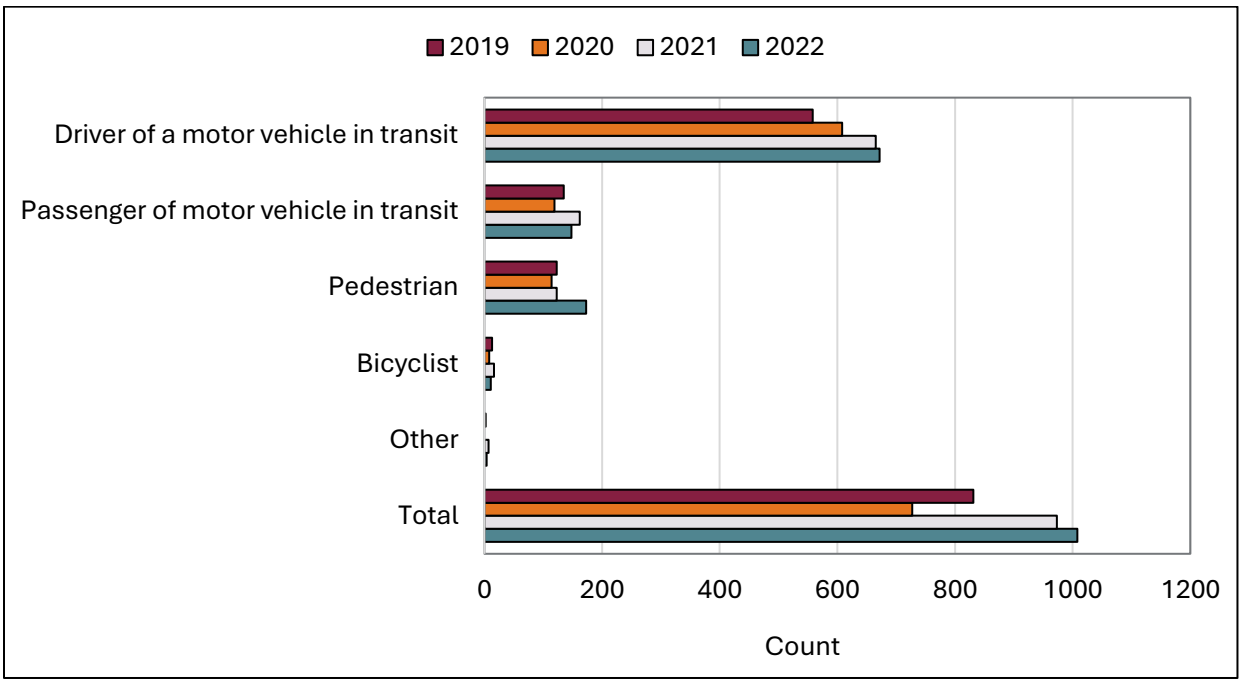

Figure 2.1. Motor vehicle fatalities by decedent type and year

Table 2.1 shows the breakdown by decedent type and year for both the state totals and the top 10 jurisdictions, rank-ordered by the total number of fatalities (i.e., right-most column). Over the 4-year period, a total of 3,661 fatalities occurred. The highest numbers were reported in Fairfax County (181), Henrico County (116), Chesterfield County (108), and Virginia Beach City (103). Fairfax County had a disproportionately high number of pedestrian fatalities (63), compared to Henrico County, which had the second highest (29).

Table 2.1. Number of fatalities by decedent type and jurisdiction

	Driver of a motor vehicle in transit	Passenger of motor vehicle in transit	Pedestrian	Bicyclist	Person on Personal Conveyances	Occupant of non-motor vehicle	Persons in/on buildings	Total
Virginia 2019–2022 Totals	2,503	564	533	48	9	3	1	3,661
By Jurisdiction								
Fairfax County	97	18	63	3	0	0	0	181
Henrico County	71	12	29	4	0	0	0	116
Chesterfield County	72	14	18	3	1	0	0	108
Va. Beach City	78	10	12	2	1	0	0	103
Norfolk City	50	15	28	1	0	0	0	94
Prince William County	53	13	22	1	0	0	0	89
Richmond City	54	8	19	2	1	0	0	84
Hanover County	51	18	2	1	0	0	0	72
Spotsylvania County	42	19	9	0	1	0	0	71
Augusta County	53	10	6	0	0	0	0	69

Table 2.2 shows the data for deceased drivers of motor vehicles, but the table was limited to the top 10 jurisdictions. The results indicated that the driver-fatality trend over the studied years was relatively unchanged for those jurisdictions.

Table 2.2. Number of deceased motor vehicle drivers by jurisdiction and year

County	2019	2020	2021	2022	Total
Fairfax County	24	19	28	26	97
Va. Beach City	16	15	24	23	78
Chesterfield County	12	20	18	22	72
Henrico County	12	18	19	22	71
Richmond City	8	15	12	19	54
Prince William County	8	10	19	16	53
Augusta County	12	13	12	16	53
Hanover County	12	10	16	13	51
Norfolk City	12	16	13	9	50
Spotsylvania County	8	11	9	14	14

Alcohol and Drug Test Results for Deceased Motor Vehicle Drivers

Table 2.3 shows the distribution of 2,057 positive drug and alcohol tests for deceased motor vehicle drivers. The most common finding was for the deceased driver to test positive for alcohol above the legal limit (BAC ≥ 0.08%, 634), followed by cannabinoids (441), simulants (246), and narcotic analgesics (178).

Table 2.3. Positive drug and alcohol test results by drug class and year

Drug Class	2019	2020	2021	2022	Total
Alcohol (BAC ≥ 0.08%)	146	171	165	152	634
Cannabinoid	82	114	120	125	441
Stimulant	42	59	59	86	246
Other or Unknown Drug	73	85	74	4	236
Narcotic Analgesics	43	43	47	45	178
Depressant	32	30	32	79	173
Alcohol (BAC < 0.08%)	26	26	34	27	113
Hallucinogen	3	3	6	4	16
Dissociative Anesthetics	0	0	0	10	10
Non-Psychoactive /Other Drugs	0	0	0	6	6
Inhalant	0	0	1	1	2
Phencyclidine (PCP)	1	1	0	0	2
Total	**448**	**532**	**538**	**539**	**2,057**

Table 2.4 shows the breakdown of drug and alcohol-testing results for deceased motor vehicle drivers. The results show there were a high number of positive drug tests — both in the absence of

alcohol (506, 23.3%) and in the presence of alcohol with a BAC ≥ 0.08% (241, 11.1%). However, when comparing the presence or absence of drugs for those with a BAC ≥ 0.08%, the results show that 38.3% of those with a DUI-level of alcohol *also* tested positive for drugs. Additionally, 48.0% of those with no detectable alcohol tested positive for drugs.

Table 2.4. Drug and alcohol test results for deceased motor vehicle drivers by year

Testing Result	2019	2020	2021	2022	Total
BAC = 0%; No drugs detected	139	138	145	126	548
BAC = 0%; Positive drug test	112	111	134	149	506
BAC < 0.08%; No drugs detected	8	10	14	8	40
BAC < 0.08%; Positive drug test	18	16	20	19	73
BAC ≥ 0.08%; No drugs detected	93	101	96	99	389
BAC ≥ 0.08%; Positive drug test	53	68	68	52	241
Not Reported/Unknown/Not Tested	55	83	102	131	371
Both BAC & drugs either not reported or reported as unknown if tested	*26*	*47*	*59*	*67*	*199*
Both BAC and drugs not tested	*25*	*30*	*37*	*41*	*133*
Incomplete (1 not reported/unknown/not tested)	*4*	*6*	*6*	*23*	*39*

Table 2.5 shows the number of drug classes for which deceased motor vehicle drivers tested positive, broken out by BAC and year. The table is color-coded for easier interpretation; higher numbers are coded with darker colors. Those drivers with "BAC = 0% and 0 drug classes" were individuals who tested negative for both drugs and alcohol. The results indicate that deceased drivers who tested positive to a non-alcohol drug had either a BAC of zero (i.e., they had consumed non-alcohol drugs only) or a BAC over the legal limit of 0.08% (i.e., they had consumed alcohol to the point of being legally intoxicated plus had consumed other drugs as well). Relatively few individuals tested positive for additional drug classes *and* had a BAC between 0 and 0.08%.

Table 2.5. Number of drug classes in deceased motor vehicle drivers by BAC and year

Number of drug classes	BAC = 0				BAC < 0.08				BAC ≥ 0.08			
	2019	2020	2021	2022	2019	2020	2021	2022	2019	2020	2021	2022
0 drug classes	139	138	145	126	.	.	.	.	.	.	.	.
1 drug class	69	59	83	88	8	10	14	8	93	103	97	99
2 drug classes	32	32	27	47	10	10	15	12	35	39	45	38
3 drug classes	8	13	19	10	6	2	5	6	12	19	21	11
4 drug classes	3	7	2	4	1	3	*0*	1	6	5	2	3
5 drug classes	*0*	*0*	3	*0*	1	1	*0*	*0*	*0*	4	*0*	1
6 drug classes	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	1	*0*	*0*

Figure 2.2 shows the 10 most common alcohol and non-alcohol drug test results found in deceased motor vehicle drivers by year. Focusing specifically on the positive alcohol and/or drug test results, the most common finding was that the deceased motor vehicle driver had a BAC over the legal limit (i.e., BAC ≥ 0.08%) and this pattern was consistent over the 4-year period. There was an increase in 2022 from prior years for cannabinoids (36), stimulants (25), and depressants (26). Interestingly, there were a growing number of results attributed to tests not given or results not reported over the 4-year period, which may be worth looking into further to improve data quality.

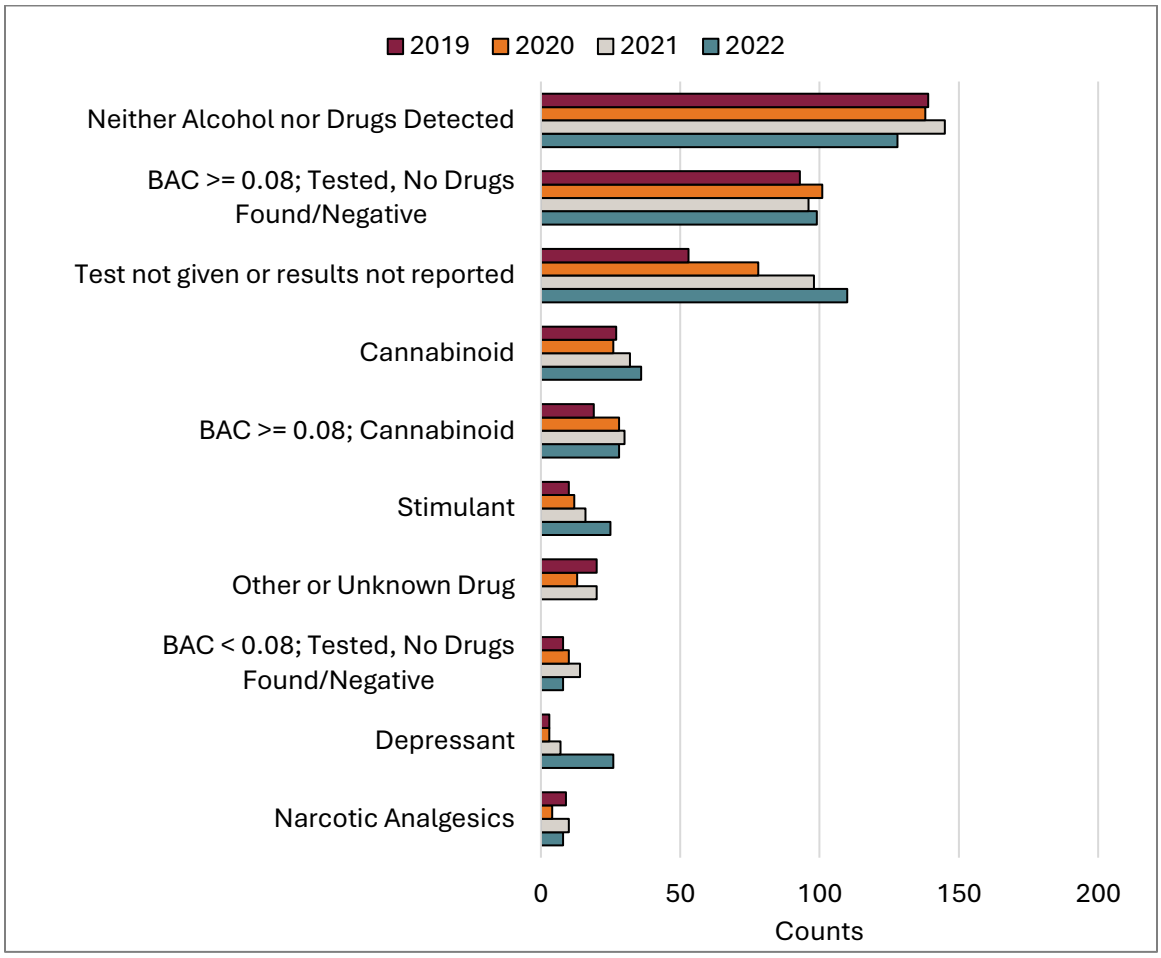

Figure 2.2. Most common drug combinations found in deceased motor vehicle drivers by year

Alcohol and Drug Test Results for Deceased Commercial Vehicle Drivers

Table 2.6 shows the breakdown of the 195 positive drug and/or alcohol tests for deceased CMV drivers from 2019–2022. Cannabinoids were the most common finding followed by BAC ≥ 0.04% (i.e., over the legal limit for CMV drivers) then stimulants, other or unknown drug, and narcotic analgesics.

Table 2.6. Positive drug and alcohol test results for deceased CMV drivers by drug class and year

Drug Class	2019	2020	2021	2022	Totals
Cannabinoid	8	9	15	16	48
BAC ≥ 0.04	8	10	9	15	42
Stimulant	6	4	9	14	33
Other or Unknown Drug	7	8	10	1	26
Narcotic Analgesics	5	4	7	9	25
Depressant	3	3	3	5	14
BAC < 0.04	0	0	0	3	3
Hallucinogen	0	0	1	1	2
Dissociative Anesthetics	0	0	0	1	1
Non-Psychoactive /Other Drugs	0	0	0	1	1
Inhalant	0	0	0	0	0
Phencyclidine (PCP)	0	0	0	0	0
Total	**37**	**38**	**54**	**66**	**195**

Table 2.7 shows the breakdown of drug and alcohol testing results for deceased CMV driver. The results show that, for drivers with no detectable alcohol, 40.1% tested positive for another drug. Additionally, for those who had a BAC at or above the legal limit (i.e., BAC ≥ 0.04% for CMV drivers), 47.6% tested positive for an additional drug.

Table 2.7. Drug and alcohol test results for deceased CMV drivers by year

Testing Result	2019	2020	2021	2022	Total
BAC = 0%; No drugs detected	32	30	27	20	109
BAC = 0%; Positive drug test	16	18	21	18	73
BAC < 0.04%; No drugs detected	0	0	0	0	0
BAC < 0.04%; Positive drug test	0	0	0	3	3
BAC ≥ 0.04%; No drugs detected	6	8	2	6	22
BAC ≥ 0.04%; Positive drug test	2	2	7	9	20
Not Reported/Unknown/Not Tested	9	8	16	12	45
Both BAC & drugs either not reported or reported as unknown if tested	*4*	*6*	*11*	*6*	*27*
Both BAC and drugs not tested	*4*	*1*	*5*	*4*	*15*
Incomplete (1 not reported/unknown/not tested)	*0*	*1*	*0*	*2*	*3*

Table 2.8 shows the number of drug classes for which deceased CMV drivers tested positive, broken out by BAC and year. The majority tested negative for both drugs and alcohol (i.e., "BAC = 0% and 0 drug classes"). The results indicate that deceased CMV drivers who tested positive for non-alcohol drugs, mostly tested negative for alcohol (i.e., they consumed non-alcohol drugs only) or they had a BAC at or above the legal limit (i.e., BAC ≥0.04%) and had also consumed other non-alcohol drugs.

Table 2.8. Number of drug classes in deceased CMV drivers by BAC and year

Number of drug classes	BAC=0				BAC < 0.04				BAC ≥ 0.04			
	2019	2020	2021	2022	2019	2020	2021	2022	2019	2020	2021	2022
0 drug classes	32	30	27	20	.	.	.	.	.	.	.	.
1 drug class	10	13	12	10	0	0	0	0	6	8	2	6
2 drug classes	3	3	5	4	0	0	0	2	2	1	5	7
3 drug classes	1	2	3	3	0	0	0	1	0	1	1	1
4 drug classes	2	0	1	0	0	0	0	0	0	0	1	1
5 drug classes	0	0	0	1	0	0	0	0	0	0	0	0
6 drug classes	0	0	0	0	0	0	0	0	0	0	0	0

Figure 2.3 shows the 10 most common alcohol and non-alcohol drug test results found in deceased CMV drivers by year. Focusing specifically on the positive alcohol and/or drug test results, the most common finding was that the deceased CMV driver had a BAC over the legal limit (i.e., BAC ≥ 0.04%). Cannabinoids were the next most common finding. Interestingly, while the number of deceased CMV drivers testing positive for cannabinoids decreased in 2021 with a slight uptick in 2022, the number testing positive for cannabinoids combined with alcohol or other drugs increased. Although the numbers are low, this is a concerning trend that should be monitored. Additionally, similar to the motor vehicle data, there was an increase in the number of results indicating a test was not given or the results were not reported for 2021 and 2022, which needs to be investigated in order to improve data quality.

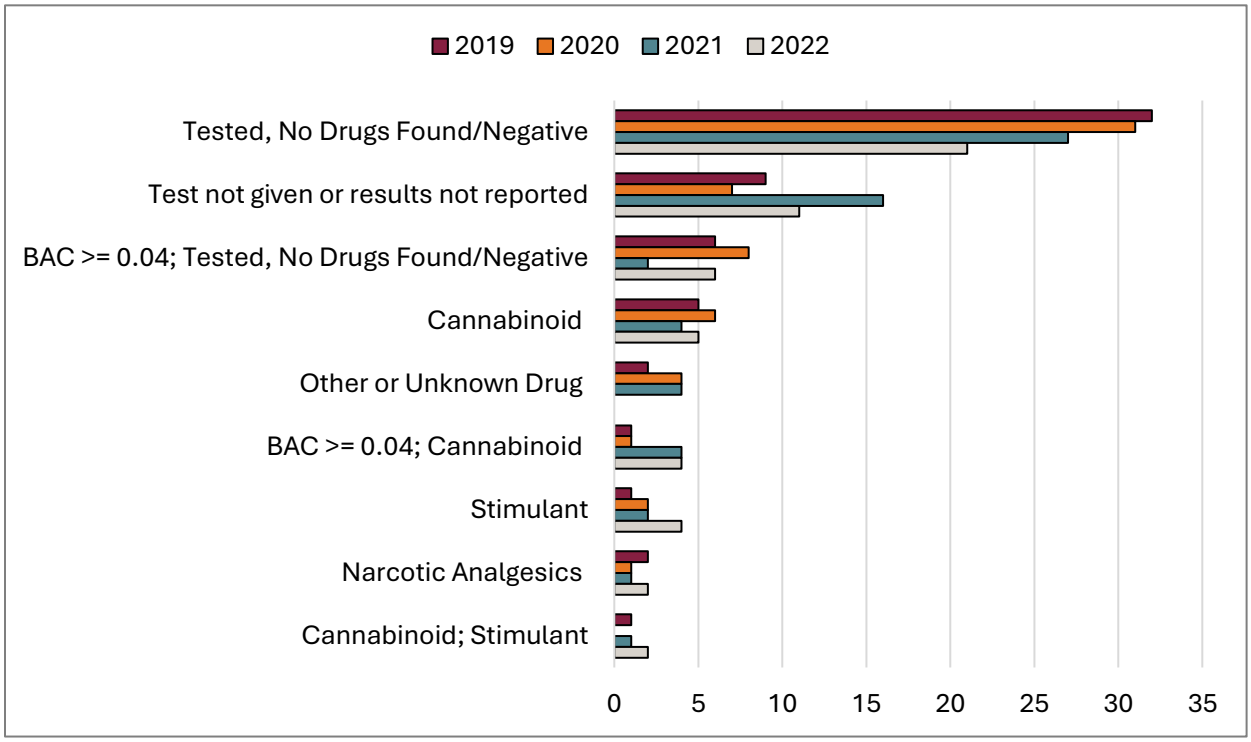

Figure 2.3. Most common drug combinations for deceased CMV drivers by year

Objective 3: Law Enforcement Positions

The goal for Objective 3 was to investigate the number of full-time, sworn-officer positions allotted to each law-enforcement agency and the number of full-time, sworn officers employed by each law-enforcement agency. Data were provided by the Department of State Police, and, unless otherwise noted, all data and related figures and tables in this section pertain to 2023.

Figure 3.1 shows the number and fractions of full-time, law-enforcement officers (LEO) and civilian employees within the Commonwealth of Virginia's 363 law-enforcement agencies. Across these agencies, a total of 26,843 full-time, sworn officers were employed (81% LEOs, 19% Civilian). Because an additional 4,786 sworn vacancies existed, the theoretical full-time allotment was 28,513 individuals in 2023.

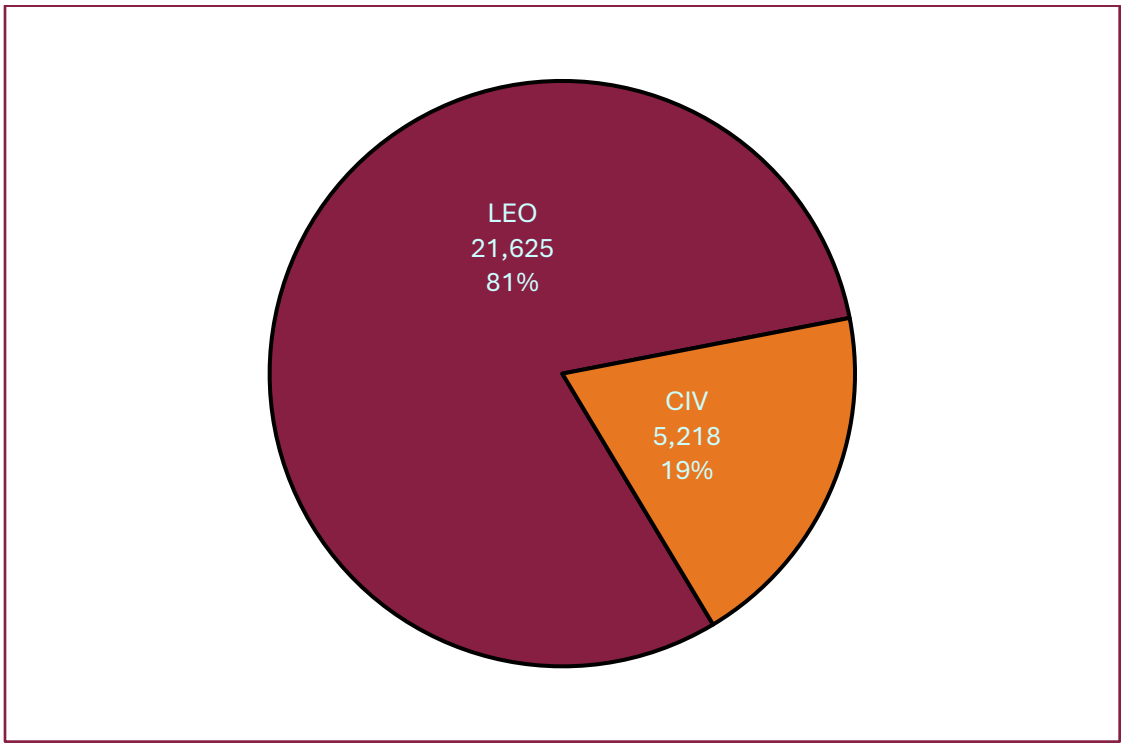

Figure 3.1. Breakdown of full-time law-enforcement officers and civilian employees

Figure 3.2 shows the composition of the top 10 agencies by count. The Virginia State Police employed the largest number of officers in the Commonwealth (1,888, or 8.0% of the state total; 62 civilians, or 12.7% of the state total). Collectively, the top 10 agencies employed 34.1% of the state's LEO's and 35.1% of the state's civilian staff. See Appendix A for a full list by agency.

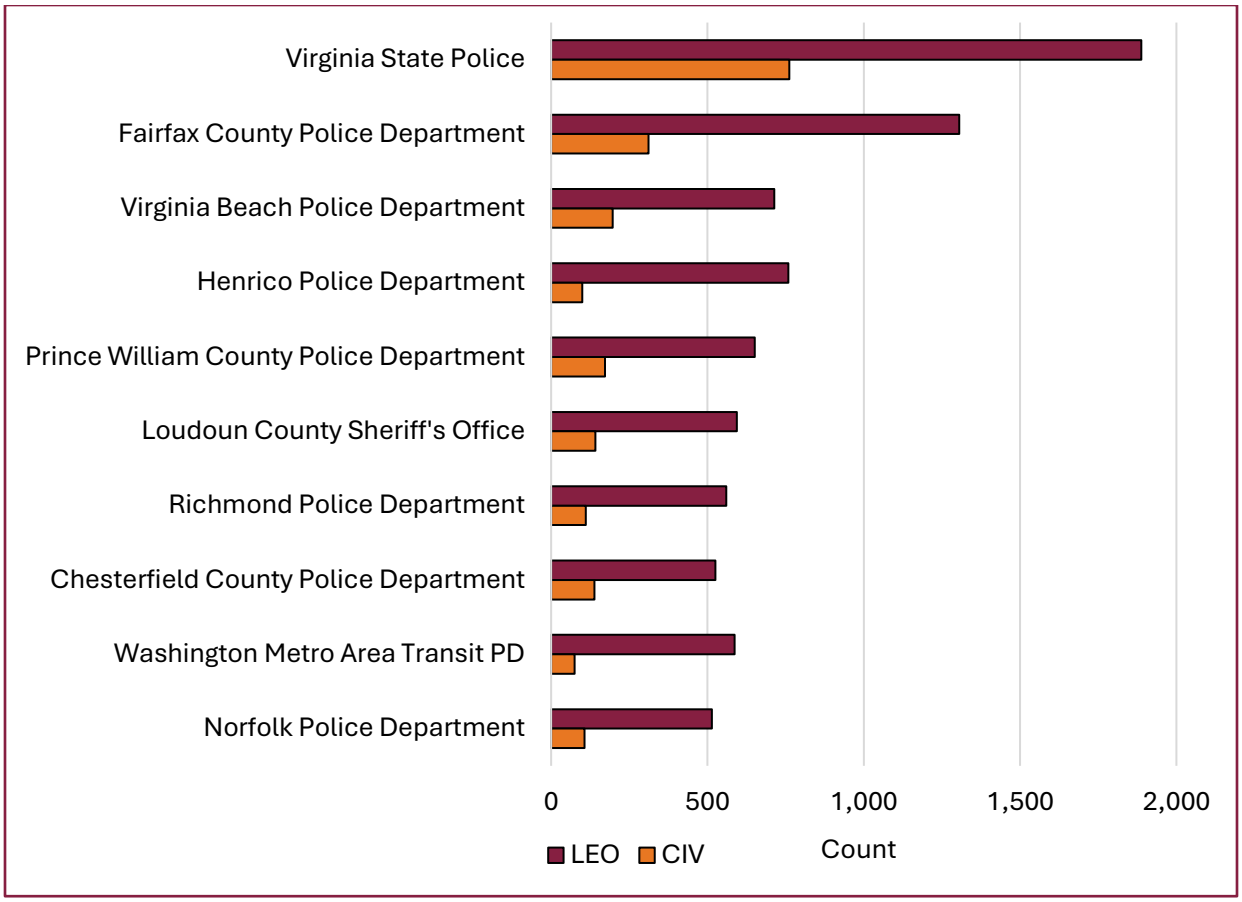

Figure 3.2. Number of law-enforcement officers and full-time civilian employees by agency (top 10)

Objective 4: Statute Violations

The goal for Objective 4 was to investigate the number of arrests for violations of various statutes (viz., §§18.2-36.1, 18.2-51.4, 18.2-266, 18.2-266.1, 18.2-268.3, 18.2-270.1, 18.2-272, 46.2-341.24, 46.2-341.26:3, 46.2-341.29, and 46.2-341.31). Data were provided by the Department of State Police, and, unless otherwise noted, all data and related figures and tables in this section pertain to 2019–2023.

Arrests

Table 4.1 shows the number of arrests over the 5-year period for each of the statutes.[3] The table entries were rank ordered by number of arrests. As such, the most frequently cited statute was §18.2-266 (85.7% of citations), followed by §18.2-272 (7.5% of citations).

Table 4.1. Arrests by statute

Statute	Description	Number of Arrests	Percent of Arrests
§18.2-266	Driving Motor Vehicle While Intoxicated	101,262	85.7
§18.2-272	Driving After Forfeiture of License	8,880	7.51
§18.2-268.3	Refusal of Tests; Penalties; Procedures	6,277	5.31
§18.2-266.1	Persons Under 21 Driving After Consuming Alcohol	840	0.71
§18.2-51.4	Maiming, etc. of Another Resulting from Driving While Intoxicated	382	0.32
§18.2-270.1	Ignition Interlock System	219	0.19
§18.2-36.1	Conduct Punishable as Involuntary Manslaughter	194	0.16
§46.2-341.24	Driving a CMV While Intoxicated	105	0.09
§46.2-341.26:3	Refusal of Tests; Issuance of Out-Of-Service Orders; Disqualification	5	0
§46.2-341.29	Penalty for Driving CMV with BAC ≥ 0.04%	.	.
§46.2-341.31	Driving CMV with Any Alcohol in Blood	.	.

Figure 4.1 shows the underlying, yearly composition of the top three contributors to the table shown immediately above. The statutes "Driving Motor Vehicle While Intoxicated" (§18.2-266) and "Refusal of Tests; Penalties; Procedures" (§18.2-268.3) showed a small decline over the studied years. "Driving After Forfeiture of License "(§18.2-272) stayed largely unchanged.

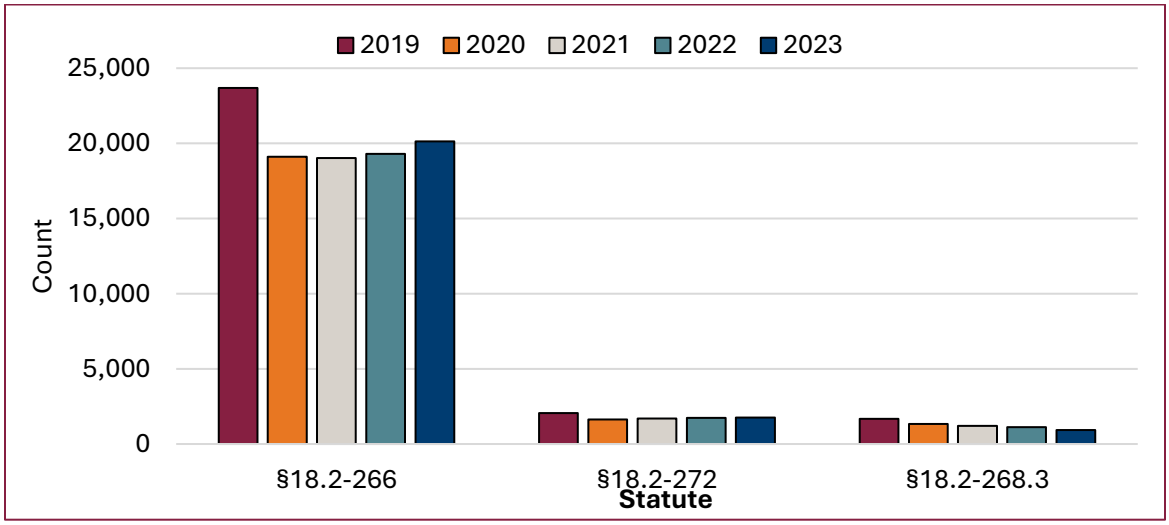

Figure 4.1. Number of arrests by statute violation; top-contributing statutes

[3] The data for statutes §§46.2-341.29 and 46.2-341.31 were not available in the dataset for analyses.

Figure 4.2 extends the composition assessment for the other statutes (with non-zero data). Arrests for those "Persons Under 21 Driving After Consuming Alcohol" (§18.2-266.1) and "Maiming, etc. of Another Resulting from Driving While Intoxicated" (§18.2-51.4) showed year-over-year increases over the studied years.

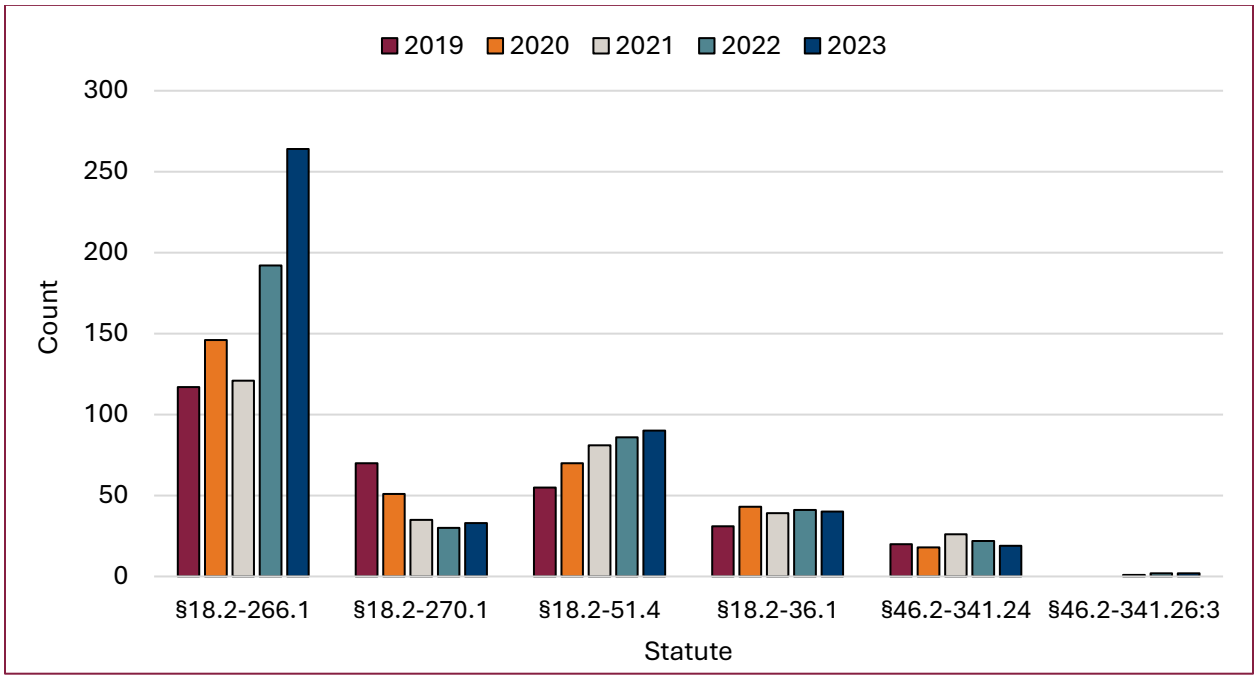

Figure 4.2. Number of arrests by statute violation; other statues

Figure 4.3 shows the yearly composition of arrests for statute violations broken down by substance categories: "Alcohol," "Drugs," and "Alcohol & Drugs." The results indicate an upward trend for 2020–2023, with an initial dip after 2019. However, drug-related arrests showed a year-over-year increase over the 5-year period.

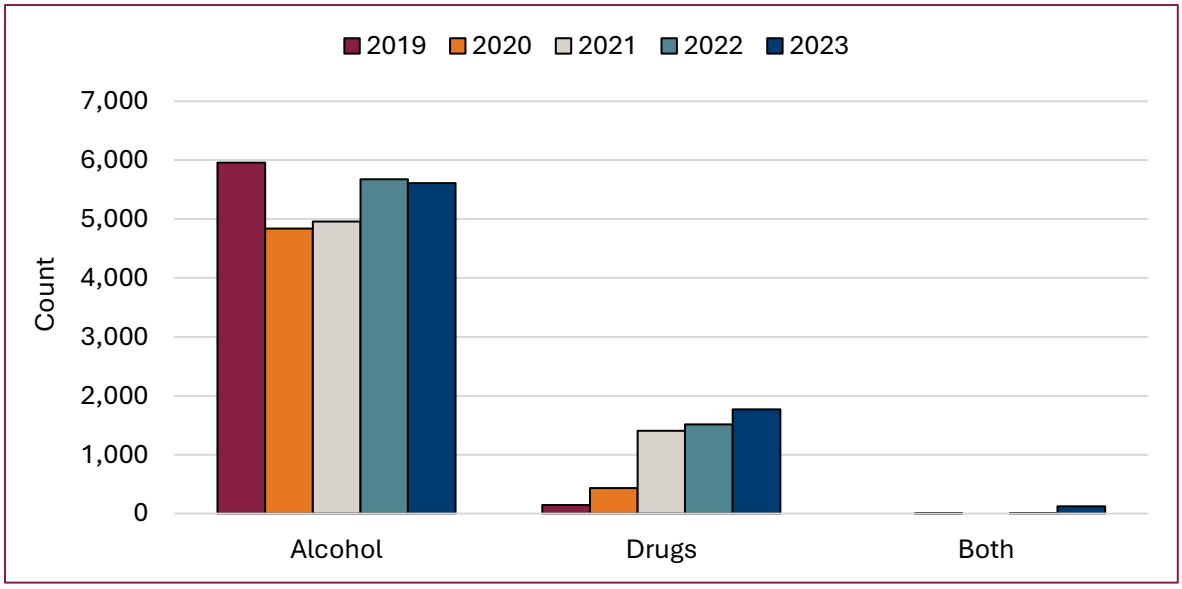

Figure 4.3. Alcohol and/or drug-related arrests by year

Figure 4.4 shows the contributions towards total arrests by agency over the studied years, but the figure is limited to the top 10 contributors. The highest percentage of arrests were completed by the Virginia State Police Headquarters (11.2%), followed by the Virginia Beach Police Department (7.6%). See Appendix B for a complete table showing the total arrests for the top 100 agencies.

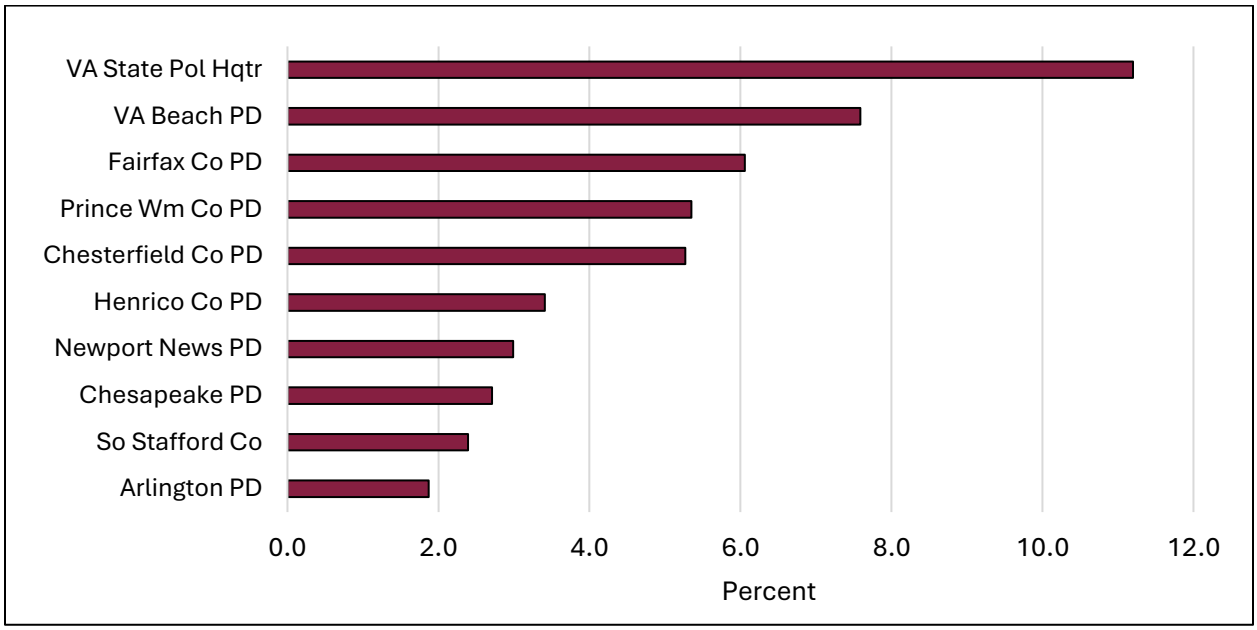

Figure 4.4. Percent of arrests by agency; top 10 contributors

Figure 4.5 shows the contributions towards total arrests by jurisdiction over the studied years, but the figure is limited to the top 10 contributors. The highest percentage of arrests took place in Fairfax County (8.1%) and Virginia Beach (7.8%). See Appendix C for a complete table showing data for all 138 jurisdictions.

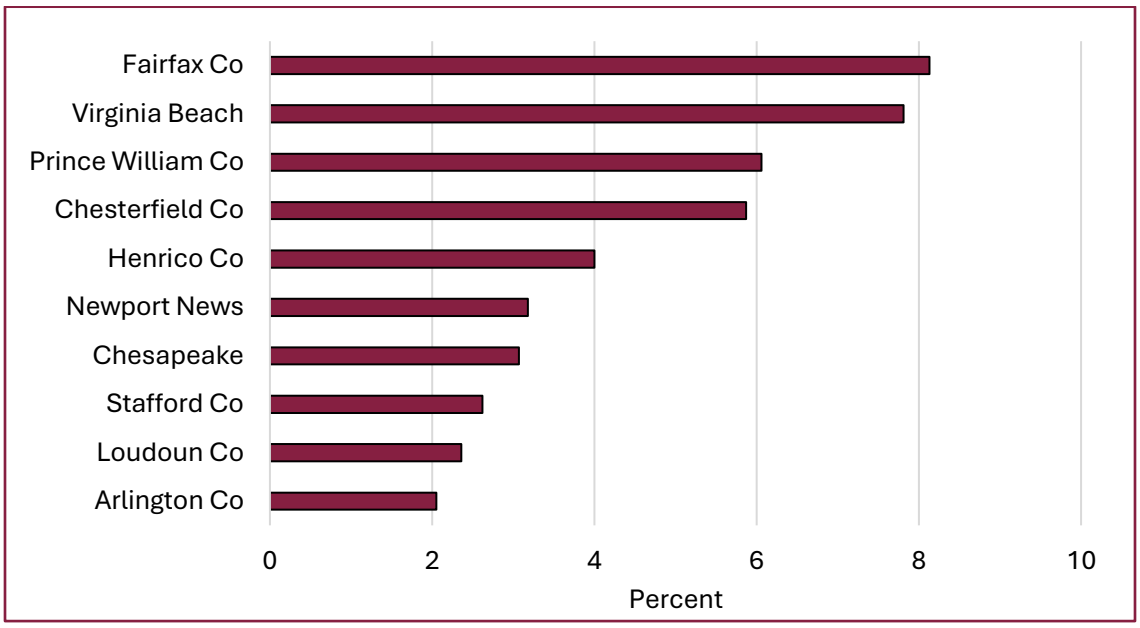

Figure 4.5. Percent arrests by jurisdiction; top 10 contributors

Objective 5: Charges and Convictions

The goal for Objective 5 was to investigate the number of charges and convictions for violations of §§18.2-36.1, 18.2-51.4, 18.2-266, 18.2-266.1, 18.2-268.3, 18.2-270.1, 18.2-272, 46.2-341.24, 46.2-341.26:3, 46.2-341.29, and 46.2-341.31 across all district and circuit courts. Data were provided by the Executive Secretary of the Supreme Court of Virginia, and, unless otherwise noted, all data and related figures and tables in this section pertain to 2019–2023.

Figure 5.1 shows the number of charges by statute. The figure's basis was 150,932 individuals charged with a code relevant to either DUI or Driving Under the Influence of Drugs (DUID).[4] The overwhelming majority of charges were attributable to statute "DWI: alcohol or drug," with 106,576, or 70.6% of the total count of charges. The second most common statute was "a second DWI or refusal of breathalyzer," with 24,127, or 16.0% of cases. Collectively, those DWIs accounted for an overwhelming 86.6% of all statues charged (i.e., DWI/[DWI+DUID]).

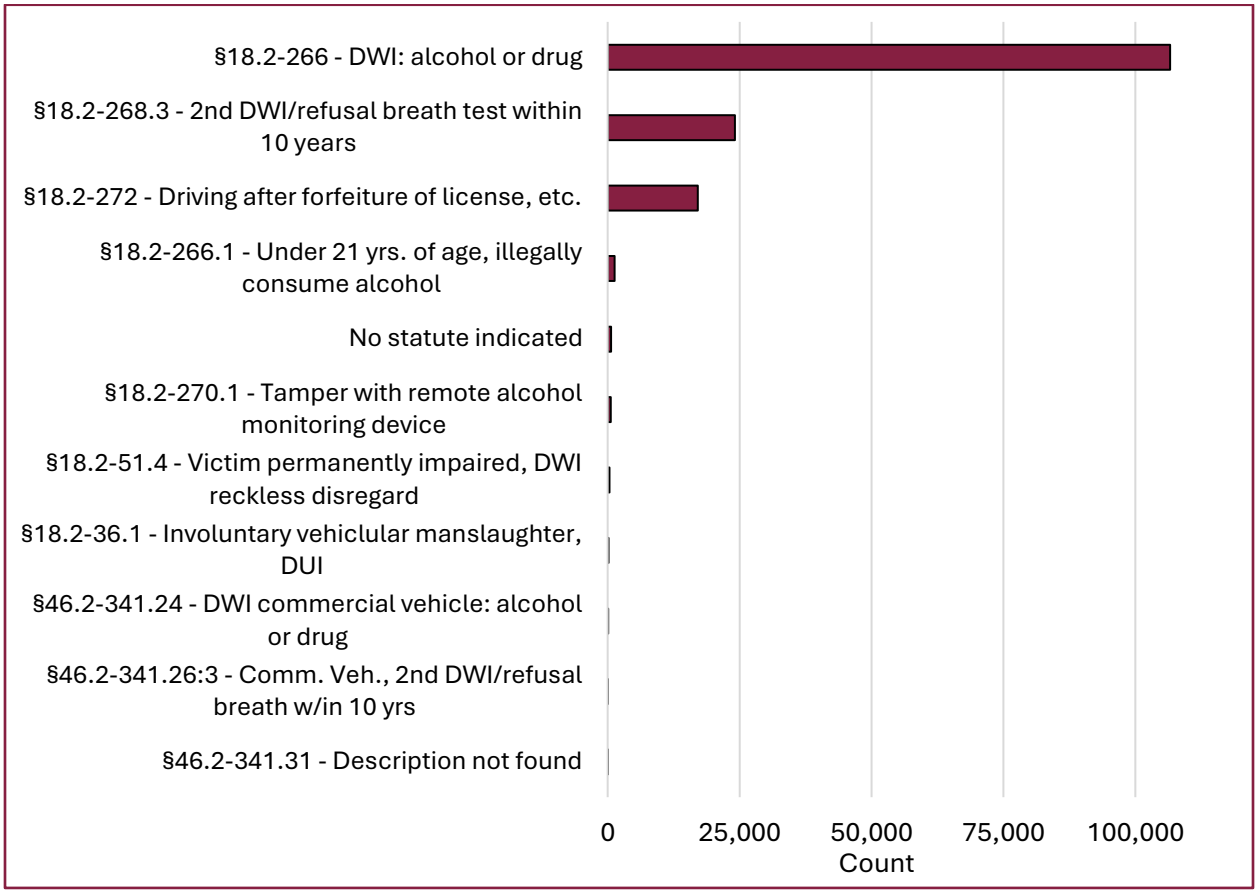

Figure 5.1. Number of charges by statute

Figure 5.2 shows the charges by statute and year. When evaluating the charges by year, 2019 and 2023 showed small peaks for §18.2-266. Excepting those two small peaks, year-over-year data

[4] In Virginia, the terms DUI (Driving Under the Influence) and DWI (Driving While Intoxicated) are interchangeable; they pertain to operating a vehicle while impaired by alcohol or drugs. However, the term DUID (Driving Under the Influence of Drugs) is specific to impairment caused by illegal/prescription/over-the-counter drug.

remained relatively consistent; DWI-related statutes (§§18.2-266 and 18.2-268.3) and "Driving after forfeiture of license" (§18.2-272) were the most common.

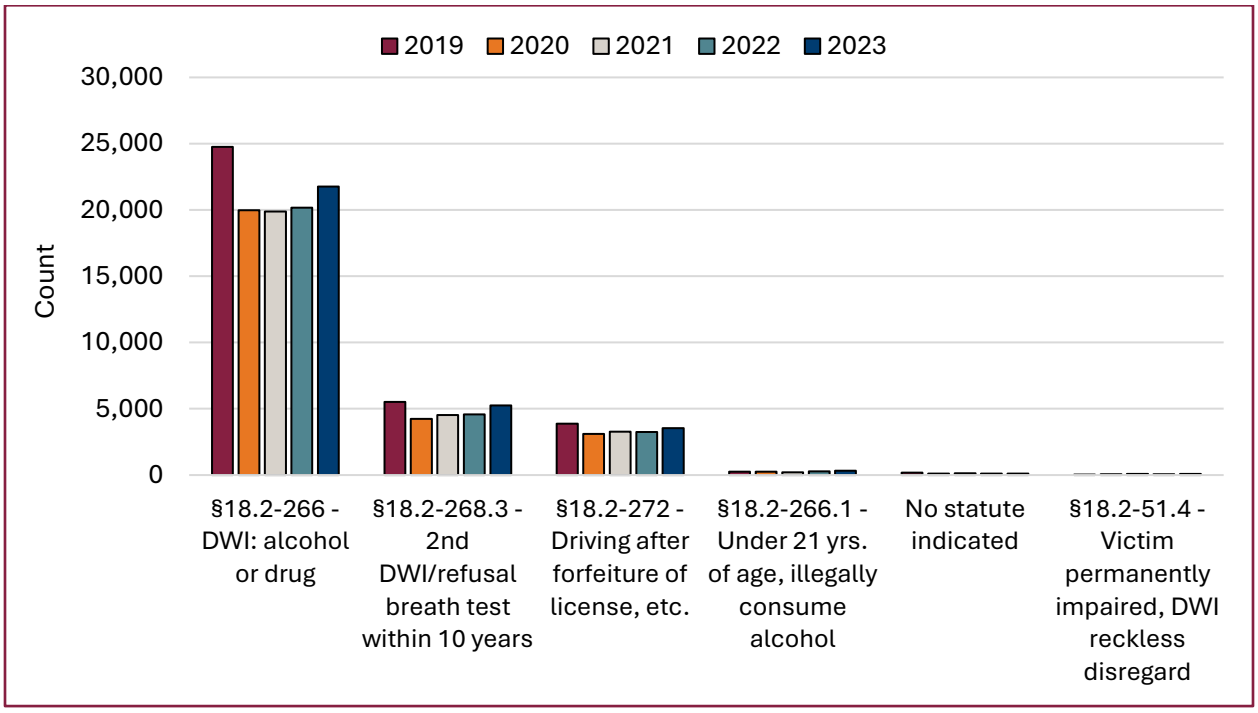

Figure 5.2. Charges by statute and year

Figure 5.3 shows the number of charges by general district court, but with the figure limited to the top 10 contributors. Fairfax County had the highest number of charges (12,440, 8.2%), followed by Virginia Beach (11,426, 7.6%) and Prince William (10,620, 7.0%). Collectively, these three district courts accounted for 22.9% of all charges in Virginia. Appendix D contains a complete list of charges by district court.

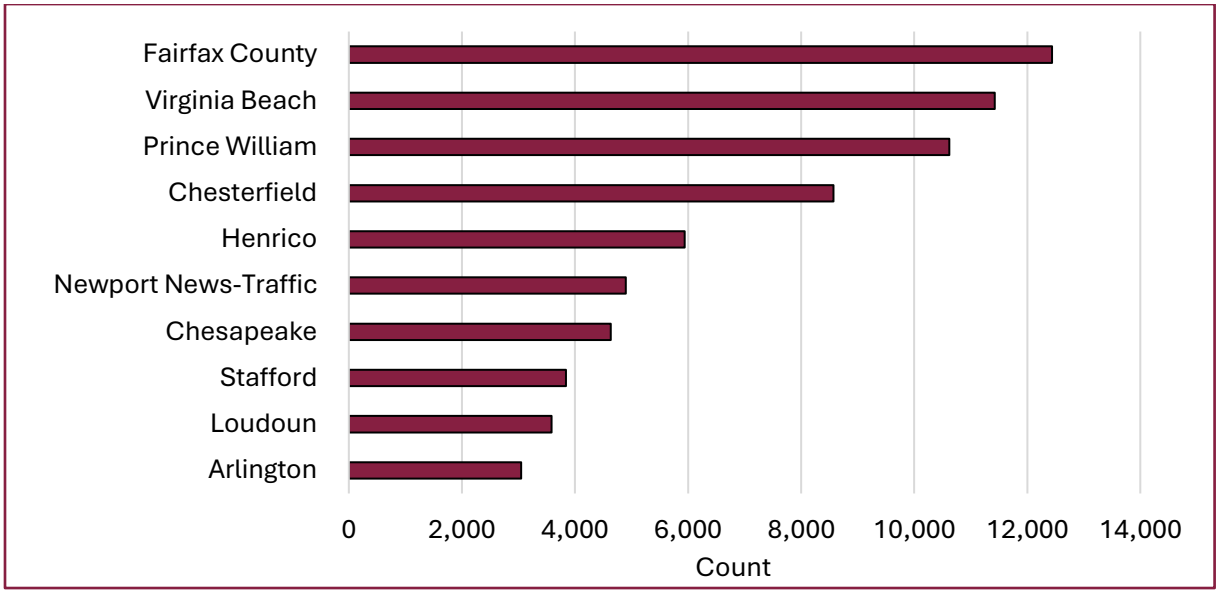

Figure 5.3. Charges by general district court; top 10 contributors

Table 5.1 shows the number of charges by district court and year. The year 2019 showed a spike in Fairfax County (3,224), Virginia Beach (2,808), Prince William (2,581), Henrico (1,688), and Loudoun (997). Appendix E contains a full list of charges by district court and year.

Table 5.1. Charges by general district court and year

Court Name	2019	2020	2021	2022	2023	Total
Fairfax County	3,224	2,174	2,220	2,247	2,575	12,440
Virginia Beach	2,808	1,927	1,897	2,300	2,494	11,426
Prince William	2,581	2,068	2,060	1,823	2,088	10,620
Chesterfield	1,581	1,560	1,758	1,970	1,701	8,570
Newport News-Traffic	995	739	839	967	1,359	4,899
Henrico	1,688	1,161	1,000	1,015	1,074	5,938
Loudoun	997	551	557	683	796	3,584
Stafford	808	764	760	728	781	3,481
Chesapeake	990	974	1,063	913	695	4,635
Arlington	605	525	617	685	616	3,048

Figure 5.4 shows the distribution of dispositions for the studied years. Therein, *guilty in absentia* was the most common (94,667, 62.7%), followed by *nolle prosequi*[5] (28,048, 18.6%). Collectively, these two outcomes accounted for 81.3% of all state dispositions.

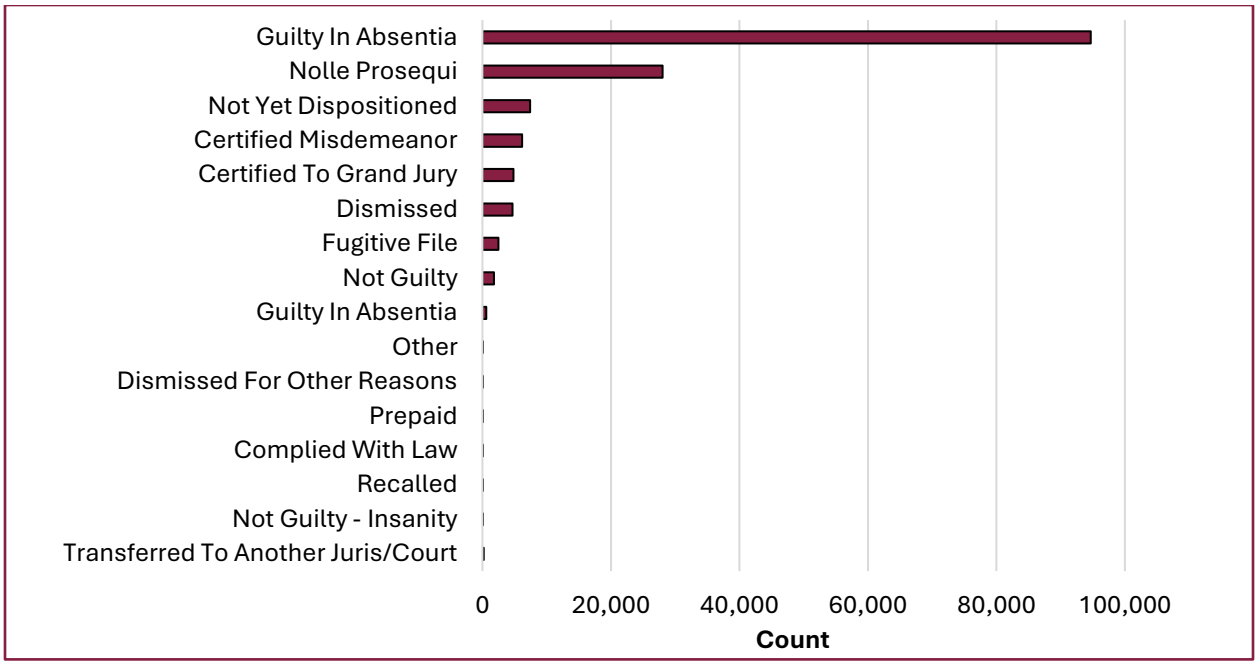

Figure 5.4. Distribution of dispositions

Table 5.2 shows the distribution of dispositions by year. There was a downward trend in *guilty, dismissed*, *nolle prosequi*, *certified to grand jury*, and *guilty in absentia* outcomes. Additionally, there was an upward trend in *not yet dispositioned* and *fugitive to file* outcomes over the studied period.

[5] Nolle prosequi is essentially a dismissal of charges by the prosecution.

Table 5.2. Distribution of dispositions by year

Disposition	2019	2020	2021	2022	2023	Total
Guilty	23,883	18,348	18,266	18,648	15,522	94,667
Not Yet Dispositioned	58	54	69	317	6,936	7,434
Nolle Prosequi	6,478	5,392	5,750	5,495	4,933	28,048
Certified Misdemeanor	1,131	1,234	1,277	1,286	1,224	6,152
Certified To Grand Jury	1,138	953	980	927	838	4,836
Fugitive File	418	452	427	499	692	2,488
Dismissed	1,111	1,029	998	895	659	4,692
Not Guilty	444	340	327	364	305	1,780
Guilty In Absentia	119	149	137	89	87	581
Transferred To Another Juris/Court	45	37	43	45	27	197
Complied With Law	2	1	0	0	3	6
Prepaid	1	0	0	5	2	8
Dismissed For Other Reasons	3	9	4	1	1	18
Not Guilty - Insanity	1	0	0	0	0	1
Other	13	4	4	1	0	22
Recalled	1	1	0	0	0	2
Total	**34,846**	**28,003**	**28,282**	**28,572**	**31,229**	**150,932**

Amended Charges

Figure 5.5 shows the number of amended charges by statute group over the studied years. A higher-level organizational schema was created by collapsing across statute subgroups (e.g., statute subgroups A and B of §18.2-266 were collapsed into one group). The majority of specific statutes and statute groups were not amended (88.1%). The figure indicated that for those with an amended charge, the most common was statute grouping §18.2-266 (16,734, 93.5%). Other amended charges included statute groups §18.2-272 (724, 4.0%) and §18.2-266.1 (228, 1.0%).

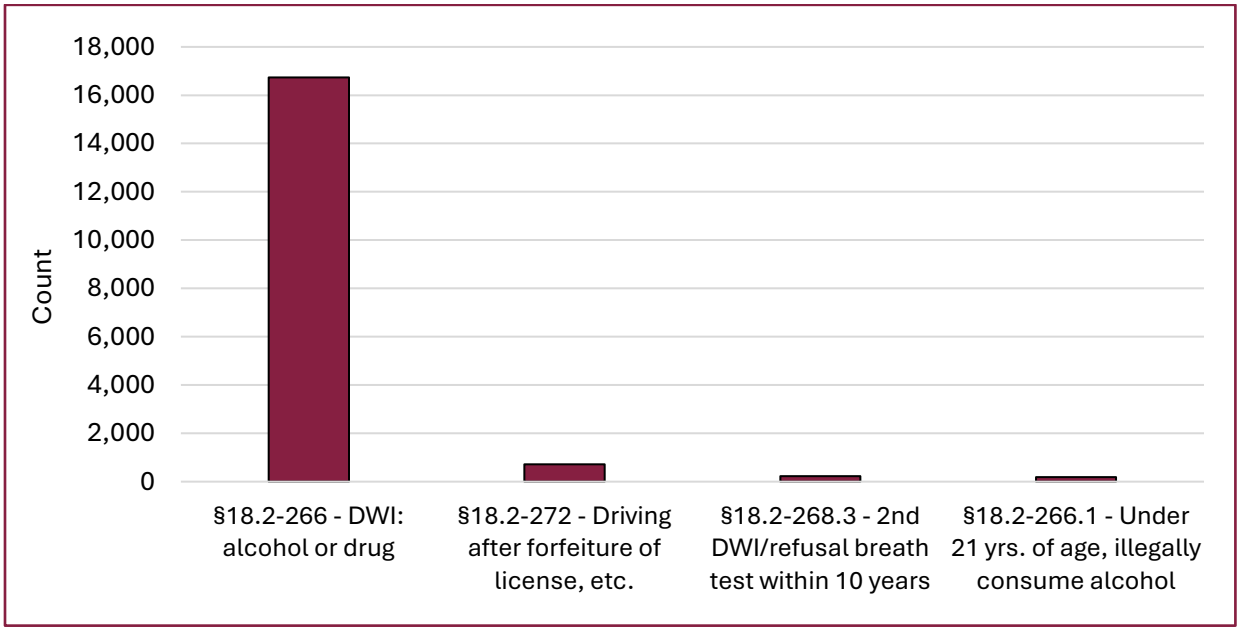

Figure 5.5. Amended charges by statute group

Figure 5.6 shows the amended charges broken out by year. Therein, a slight downward trend was visible from 2019–2023 for statute 18.2-266.

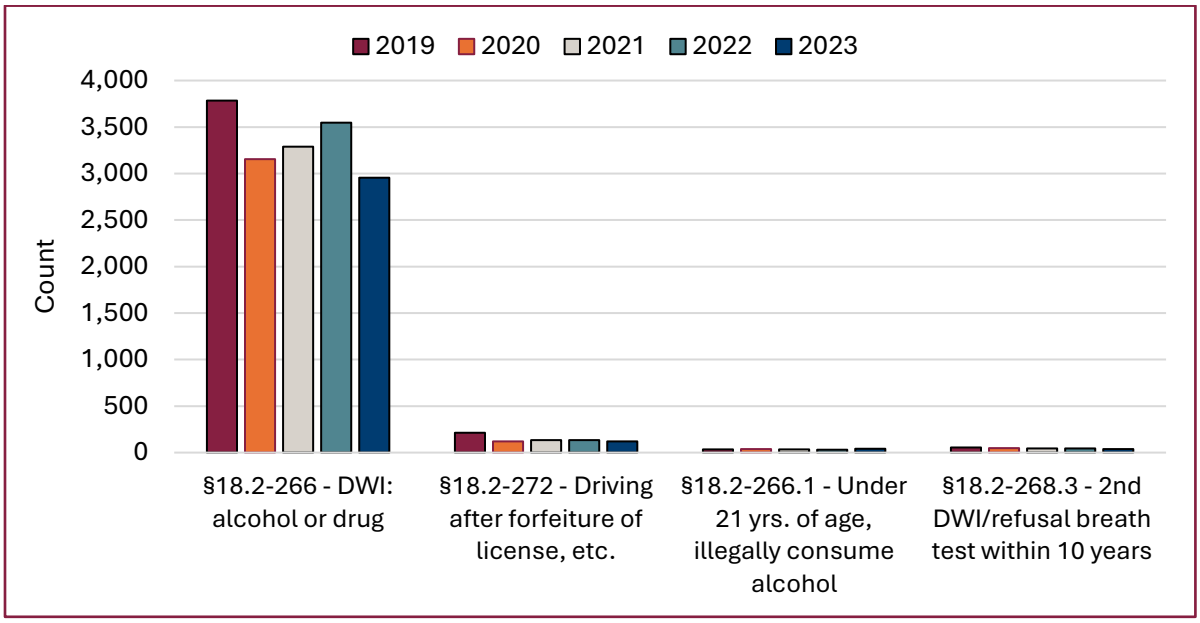

Figure 5.6. Amended charges by statute and year

Processing Time

Table 5.3 shows the average time taken from the point of offense to filing, and from filing to disposition. A large discrepancy existed in average time, ranging from 2 days to file up to 102 days to file depending on the statute. However, once charges were filed, the time to disposition remained relatively consistent at around 155 days.

Table 5.3. Average days from offense to file and from file to disposition by statute

Statute	Offense to File (days)	File to Disposition (days)
no data	10	169
§18.2-266: DWI: alcohol or drug	5	155
§18.2-266.1: Under 21 yrs. of age, illegally consume alcohol	5	146
§18.2-268.3: Refusal of breath test, 2nd DWI/refusal within 10 yrs	4	156
§18.2-270.1: Tamper with remote alcohol monitoring device	102	146
§18.2-272: Driving after forfeiture of license, etc.	11	156
§18.2-36.1: Involuntary manslaughter, under the influence - vehicular	40	147
§18.2-51.4: Victim permanently impaired, DWI vehicle with reckless disregard	51	140
§46.2-341.24: DWI CMV: alcohol or drug	6	150
§46.2-341.26:3: CMV - Refusal of breath test, 2nd DWI/refusal within 10 years	4	142
§46.2-341.31: Driving CMV with any alcohol	2	172

Objective 6: Incarceration Sentences

The goal for Objective 6 was to investigate the number of adults sentenced to a term of incarceration for violations of §§18.2-36.1, 18.2-51.4, 18.2-266, 18.2-266.1, 18.2-268.3, 18.2-270.1, 18.2-272, 46.2-341.24, 46.2-341.26:3, 46.2-341.29, and 46.2-341.31, including the active period of incarceration imposed and the length of time that the person was incarcerated.

Data were provided by the Compensation Board, while the Department of Corrections conducted the analysis in house and provided a summary of the results. Unless otherwise noted, all data and related figures and tables in this section pertained to 2019–2023. Results from the two organizations reflect different underlying datasets and should not be compared directly.

Commitments

A total of 46,487 adults were sentenced for violations of DUI statutes over the studied years. Therein, 2019 marked a peak with 13,024 sentences (28.0%). For each of the subsequent years, the annual counts remained stable at approximately 8,300 (Figure 6.1).

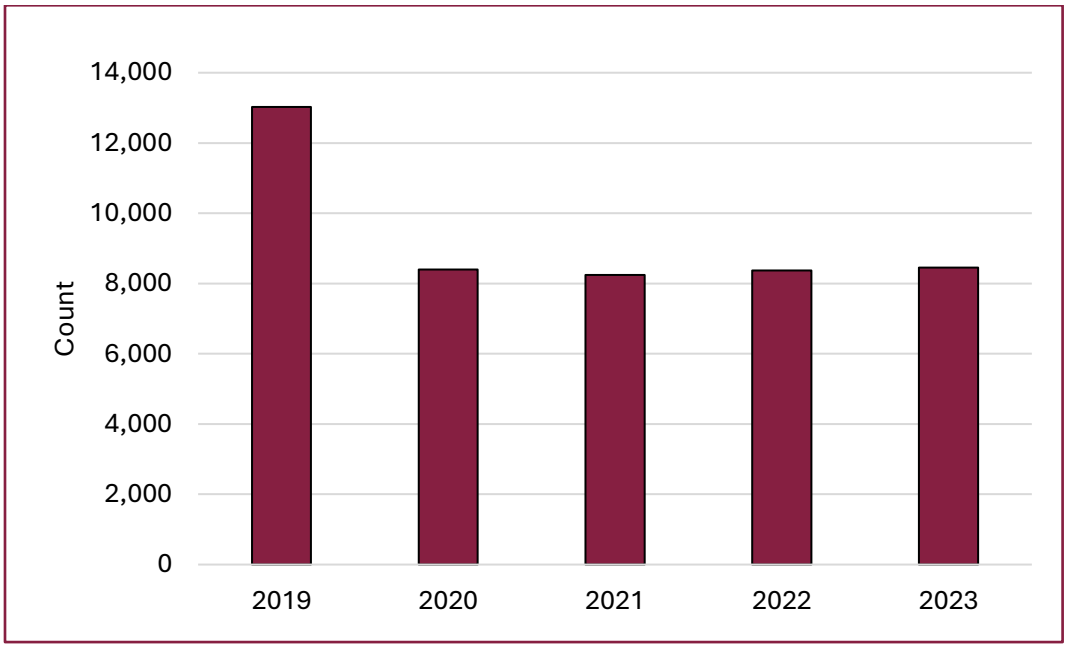

Figure 6.1. Adults sentenced for DUI statute violations by year

Figure 6.2 shows the results of another analysis focused on the number of statutes to which a person was sentenced. Overall, 39,171 (84.3%) were sentenced to a single statute, whereas 5,529 (11.9%) were sentenced to two different statutes. An additional 53 individuals were sentenced to *six or more* statutes.

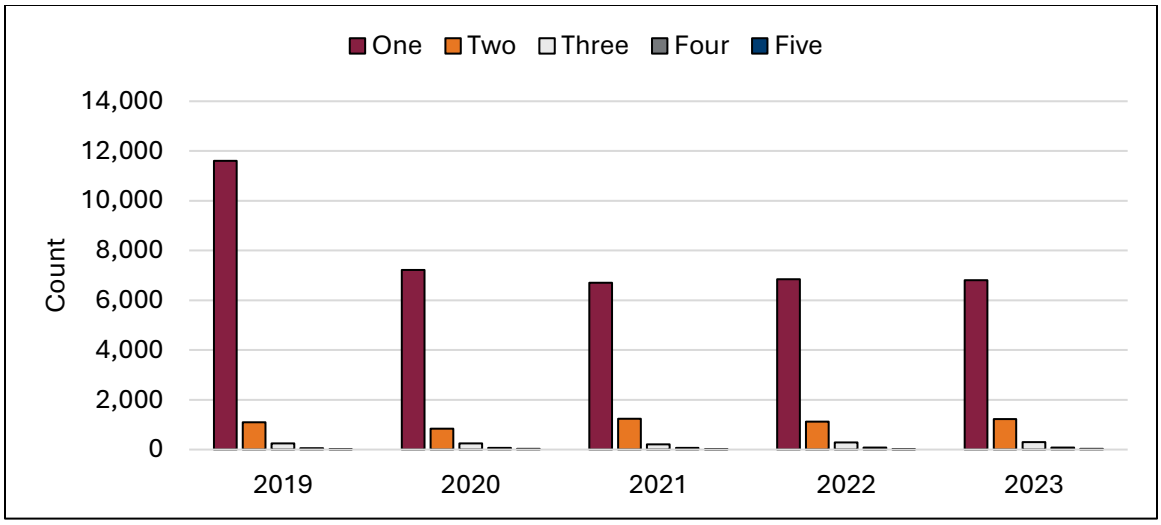

Figure 6.2. Number of statutes to which each person was sentenced

Figure 6.3 shows the number of adults sentenced by statute and year, but the top ten sentencing statutes are presented. Therein, the Virginia Crime Code (VCC) — standards which facilitate categorization/tracking of offenses — was assigned for each separate offense for a given sentencing event.[6] The most common sentence, regardless of year, was for violations of §18.2-266 (i.e., "Driving While Intoxicated"). In general, 2019 tended to have the highest count — regardless of statute and heading — over the studied years.

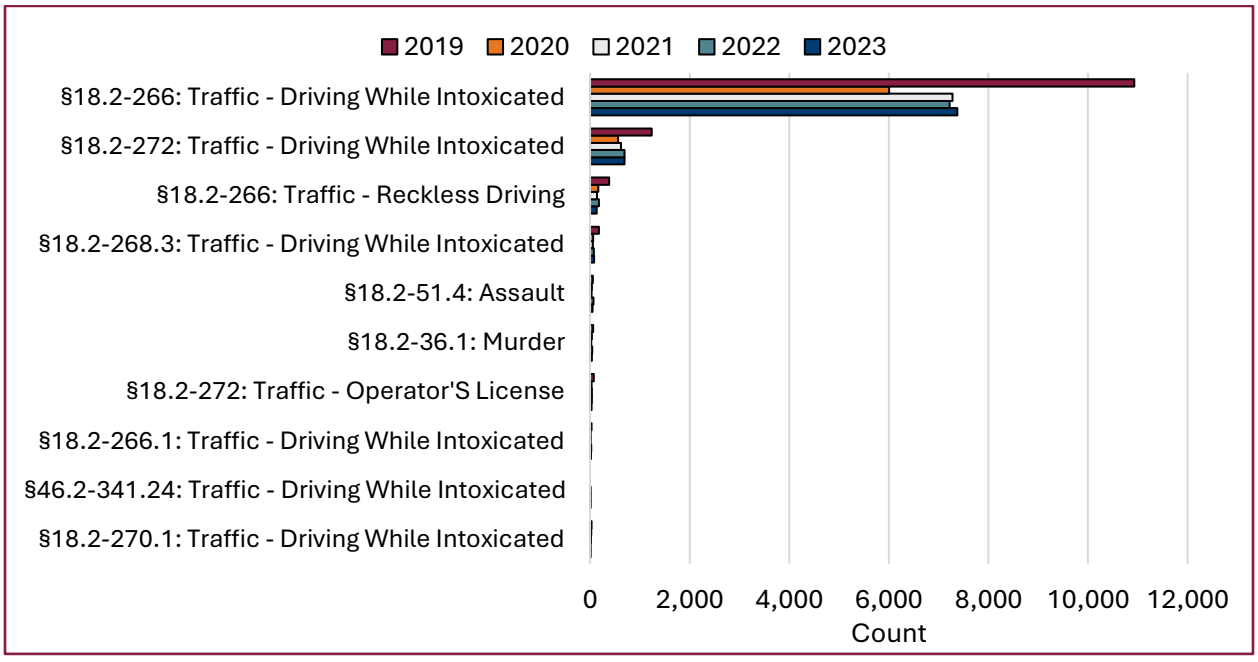

Figure 6.3. Count of adults sentenced by statute/heading and year

[6] In general, there is one VCC per section in the attendant Code of Virginia (e.g., for DUI statutes, one VCC would be assigned to the DUI offense). Moreover, a "sentenced heading" pertains to the categorization of the sentence, based on the VCC (e.g., if an individual is sentenced for a specific crime, that crime would have a corresponding VCC). The heading serves as an identifier.

Figure 6.4 shows the results of the sentencing by statue and subheading, limited to the top 10. The most common sentencing was for DUI first conviction, followed by second conviction, and license suspension. In general, 2019 tended to have the highest count, regardless of statue and subheading.

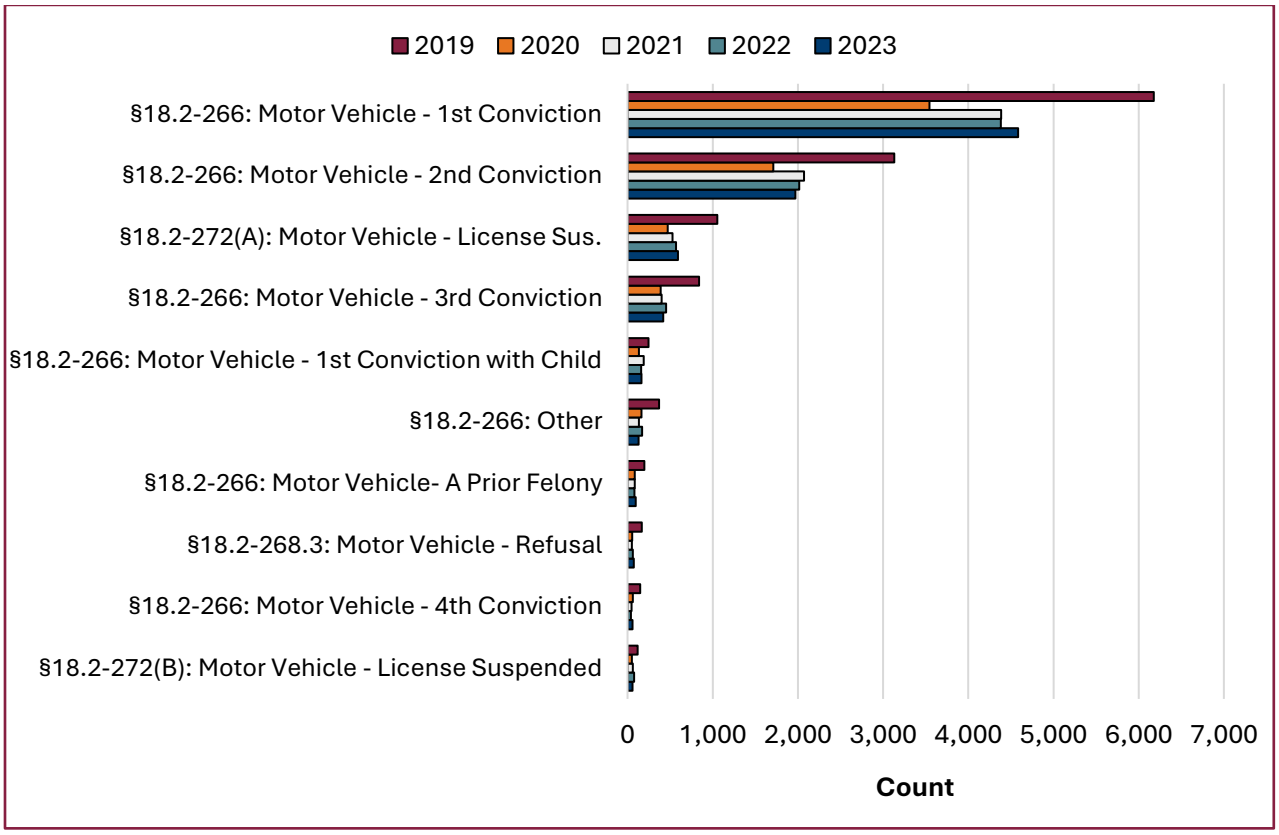

Figure 6.4. Adults sentenced by statute/sub-heading and year

All New Commitments

Table 6.1 contains the number of individual inmates who had one or more convictions for the DWI offenses of interest, and who were sentenced during the specified year. The table's bases involved consideration of state-responsible, new-court commitments (SR NCC) as reported by the Department of Corrections, where "commitments" refers to new sentences/legal obligations for which the state is responsible.

In 2019, the number of SR NCCs with one or more convictions for one of the specified DWI offenses was 716. However, between 2020 and 2023, this number ranged between 540 and 577. The average total imposed sentence ranged from a low of 34.1 months in 2021 to a high of 38.4 months in both 2019 and 2023; the median remained steady at 24.0 to 24.1 months. The average expected length of stay (LOS) varied from year to year, and it ranged from a low of 26.7 months in 2021 to a high of 32.2 months in 2019. The median LOS decreased every year from 2020, reaching 17.8 months in 2023. Also, it was noted that enhanced earned sentence credits were introduced after 2019.

Table 6.1. New court commitments with one or more convictions for specified DWI offenses

New Commit Year	Count	Total Imposed Sentence (months)		Total Expected LOS (months)	
		Mean	Median	Mean	Median
2019	716	38.4	24.0	32.3	20.6
2020	577	35.0	24.0	29.0	20.7
2021	540	34.1	24.0	26.7	19.4
2022	567	37.9	24.0	29.3	18.6
2023	557	38.4	24.1	28.3	17.8

DWI New Commitments

Table 6.2 contains the number of individual inmates sentenced to an SR term of incarceration during the specified year. The table pertains to those who had convictions for DWI offenses only.

The number of SR NCCs with only convictions for the specified DWI offenses decreased from 2019 through 2021 before increasing in each of the last 2 years. The average (mean) for the total imposed sentence varied each year from 2019 to 2021, and it has since increased by almost 10 months over the last 2 years, from 26.7 months in 2021 to 36.2 months in 2023. The average total expected LOS increased by almost 5 months over the last 4 years, from 19.5 months in 2020 to 25.9 months in 2023.

Table 6.2. New court commitments with only convictions for DWI offenses

New Commit Year	Count	Total Imposed Sentence (months)		Total Expected LOS (months)	
		Mean	Median	Mean	Median
2019	202	25.1	15.0	20.8	12.5
2020	177	23.2	15.0	19.5	13.6
2021	162	26.7	15.0	20.8	12.6
2022	168	33.2	16.5	24.5	12.2
2023	191	36.2	18.0	25.9	13.1

DWI New Commitments Plus Additional Offenses

Table 6.3 contains the number of individual inmates sentenced to an SR term of incarceration during the specified year. The table pertains to those who had one or more convictions for the specified DWI offenses with one or more convictions for other offenses.

The number of SR NCCs with convictions for one or more of the specified DWI offenses in addition to other offenses decreased from 2019 through 2021, and it has varied each year since. The average total imposed sentence decreased from 2019 through 2021 before increasing to 39.9 months in 2022 and leveling off at 39.6 months in 2023. The average LOS decreased through 2021 before stabilizing in 2022 and 2023.

Table 6.3. New court commitments with one or DWI offenses plus other offenses

New Commit Year	Number	Total Imposed Sentence (months)		Total Expected LOS (months)	
		Mean	Median	Mean	Median
2019	514	43.7	27.3	36.8	23.1
2020	400	40.3	26.1	33.2	23.1
2021	378	37.4	26.6	29.2	22.2
2022	399	39.9	26.3	31.3	20.5
2023	366	39.6	26.2	29.6	19.6

DWI as Most Severe Offense

Table 6.4 presents the number of individual inmates sentenced to an SR term of incarceration during the specified year. The table pertains to those who, for the time of incarceration, had a DWI offense listed as their most serious offense (MSO). These individuals may have convictions for DWI offenses alone or they may have convictions for other offenses.

The number of SR NCCs with a DWI offense listed as their MSO decreased from 319 in 2019 to 199 in 2022 before rising to 219 in 2023. The mean total imposed sentence has decreased by almost 2 months during this time, from 24.0 months to 22.2 months. The average expected LOS decreased from 2019 to 2023 from 20.5 months in 2019 to 15.8 months in 2023.

Table 6.4. New court commitments with DWI offense as most serious offense

New Commit Year	Number	Total Imposed Sentence (months)		Total Expected LOS (months)	
		Mean	Median	Mean	Median
2019	319	24.0	18.0	20.5	14.9
2020	240	22.9	18.0	19.6	15.4
2021	218	22.3	16.0	18.1	14.1
2022	199	22.6	18.0	17.1	13.2
2023	219	22.2	18.0	15.8	12.9

Commitments by DWI Offense

Table 6.5 and Table 6.6 contain the number of inmates sentenced to an SR term of incarceration during the year indicated who had one or more convictions for the specific DWI offense listed. If an inmate had multiple convictions for the same DWI offense in the same year, the inmate was counted only one time for that offense in that year. If an inmate had convictions for the same DWI offense in multiple years, the inmate was counted one time in each year they were convicted. If an inmate had convictions for different DWI offenses in the same year, the inmate was counted one time for each offense in that year. If an inmate had convictions for different DWI offenses in multiple years, the inmate was counted one time for each offense in each fiscal year they were convicted.

For each of the years of interest, the seven VCCs detailed below were the most prominent DWI offenses for which the SR NCCs with DWI convictions were convicted.

1. DWI-5449-F6 (DWI: 3rd Offense ≥ 5 years but < 10 years) = 12% of DWI offenses
2. DWI-5493-F6 (Prior DWI Manslaughter, Assault or Felony DWI) = 10-13% of DWI offenses
3. DWI-5413-M1 (DWI: 1st Offense) = 9-12% of DWI offenses
4. DWI-5450-F6 (DWI: 3rd Offense within 5 years) = 8-10% of DWI offenses
5. DWI-5448-S9 (DWI: 2nd Offense within 5 years) = 5-9% of DWI offenses
6. DWI-5406-F6 (DWI: 4th or Subsequent Offense within 10 years) = 5-8% of DWI offenses
7. DWI-5407-M1 (Driving After Forfeiture of License) = 5-8% of DWI offenses

Table 6.5. New court commitments with one or more convictions for specified DWI offenses

VCC	Description	FY19	FY20	FY21	FY22	FY23
ASL-1339-F4	Perm Maiming Another While DWI{ASL-1339-F4}{18.2-51.4(B)}	0	1	17	23	22
ASL-1339-F6	Assault: Maiming Another While Dwi{ASL-1339-F6}{18.2-51.4(A)}	30	15	8	9	3
ASL-1360-F6	DWI With Serious Injury{ASL-1360-F6}{18.2-51.4(A)}	0	1	12	19	19
DWI-5371-F6	DWI: Drug/Alc 3rd In 10 Yrs{DWI-5371-F6}{18.2-266}	0	0	0	0	1
DWI-5405-F6	DWI: 3rd Off W/In 10Y{DWI-5405-F6}{18.2-266}	1	2	0	0	0
DWI-5406-F6	Dwi: 4+ Off W/In 10Y{DWI-5406-F6}{18.2-266}	79	56	52	42	47
DWI-5407-M1	Driving After Forfeiture Of License{DWI-5407-M1}{18.2-272(A)}	75	54	54	42	46
DWI-5413-M1	DWI: 1st Offense{DWI-5413-M1}{18.2-266}	116	97	87	82	66
DWI-5414-M1	Oper Vehicle W/O Ignition Interlock System{DWI-5414-M1}{18.2-272(C)}	7	2	2	1	1
DWI-5416-M1	Dwi: Person <21y Driving W/ Bac .02% To <.08%{DWI-5416-M1}{18.2-266.1}	0	1	1	0	1
DWI-5418-S9	DWI: Dr Commercial Veh, 2nd Off W/In 5Y{DWI-5418-S9}{46.2-341.24}	1	0	0	0	0
DWI-5423-M1	Dwi Ignition Interlock System, Tamper{DWI-5423-M1}{18.2-270.1}	0	2	0	1	0
DWI-5438-F6	Dwi: 3Rd Off W/In 5Y{DWI-5438-F6}{18.2-266}	0	0	3	0	0
DWI-5439-I9	Dwi: Refusal Of Blood Or Breath Test, 1 Off{DWI-5439-I9}{18.2-268.3}	1	0	0	0	0
DWI-5439-S9	DWI: Refusal Of Blood Or Breath Test, 1 Off{DWI-5439-S9}{18.2-268.3}	1	0	0	0	0
DWI-5440-M1	Driving After Forfeiture Of License:W/ Bac .02%+{DWI-5440-M1}{18.2-272(B)}	9	10	2	2	3
DWI-5441-M1	DWI: Refusal Of Breath Test, 2nd Off{DWI-5441-M1}{18.2-268.3}	14	10	7	2	3
DWI-5441-M2	Dwi: Refusal Of Blood Or Breath Test, 2 Off{DWI-5441-M2}{18.2-268.3}	1	0	0	0	1
DWI-5442-M1	Dwi: Refusal Of Blood Or Breath Test, 3 Off{DWI-5442-M1}{18.2-268.3}	4	1	0	0	0
DWI-5443-M1	DWI: 1st Off, Bac .15-.20%{DWI-5443-M1}{18.2-266}	34	20	21	16	21
DWI-5444-M1	DWI: 1st Off, Bac >.20%{DWI-5444-M1}{18.2-266}	14	9	12	7	9
DWI-5445-S9	DWI: 2nd Off W/In 10Y, Bac .15-.20%{DWI-5445-S9}{18.2-266}	2	1	0	1	0
DWI-5446-S9	DWI: 2nd Off W/In 10Y, Bac >.20%{DWI-5446-S9}{18.2-266}	1	1	0	0	0
DWI-5447-S9	DWI: 2nd Off W/In 5Y - 10Y{DWI-5447-S9}{18.2-266}	34	31	28	26	20
DWI-5448-S9	DWI: 2nd Off W/In 5Y{DWI-5448-S9}{18.2-266}	60	70	43	44	38
DWI-5449-F6	Dwi: 3rd Off W/In 5y - 10y{DWI-5449-F6}{18.2-266}	120	91	91	92	88
DWI-5450-F6	Dwi: 3Rd Off W/In 5Y{DWI-5450-F6}{18.2-266}	81	80	61	60	57
DWI-5451-M1	DWI: 1st Offense With Child{DWI-5451-M1}{18.2-266}	6	2	9	8	2
DWI-5452-M1	DWI: 1st Off, Bac .15-.20% w/ Child{DWI-5452-M1}{18.2-266}	1	1	0	0	1
DWI-5453-M1	DWI: 1st Off, Bac >.20% w/ Child{DWI-5453-M1}{18.2-266}	1	1	0	1	1
DWI-5456-S9	DWI: 2nd Off W/In 5Y - 10Y W/ Child{DWI-5456-S9}{18.2-266}	1	1	1	3	0
DWI-5457-S9	DWI: 2nd Off W/In 5Y W/ Child{DWI-5457-S9}{18.2-266}	0	2	1	1	1
DWI-5458-F6	Dwi: 3Rd Off W/In 10Y W/ Child{DWI-5458-F6}{18.2-266}	6	2	3	1	1
DWI-5459-F6	Dwi: 3Rd Off W/In 5Y W/ Child{DWI-5459-F6}{18.2-266}	2	2	1	3	0
DWI-5460-F6	Dwi: 4+ Off W/In 10Y W/ Child{DWI-5460-F6}{18.2-266}	1	4	0	4	2
DWI-5462-M1	DWI: Drugs, 1st Offense{DWI-5462-M1}{18.2-266}	4	3	3	18	30

Table 6.6. New court commitments with one of more convictions for specified DWI offenses

VCC	Description	FY19	FY20	FY21	FY22	FY23
DWI-5463-M1	DWI: Drugs, 1st Offense, w/Child{DWI-5463-M1}{18.2-266}	0	0	0	2	4
DWI-5464-S9	DWI: Drugs, 2nd Off W/In 5Y{DWI-5464-S9}{18.2-266}	2	0	2	3	7
DWI-5465-S9	DWI: Drugs, 2nd Off W/In 5Y -10Y{DWI-5465-S9}{18.2-266}	1	0	2	0	3
DWI-5466-S9	DWI: Drugs, 2nd Off W/In 5Y, W/Child{DWI-5466-S9}{18.2-266}	0	0	0	0	1
DWI-5468-F6	Dwi: Drugs, 3Rd Off, W/In 10Y{DWI-5468-F6}{18.2-266}	4	6	2	7	3
DWI-5469-F6	Dwi: Drugs, 3Rd Off W/In 5Y{DWI-5469-F6}{18.2-266}	2	1	5	4	3
DWI-5472-F6	Dwi: Drugs, 4Th+ Off W/In 10Y{DWI-5472-F6}{18.2-266}	1	2	0	0	3
DWI-5474-S9	DWI: 2nd Off W/In 5Y, Bac .15-.20%{DWI-5474-S9}{18.2-266}	7	5	4	5	3
DWI-5475-S9	DWI: 2nd Off W/In 5Y, Bac >.20%{DWI-5475-S9}{18.2-266}	7	8	8	5	10
DWI-5476-S9	DWI: 2nd Off W/In 5-10Y, Bac .15-.20%{DWI-5476-S9}{18.2-266}	7	5	1	5	2
DWI-5477-S9	DWI: 2nd Off W/In 5-10Y, Bac >.20%{DWI-5477-S9}{18.2-266}	1	4	3	0	2
DWI-5478-F6	Driving W/Suspended License; Dwi: 3Rd In 10Yrs{DWI-5478-F6}{18.2-272(A)}	36	23	25	24	27
DWI-5479-S9	DWI: 2nd Off Within < 5Y, BAC .15-.20% w/Child{DWI-5479-S9}{18.2-266}	1	0	1	0	1
DWI-5493-F6	Prior DWI Manslaughter,Assault Or Felony DWI{DWI-5493-F6}{18.2-266}	113	81	84	101	76
DWI-5494-F6	Prior DWI Manslauter,Asault/Felony DWI W/Child{DWI-5494-F6}{18.2-266}	2	1	2	2	1
DWI-5495-F6	DWI:3rd W/In 5Y;Prior DWI Felony,Mansl,Assault{DWI-5495-F6}{18.2-266}	0	0	2	0	0
DWI-5497-F6	DWI:3rd W/10Y-Prior DWI-Mans,Asslt-Fel{DWI-5497-F6}{18.2-266}	5	3	1	2	1
DWI-5622-S9	(Special Penalty Structure)Dui: Marijuana 2nd In 5 Yrs{DWI-5622-S9}{18.2-266}	0	0	0	0	1
DWI-5624-S9	(Special Penalty Structure)Dui: Marijuana 2nd In 5 Yrs W/Child{DWI-5624-S9}{18.2-266	0	1	0	0	0
DWI-5680-F6	DWI 3rd In 5, Bac .15-.20{DWI-5680-F6}{18.2-266}	7	7	6	5	9
DWI-5681-F6	DWI 3rd In 5, Bac >.20{DWI-5681-F6}{18.2-266}	3	6	6	6	6
DWI-5682-F6	DWI 3rd In 10, Bac .15-.20{DWI-5682-F6}{18.2-266}	2	6	5	2	6
DWI-5683-F6	DWI 3rd In 10, Bac >.20{DWI-5683-F6}{18.2-266}	5	6	10	9	8
DWI-5684-F6	DWI 3rd In 5,.15-.20 Child{DWI-5684-F6}{18.2-266}	0	1	0	1	0
DWI-5685-F6	DWI 3rd In 5, Bac >.20 W/Child{DWI-5685-F6}{18.2-266}	2	0	0	2	0
DWI-5686-F6	DWI 3rd In 10, 15-.20, Child{DWI-5686-F6}{18.2-266}	1	0	0	0	1
DWI-5687-F6	DWI 3rd, Bac >.20 W/Child{DWI-5687-F6}{18.2-266}	0	0	0	1	1
DWI-5688-F6	DWI 4th, Bac .15-.20{DWI-5688-F6}{18.2-266}	5	5	1	9	4
DWI-5689-F6	DWI 4th, Bac >.20{DWI-5689-F6}{18.2-266}	5	0	1	0	4
DWI-5692-F6	DWI Pre Fel, Bac .15-.20{DWI-5692-F6}{18.2-266}	12	9	7	6	6
DWI-5693-F6	DWI Pre Fel, Bac >.20{DWI-5693-F6}{18.2-266}	4	6	7	13	16
DWI-5695-F6	DWI Pre Fel, Bac >.20 W/Child{DWI-5695-F6}{18.2-266}	0	0	0	0	2
DWI-5696-F6	DWI Cmv 3rd In 5, Bac .15-.20{DWI-5696-F6}{46.2-341.24}	1	0	0	1	0
MUR-0947-F5	Dui Manslaughter: Involuntary{MUR-0947-F5}{18.2-36.1(A)}	22	19	16	19	26
MUR-0948-F9	Dui Manslaughter: Involuntary, Reckless{MUR-0948-F9}{18.2-36.1(B)}	12	9	13	28	33

Sentence Imposed

Figure 6.5 shows the number of imposed sentences greater than 1 year in duration, by year. Most sentences (95.5%) were imposed for less than 1 year, with the year-over-year results remaining relatively stable. Sentences of 2 years accounted for 3.2% of total sentences.

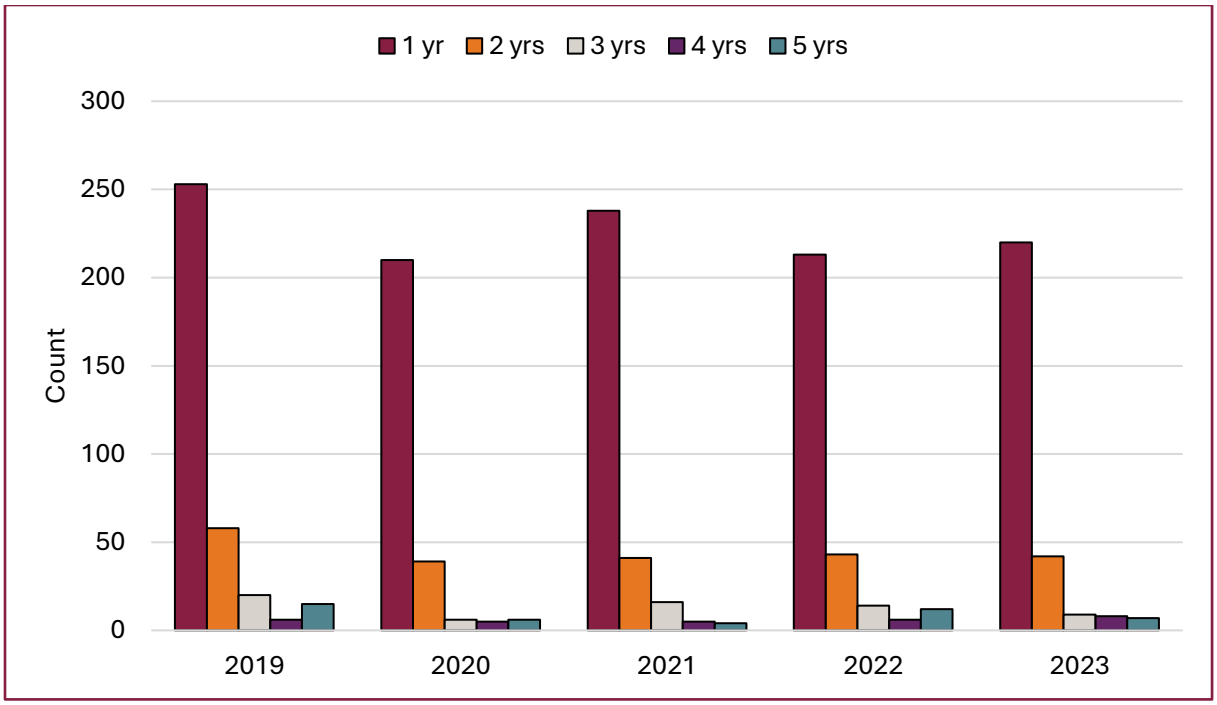

Figure 6.5. Imposed sentence duration for sentences greater than one year

Figure 6.6 shows the results for those sentenced to less than 1 year in duration, but greater than 1 month, and the figure is cast as the number of months sentenced. The results indicate that most of the imposed sentences had durations of 3 months or less (73.0%).

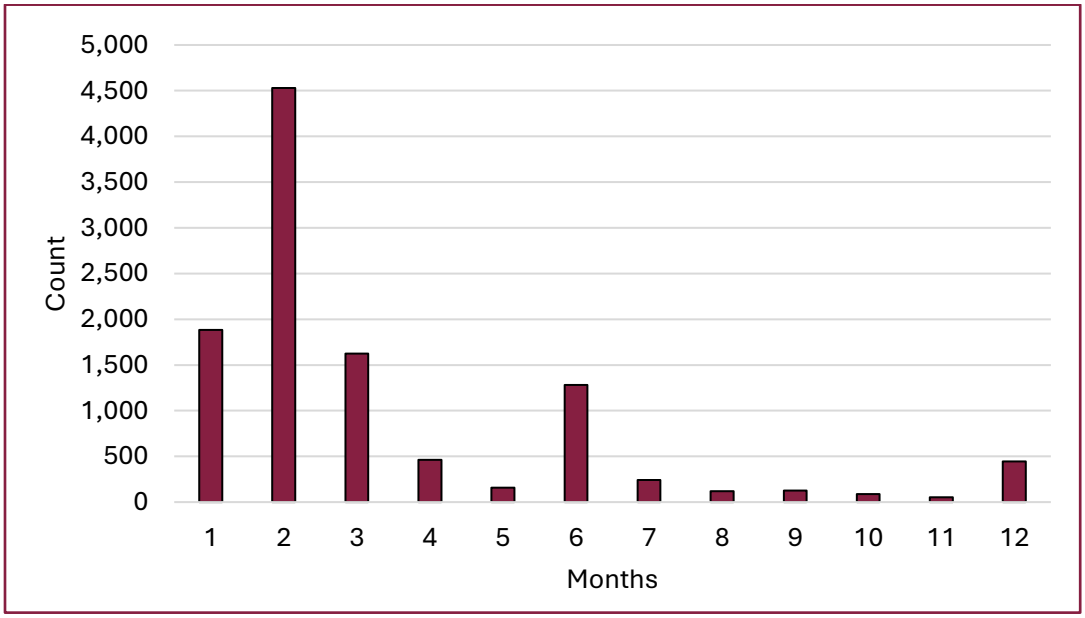

Figure 6.6. Imposed sentence duration for sentences less than 1 year

Figure 6.7 shows the number of imposed sentences with a duration of less than 1 month. The results indicate that many sentences occurred in multiples of five—that is, 5 days (33.5%), 10 days (30.6%), and 20 days (16.6%).

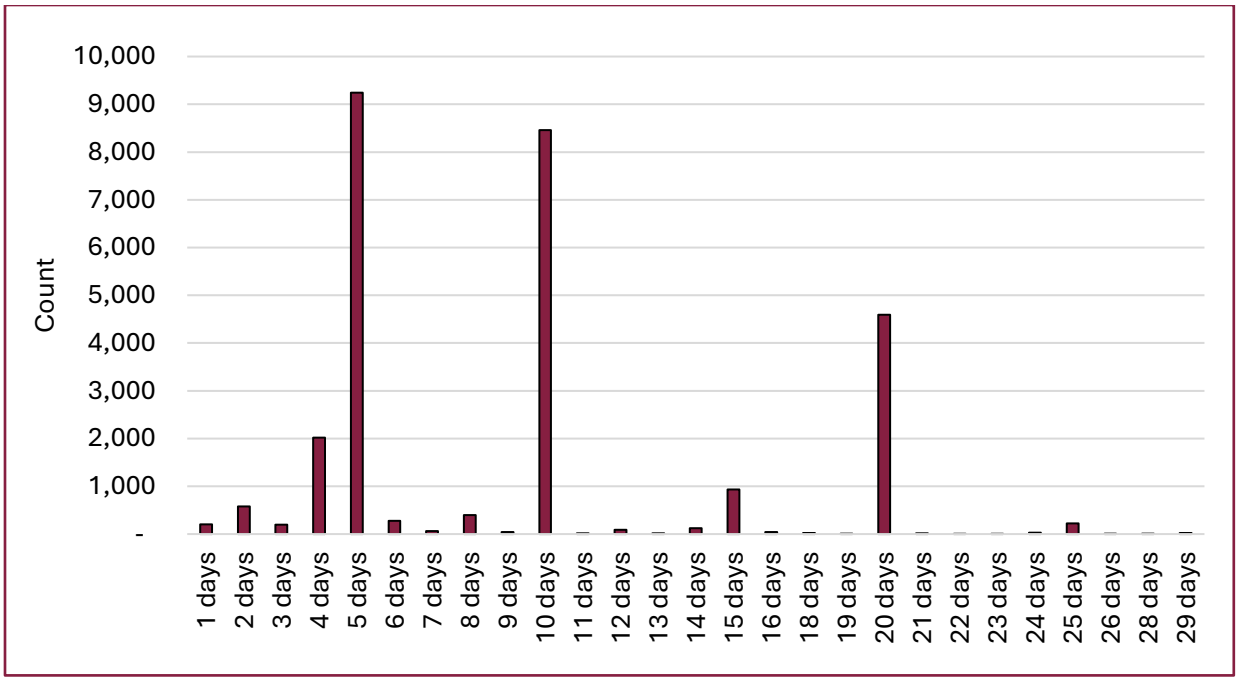

Figure 6.7. Imposed sentence duration for sentences less than 1 month

Duration of Incarceration

Figure 6.8 shows the count of incarceration duration for the studied years for the 11.1% of sentences longer than 1 year (88.9% of incarceration durations were less than a year as calculated by release date). For those sentences, 85.9% of sentences were 1 year in duration with 2 years accounting for 12.4% of sentences.

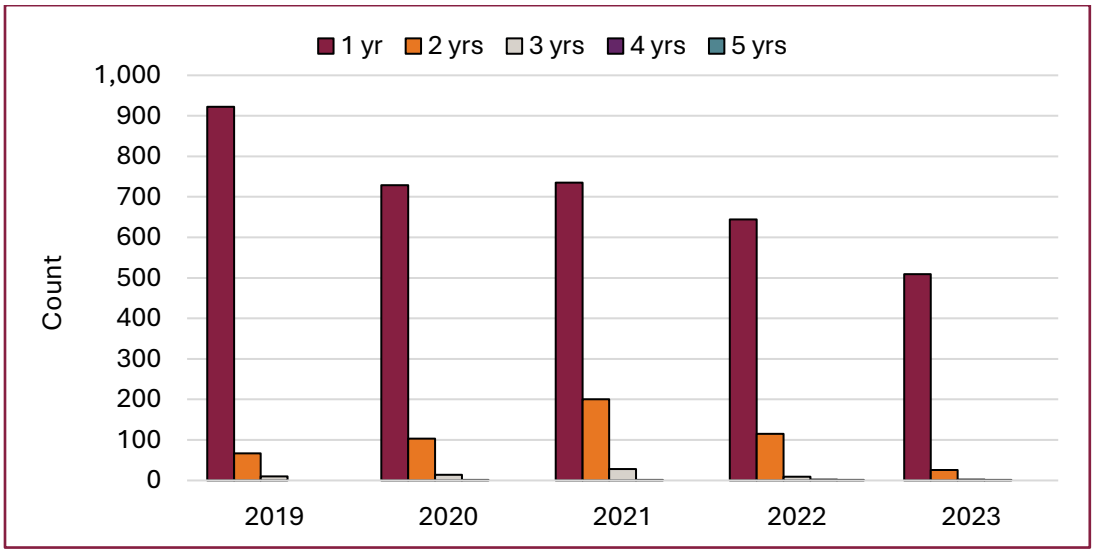

Figure 6.8. Total years incarcerated

Figure 6.9 shows the results for incarceration time for the studied years for those who served sentences shorter than 1 year, but longer than 1 month. The results indicate that 1 month was the

most common duration (38.6%), followed by 2 months (14.3%) and 3 months (11.4%). Collectively, 64.3% of time served was between 1 and 3 months.

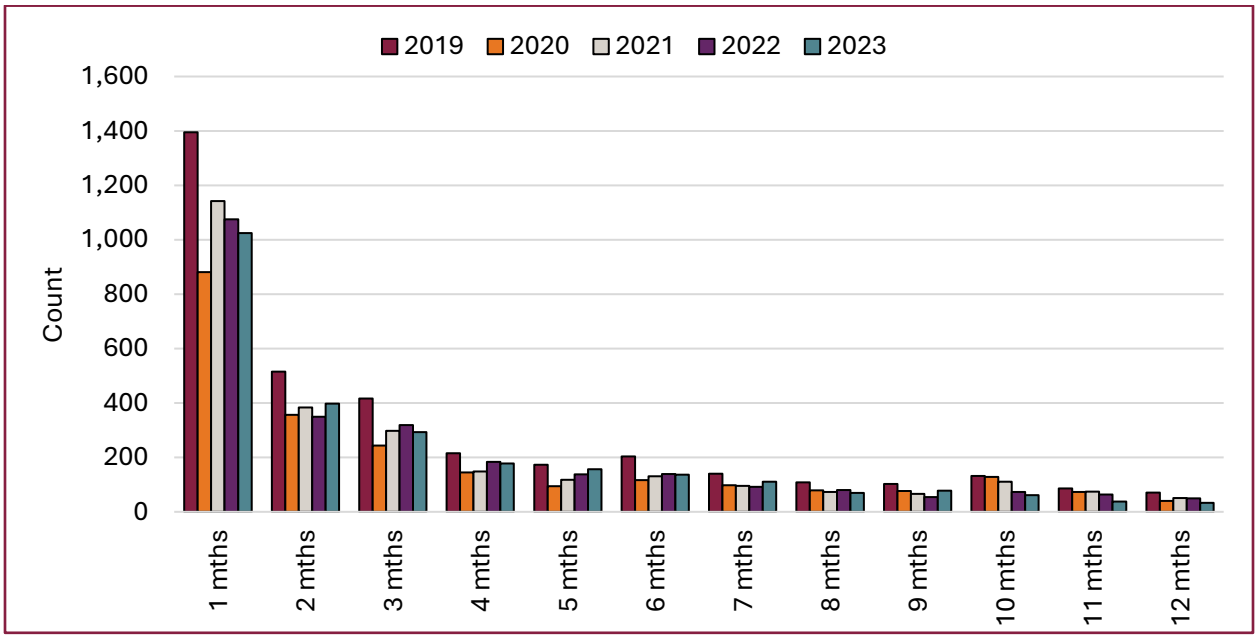

Figure 6.9. Total months incarcerated

Figure 6.10 and Figure 6.11 show the results for incarceration times between 1 and 15 days and 16-30 days, respectively, for the studied years. Most (64.5%) durations were of four days or less.

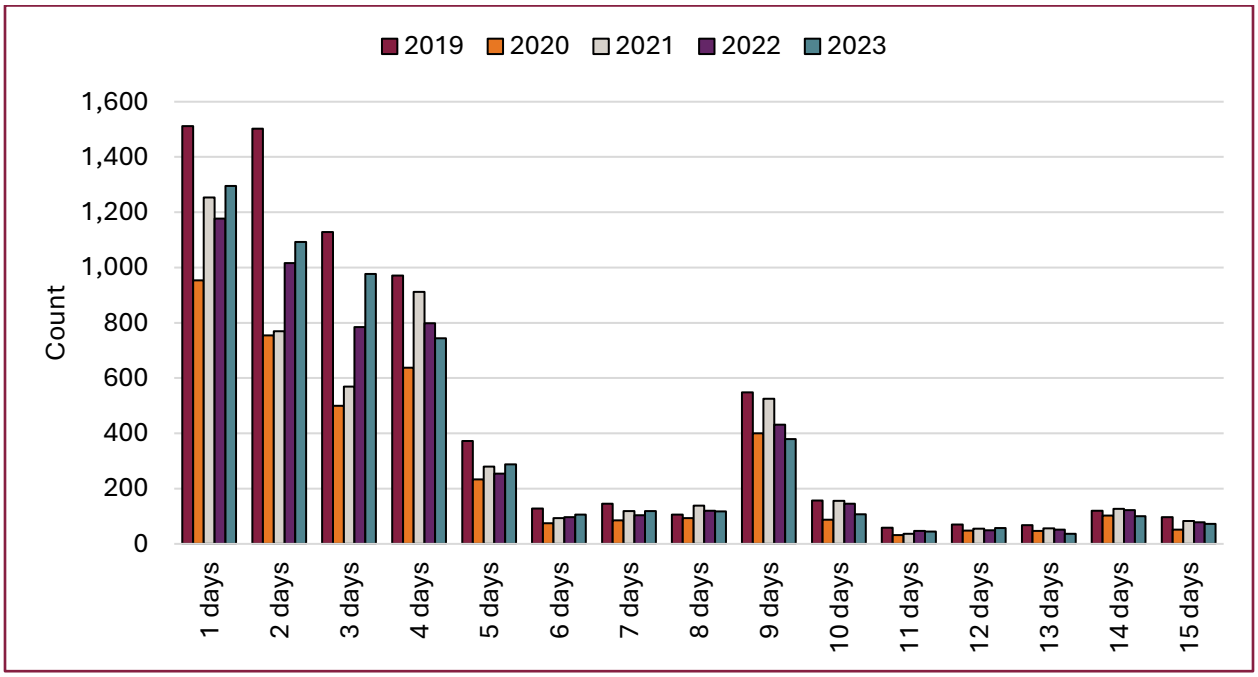

Figure 6.10. Total days incarcerated (between 1 and 15 days)

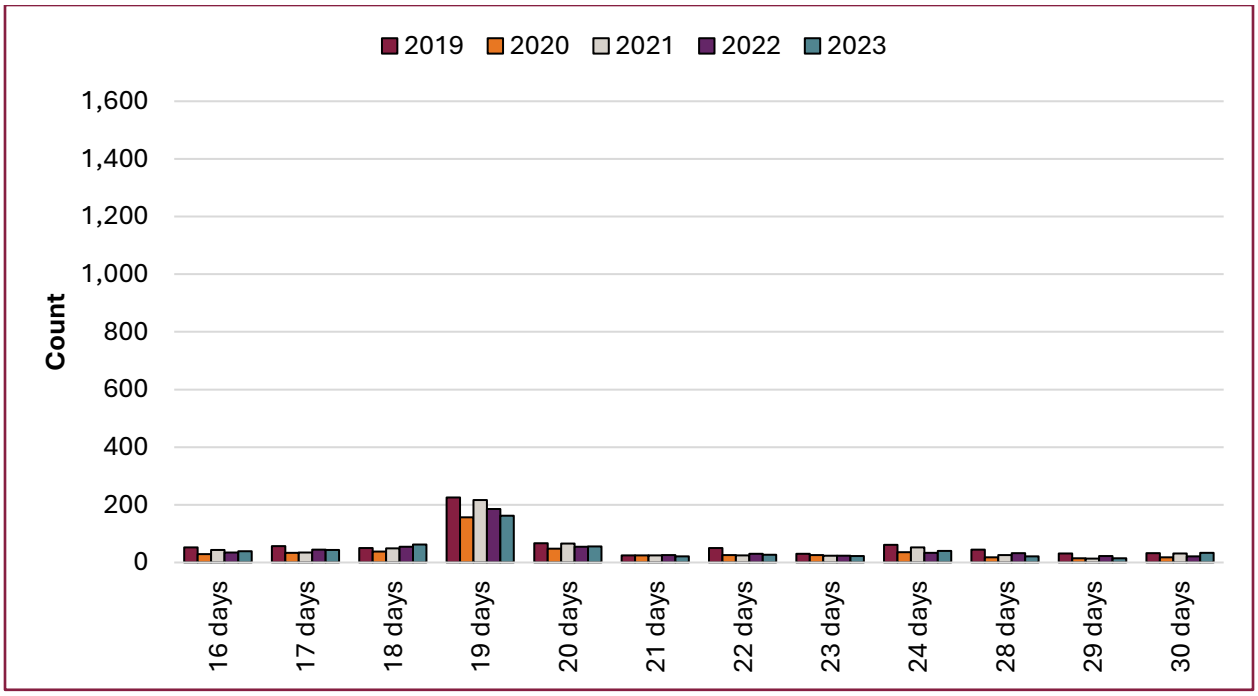

Figure 6.11. Total days incarcerated (between 16 and 30 days)

Objective 7: Virginia Alcohol Safety Action Program

The goal for Objective 7 was to investigate the number of individuals ordered to report to VASAP and the number of individuals under the supervision of such a program. Data were provided by VASAP and, unless otherwise noted, all data and related figures and tables in this section pertained to 2019–2023.

VASAP Clients

Figure 7.1 shows the number of individuals under the supervision of VASAP, by location. The figure's basis was 107,837 individuals. Chesapeake Bay supervised 10,601 individuals, comprising 9.8% of the state's total. Taken with Bull Run (9,524; 8.8%) and Fairfax (9,412; 8.7%), these three locations accounted for over a quarter of the state's supervised individuals (27.4%).

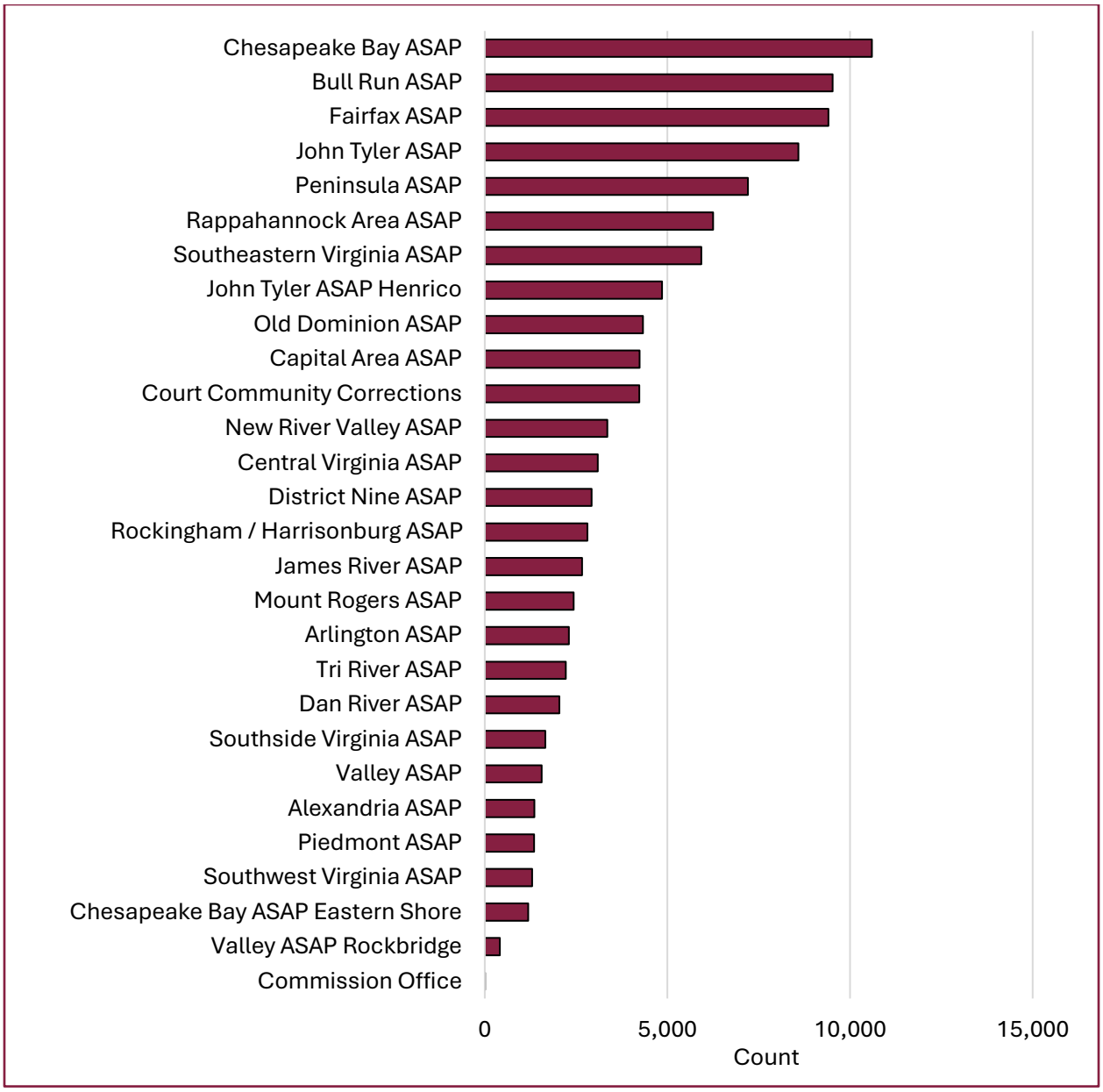

Figure 7.1. Count of individuals under VASAP by location

Figure 7.2 shows the number of individuals in the program by jurisdiction over the same period. The top two contributors were Fairfax County (8,941; 8.3%) and Virginia Beach (8,394; 7.8%). Along with Prince William County (5,669; 5.3%) and Chesterfield County (5,301; 4.9%), these four comprised 26.2% of those in VASAP. It was noted that 3,145 individuals were attributed to an unknown jurisdiction. See Appendix F for a full list of counts by jurisdiction.

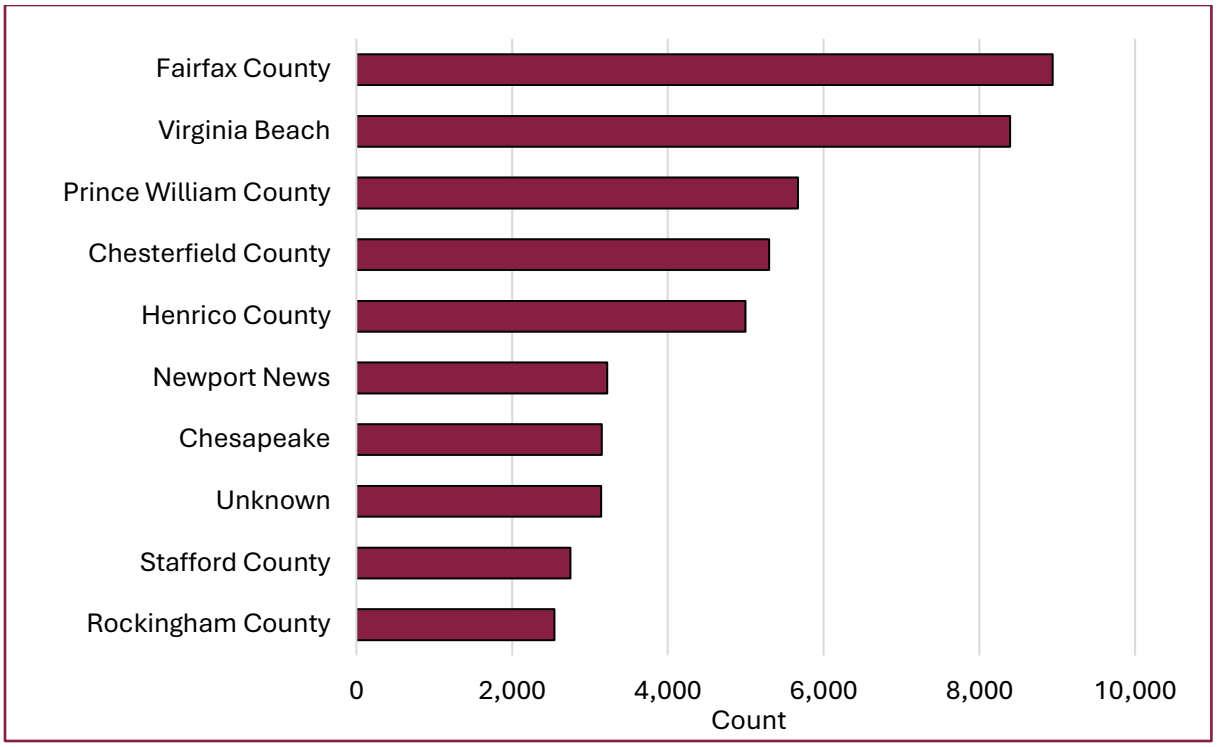

Figure 7.2. Count of individuals under VASAP by jurisdiction; top 10

Figure 7.3 shows the number of individuals by service type leading to enrollment in VASAP. The results indicate that an overwhelming number of those who entered the program did so under the DUI service type (80.5%); this was followed by reckless driving (8%).

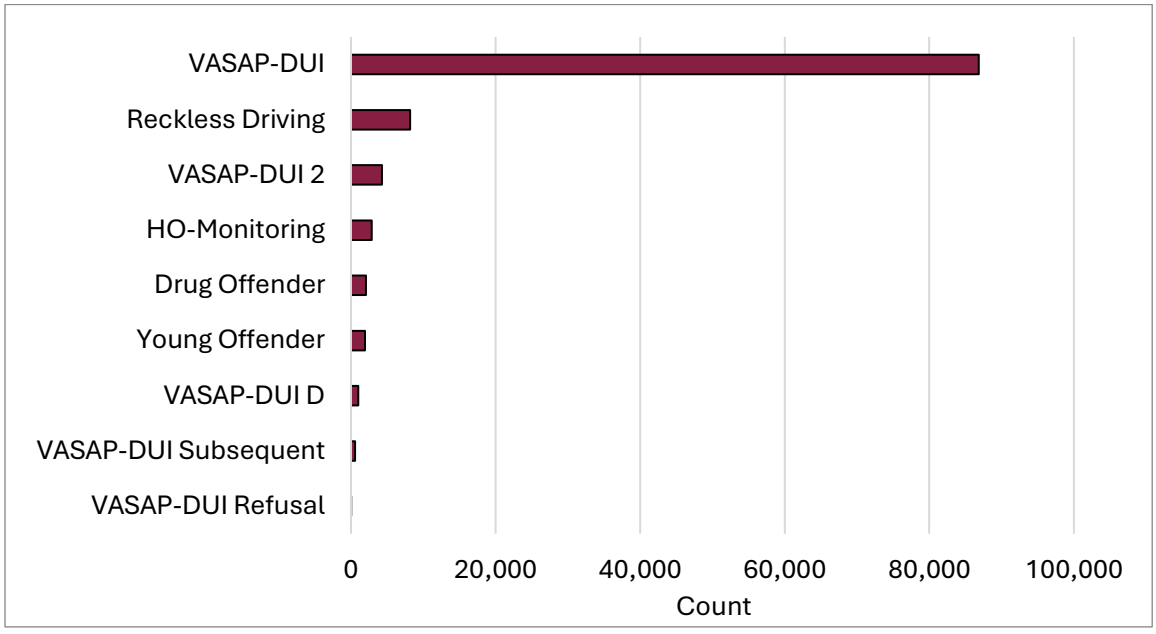

Figure 7.3. Individuals with service types leading to enrollment in VASAP

VASAP Referrals

Figure 7.4 shows the number of referrals to VASAP by year. The results indicate that there was an initial downward trend from 2019 to 2020 (i.e., 26,205 to19,036, respectively). Thereafter, the number of referrals went relatively unchanged.

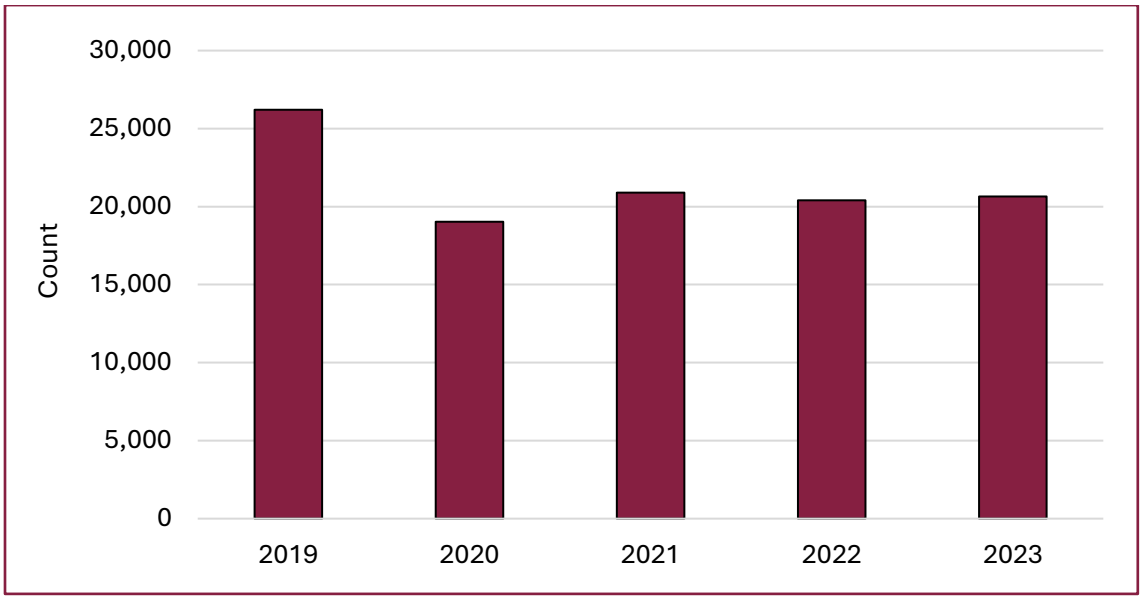

Figure 7.4. Number of referrals to VASAP by year

Figure 7.5 shows the type of infraction that led to VASAP referrals. The figure indicates that a large majority of those referred to the program were due to a DUI (17,324; 79.9%).

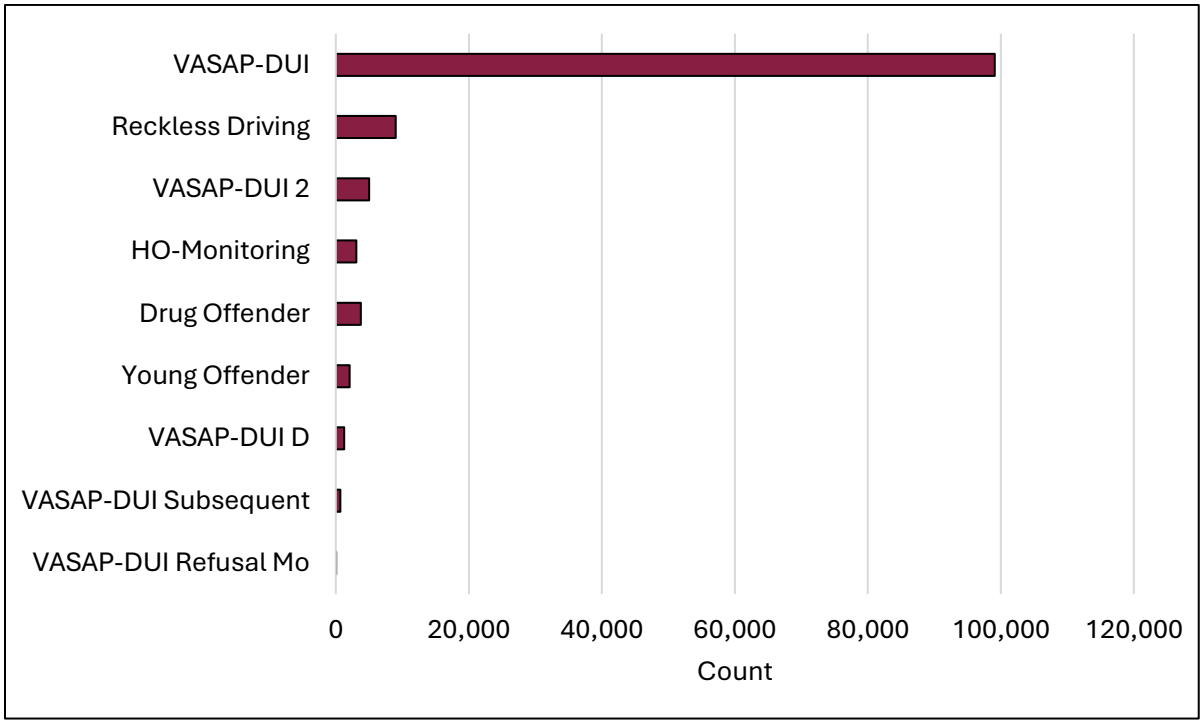

Figure 7.5. Number of referrals to VASAP by infraction

Figure 7.6 shows the number of referrals to VASAP, by location. The largest number of referrals occurred in Chesapeake Bay (12,691;10.2%) and Fairfax (10,858; 8.76%).

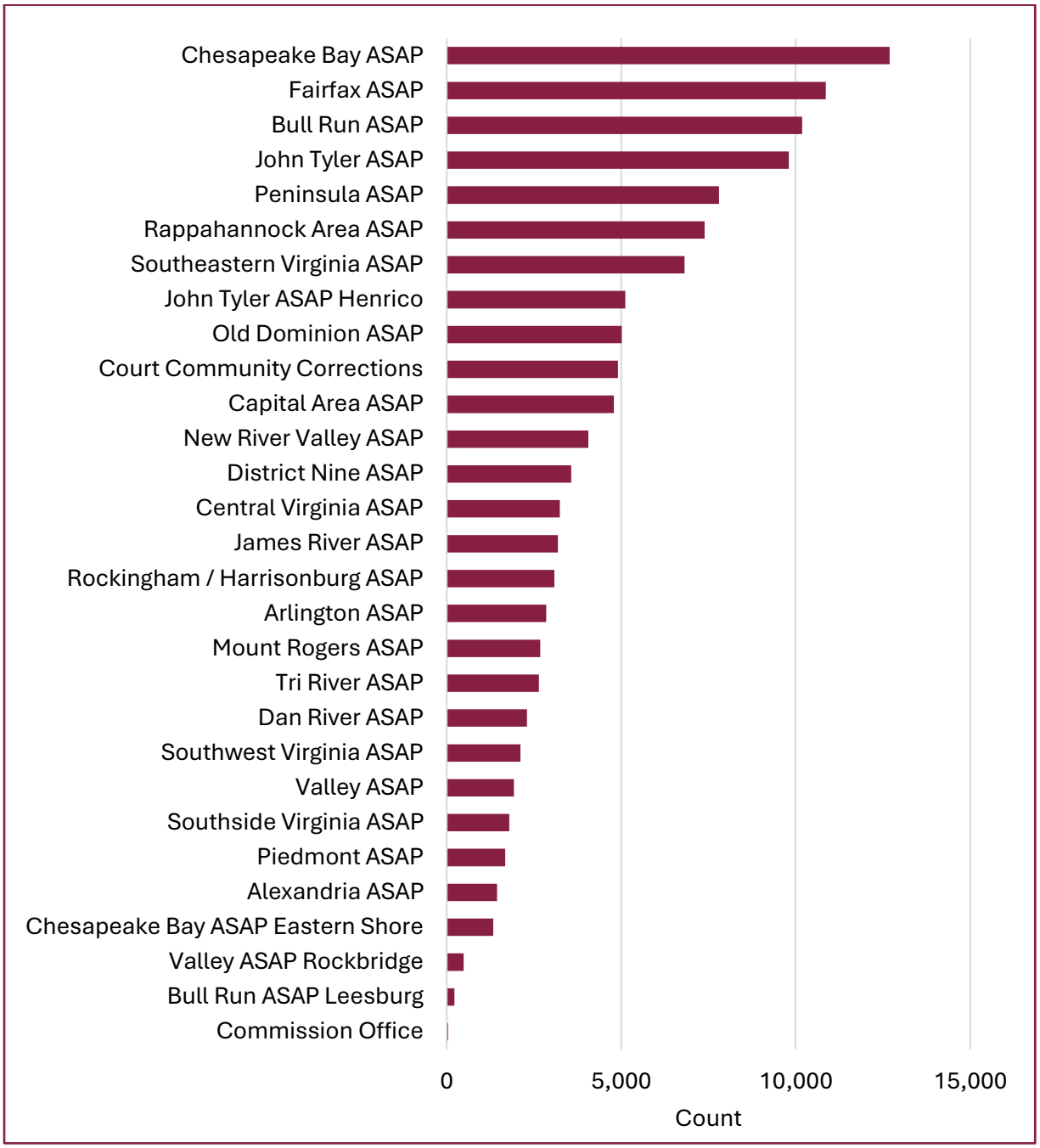

Figure 7.6. Count of referrals to VASAP by location

Figure 7.7 shows the number of referrals to VASAP by jurisdiction, but the figure is limited to the top 10 contributors. The highest overall contributors were Fairfax County (10,167; 8.2%) and Virginia Beach (9,961; 8.0%). Along with Prince William County (6,198 – 5%), these jurisdictions accounted for 26,326 (21%) referrals to VASAP over the period. Appendix G contains the full list of referrals by jurisdiction.

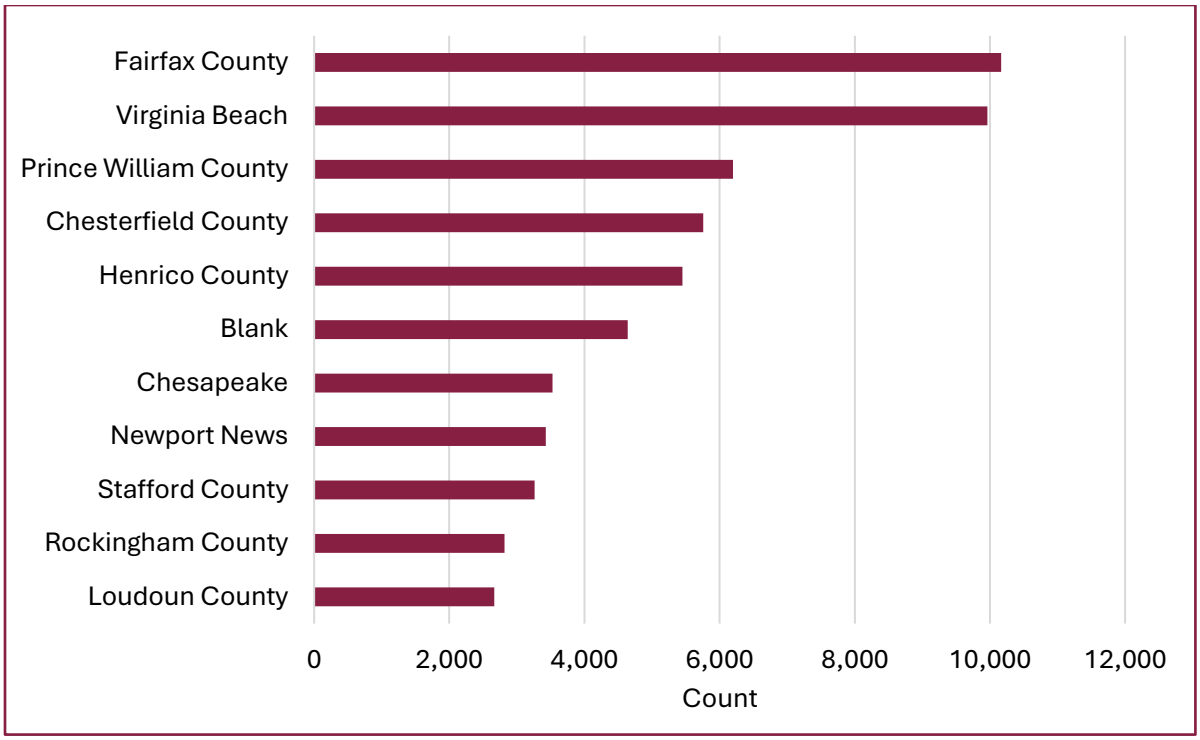

Figure 7.7. Count of referrals to VASAP by jurisdiction; top 10

Objective 8: Ignition Interlock Devices and Remote Alcohol-Monitoring Devices

The goal for Objective 8 was to investigate the number of IID installed on motor vehicles and the number of RAMDs applied to individuals. Data were provided by VASAP, and, unless otherwise noted, all data and related figures and tables in this section pertained to 2019–2023.

IIDs

Figure 8.1 shows the number of IIDs by year. Over the studied years, a total of 38,374 IIDs were used. The number of installed interlocks peaked in 2019 (9,204) while the number of active interlocks peaked in 2023 (8,482).

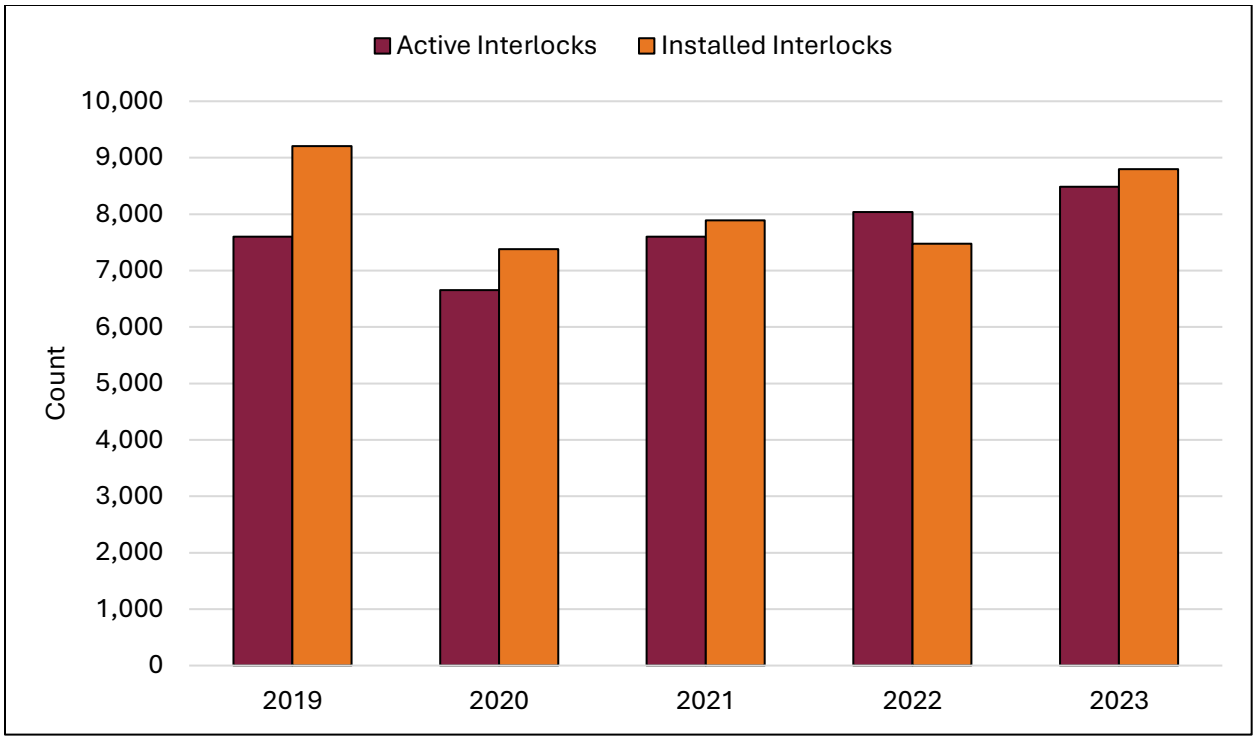

Figure 8.1. Number of installed and active IIDs by year

RAMDs

Figure 8.2 shows the yearly number of active RAMDs. In total, 137 RAMDs were active between 2019–2023. The number of devices peaked in 2022, with 53 active RAMDs.

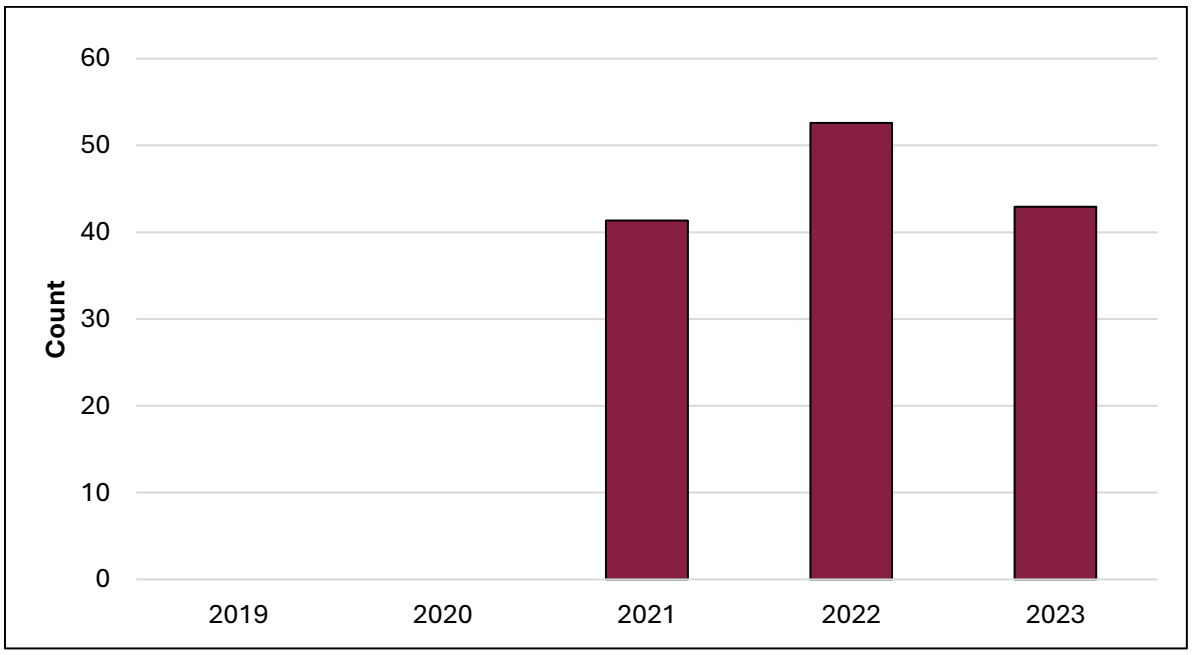

Figure 8.2. Active RAMDs by year

Objective 9: Breath Alcohol Tests & Average BAC Results

The goal of Objective 9 was to evaluate the number of breath alcohol tests administered and the average BAC test results. Data were provided by the Department of Forensic Science, and, unless otherwise noted, all data and related figures and tables in this section pertained to 2019–2022.

Table 9.1 shows the average BAC for the studied years. A total of 8,629 blood alcohol tests were recorded. For each of the years, the average BAC hovered around 0.195. The highest number of tests occurred in 2019, followed by a small dip in 2020. Appendix H contains the monthly BAC data.

Table 9.1. Blood alcohol test results by year

Year	Count	Average	Minimum	Maximum
2019	2,257	0.196	0.021	0.459
2020	2,086	0.195	0	0.471
2021	2,134	0.197	0.081	0.502
2022	2,152	0.198	0	0.447

Objective 10: DUI-Related Blood Samples & Drugs Identified

The goal for Objective 10 was to examine the number of DUI-related blood sample submissions and any drugs or drug classes identified in such samples. Data were provided by the Department of Forensic Science, and, unless otherwise noted, all data and related figures and tables in this section pertained to 2019–2023.

Figure 10.1 shows the number of blood samples submitted for testing per year. Over the studied years, there were 14,609 blood samples submitted for analysis. The year 2023 showed the highest number of submitted samples, with 4,206.

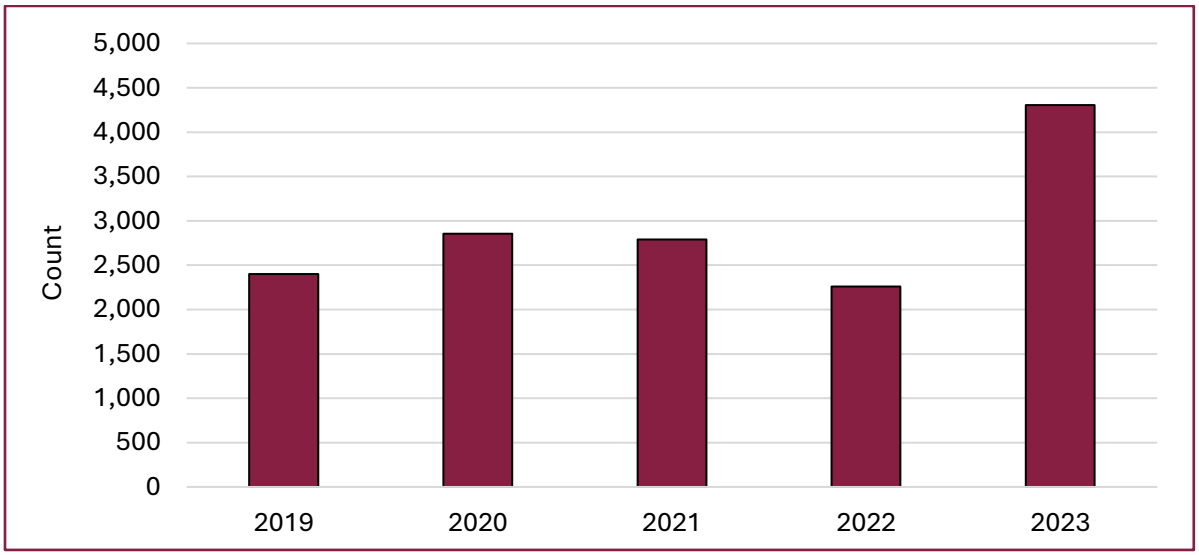

Figure 10.1. Number of blood samples per year

Table 10.1 shows the number of blood samples submitted each year and the associated test results. Overall, the most prevalent test result was BAC = 0, Drugs Present, which comprised 65.7%

of the total number of sample submissions (i.e., negative for alcohol and positive for drug/s). However, when viewed by year, 2023 showed the highest contribution to the overall total — largely driven by "BAC = 0, Drugs Present" (1,736) and "BAC ≥ 0.08%, No Drugs" (1,406). This was due to a change in testing protocols in 2023, whereby all drivers suspected of a DUI had blood samples taken and submitted for testing. This resulted in a 20-fold increase in the number of samples that tested positive for a BAC at or above the legal limit but negative for drug/s (i.e., BAC ≥ 0.08%, No Drugs increased from 63 in 2022 to 1,406 in 2023). Additionally, the number of samples that tested positive for alcohol at or above the legal limit and positive for drug/s was six times higher in 2023 than in 2022 (i.e., 678 and 94, respectively).

Table 10.1. Number of blood samples per year by test result

Lab Result	2019	2020	2021	2022	2023	Total
BAC = 0, No Drugs	104	114	135	134	163	650
BAC = 0, Drugs Present	1,792	2,231	2,161	1,680	1,736	9,600
0 < BAC < 0.08%, No Drugs	70	49	70	51	62	302
0 < BAC < 0.08%, Drugs Present	270	300	241	237	261	1,309
BAC ≥ 0.08%, No Drugs	64	53	46	63	1,406	1,632
BAC ≥ 0.08%, Drugs Present	100	106	138	94	678	1,116
Total	**2,400**	**2,853**	**2,791**	**2,259**	**4,306**	**14,609**

Table 10.2 shows the overall blood sample results by drug class. The most common drug test results were for alcohol (14,564), followed by cannabis (6,428), stimulants (5,020), opioids (4,903), and benzodiazepines (3,480).

Table 10.2. Overall blood sample results by drug class

Drug Class	Frequency
Alcohol	14,564
BAC = 0	*10,200*
0 < BAC < 0.08%	*1,616*
BAC ≥ 0.08%	*2,748*
Cannabis	6,428
Stimulants	5,020
Opioids	4,903
Benzodiazepines	3,480
Hallucinogens	452
Antihistamines	424
Antidepressants	383
Other	357
Anticonvulsants	225
Barbiturates	154
Anesthetics	47
None confirmed	31
Tranquilizers	28

Figure 10.2 shows the results pertaining to the number of drug classes identified in each blood sample by alcohol-presence. The results indicate that in 74.2% (10,847) of cases, one or two drugs were found during testing; however, the prevalence varied based on the presence of alcohol. When alcohol was not present (i.e., BAC = 0), more than double the number of samples tested positive for the presence of two or three drug classes (i.e., polydrug use), compared to when alcohol was present (i.e., 2 drug classes: 3,639 vs. 1,652; 3 drug classes: 1,816 vs. 576, respectively).

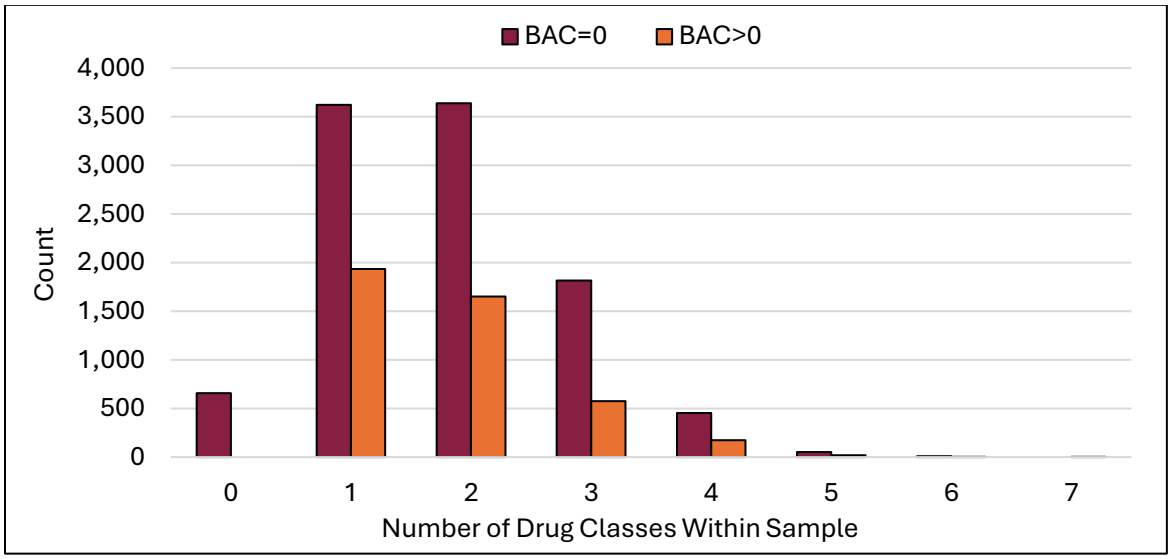

Figure 10.2. Number of drug classes by presence of alcohol

Table 10.3 shows the blood sample test results by year when alcohol was not present (i.e., BAC = 0). Specifically, these results show the most common single drug and non-alcohol polydrug combinations identified over the five-year period. The most common non-alcohol drug used was cannabis followed by stimulants, both of which show a relatively stable trend over the study period. Interestingly, the results show a decrease in the number of samples testing positive for opioids from a peak of 165 in 2021 to 107 in 2023. The most frequently combined drug classes were stimulants & opioids, which increased consistently from 2019 to 2022, and cannabis & stimulants, which has remained stable over the years.

Table 10.3. Non-alcohol drug test results by year (BAC = 0)

Drug classes & combinations	2019	2020	2021	2022	2023	Total
Cannabis	298	304	285	280	300	1,467
Stimulants	185	207	219	174	198	983
Stimulants & Opioids	110	152	198	205	190	855
Cannabis & Stimulants	129	143	151	146	146	715
No Alcohol, No Drugs	104	114	135	134	163	650
Opioids	103	133	165	123	107	631
Opioids & Benzodiazepine	143	177	149	82	62	613
Cannabis & Opioids	46	95	116	83	85	425
Stimulants & Opioids & Benzodiazepine	72	131	103	54	63	423
Cannabis & Stimulants & Opioids	40	82	95	99	91	407
Total	**1,230**	**1,538**	**1,616**	**1,380**	**1,405**	**7,169**

Table 10.4 shows the corresponding test results when alcohol was present but below the legal limit (i.e., BAC < 0.08%). The results indicate that cannabis is the most common drug found in combination with alcohol, followed by stimulants then opioids. There has been an increase in the frequency of samples testing positive for alcohol and cannabis since 2021 and a decrease in positive results for alcohol and opioids since 2020.

Table 10.4. Drug sample results by year for BAC less than 0.08%

Drug classes & combinations	2019	2020	2021	2022	2023	Total
BAC < 0.08% & Cannabis	75	101	69	81	100	426
BAC < 0.08%	62	51	70	49	70	302
BAC < 0.08% & Cannabis & Stimulants	30	31	25	29	27	142
BAC < 0.08% & Stimulants	23	17	21	25	22	108
BAC < 0.08% & Opioids	21	20	12	15	7	75
BAC < 0.08% & Benzodiazepines	7	15	15	12	13	62
BAC < 0.08% & Cannabis & Benzodiazepines	14	20	11	4	8	57
BAC < 0.08% & Cannabis & Opioids	8	13	13	11	6	51
BAC < 0.08% & Opioids & Stimulants	4	13	13	8	12	50
BAC < 0.08% & Benzodiazepines & Opioids	15	5	7	4	6	37
Total	**259**	**286**	**256**	**238**	**271**	**1,310**

Table 10.5 shows the blood sample test results when the driver's BAC was at or above the legal limit (i.e., BAC ≥ 0.08%). Alcohol alone was the most common substance identified, with the results reflecting the change in testing protocols introduced in 2023. Similar to previous results, alcohol and cannabis was the most common combination identified, with the 2023 numbers also reflecting the protocol change. Recall from Figure 10.1, the number of samples submitted for testing in 2023 was almost double that in 2022; thus, these results need to be interpreted appropriately (i.e., more testing likely finds more positive test results).

Table 10.5. Drug sample results by year for BAC ≥ 0.08%

Drug classes & combinations	2019	2020	2021	2022	2023	Total
BAC ≥ 0.08%	64	53	46	63	1,406	1,632
BAC ≥ 0.08% & Cannabis	44	40	63	41	608	796
BAC ≥ 0.08% & Cannabis & Stimulants	10	15	16	11	14	66
BAC ≥ 0.08% & Stimulants	10	7	13	5	19	54
BAC ≥ 0.08% & Benzodiazepines	4	9	8	5	3	29
BAC ≥ 0.08% & Cannabis & Benzodiazepines	2	8	3	2	3	18
BAC ≥ 0.08% & Opioids	3	3	1	7	2	16
BAC ≥ 0.08% & Opioids & Stimulants	3	2	4	5	2	16
BAC ≥ 0.08% & Cannabis & Opioids	1	1	8	2	1	13
BAC ≥ 0.08% & Cannabis & Opioids & Stimulants	1	3	1	2	5	12
Total	**142**	**141**	**163**	**143**	**2,063**	**2,652**

Table 10.6 shows the top 20 drug classes and combinations over the studied years. There were 352 unique drug-class combinations. The top 20 combinations comprised 84.1% of that total; the remaining combinations individually accounted for less than 1.0% of the total. Appendix I contains a full list of all drug combinations and counts.

Table 10.6. Counts of drug classes and combinations

Drug Combination	Count
Alcohol only	1,935
Cannabis only	1,475
Alcohol & Cannabis	1,222
Stimulants only	986
Opioids & Stimulants	861
Cannabis & Stimulants	716
No drugs detected	656
Opioids only	634
Benzodiazepines & Opioids	615
Cannabis & Opioids	425
Benzodiazepines & Opioids & Stimulants	424
Cannabis & Opioids & Stimulants	410
Cannabis & Benzodiazepines & Opioids	362
Cannabis & Benzodiazepines	351
Cannabis & Benzodiazepines & Opioids & Stimulants	256
Benzodiazepines only	244
Alcohol & Cannabis & Stimulants	208
Cannabis & Benzodiazepines & Stimulants	187
Alcohol & Stimulants	162
Benzodiazepines & Stimulants	159

Objective 11: License Restrictions, Suspensions, and Revocations

The goal for Objective 11 was to evaluate the total number of restrictions, suspensions, and revocations of Virginia driver's licenses for DUI. Data were provided by the Virginia DMV, and, unless otherwise noted, all data and related figures and tables in this section pertained to 2019–2023.

Orders

Figure 11.1 shows the distribution of license-related restrictions, suspensions, and revocations. Over the studied years, Virginia recorded 106,843 license orders. Restrictions made up 33.8% of all orders, while suspensions made up 23.4% and revocations the final 42.8%. An additional 4,735 orders were executed to restore driving privileges.

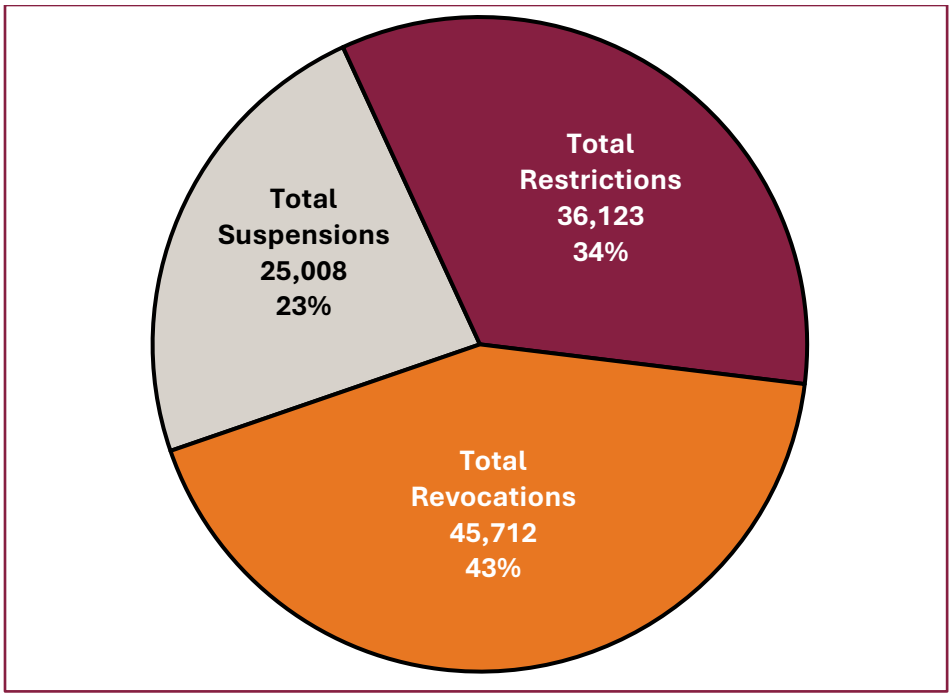

Figure 11.1 Distribution of restrictions, suspensions, and revocations

Figure 11.2 shows the corresponding yearly contributions to those counts of restrictions, suspensions, and revocations. The figure indicates that a substantial increase in suspensions occurred in 2022 and 2023. Additionally, the number of restrictions and revocations showed a slight dip in 2020.

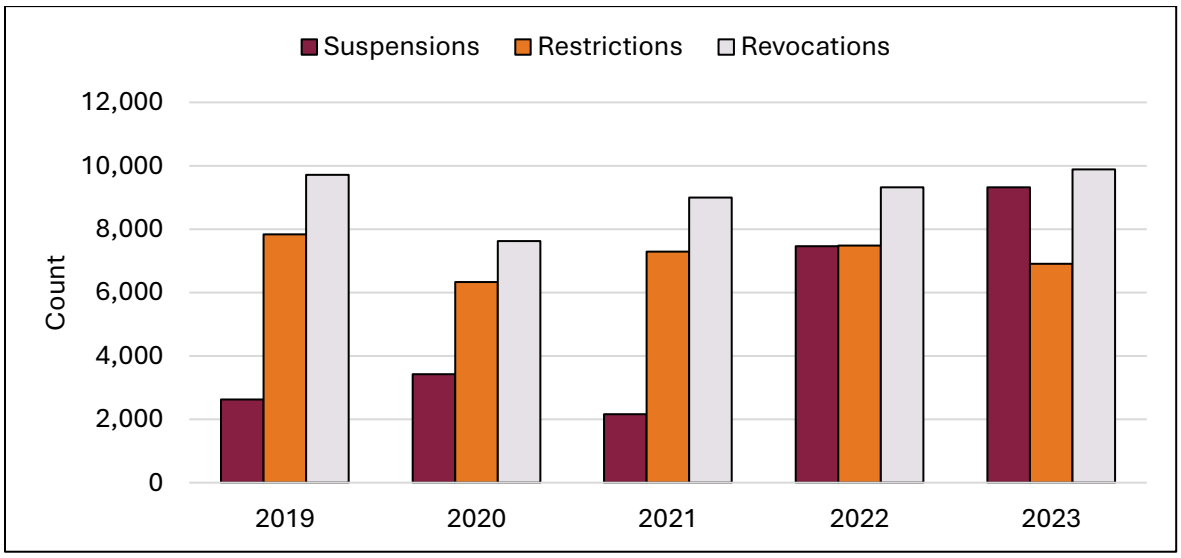

Figure 11.2. Restrictions, suspensions, and revocations by year

Repeat Offenders

Figure 11.3 shows the presence of repeat offenders (i.e., those who have received one or more license orders). The results indicate that most citizens received only one license order (81,733,

80.0%), while an additional 16,382 (16.0%) received two license orders. It was noted that 3,097 (3.0%) had *three* orders and 944 (0.9%) had *four or more* orders.

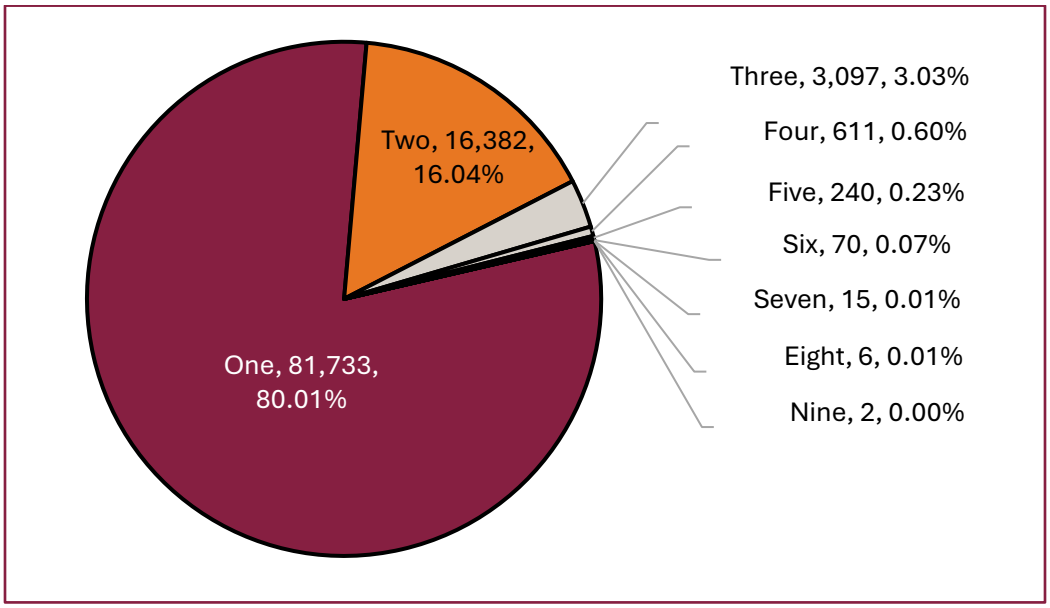

Figure 11.3. Distribution of number of orders issued

Out of State Licenses

Figure 11.4 shows the results of another analysis which considered the number of license orders for out of state citizens. Maryland (3,684, 3.6%) and North Carolina (1,813, 1.8%) were the states with the highest number of license orders outside of Virginia. Appendix J contains a complete table showing all states and territories.

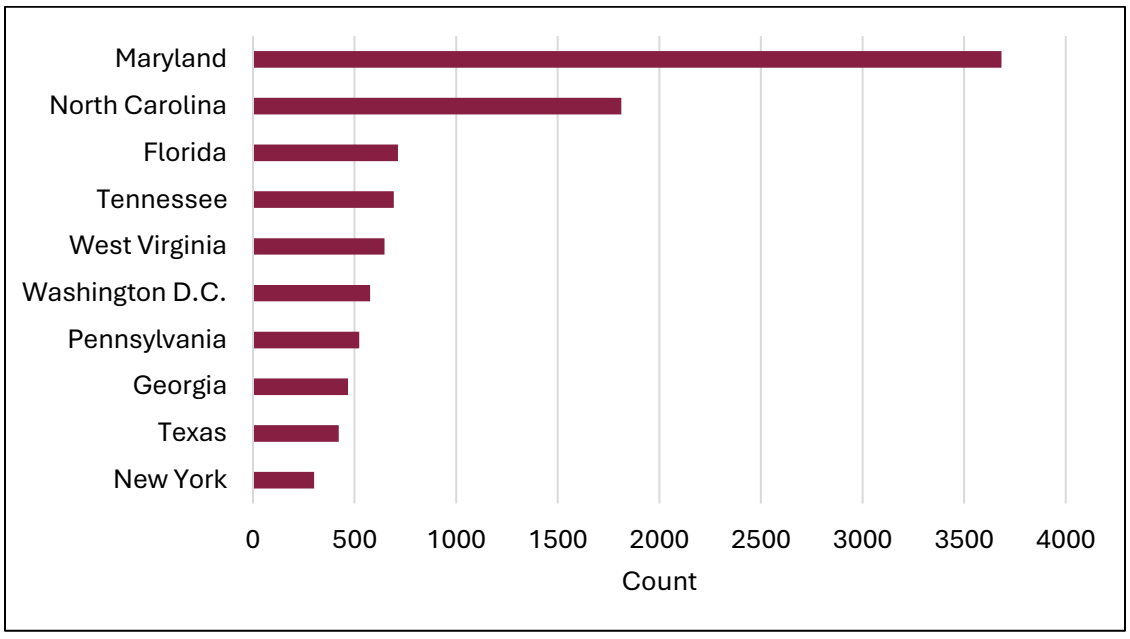

Figure 11.4. Out of state license orders

Objective 12: Enforcement Measures

The goal for Objective 12 was to evaluate the number of specific DUI-related enforcement measures conducted by law-enforcement agencies, such as sobriety checkpoints, saturation patrols, and any other relevant measures. Data were provided by the Virginia DMV, and, unless otherwise noted, all data and related figures and tables in this section pertained to 2019–2023.

Alcohol-Related Enforcement Measures

DUI Arrests

Figure 12.1 shows the results for the total number of DUI arrests in Virginia by region, over the studied years. The figure's basis was 6,015 DUI arrests. The Fairfax region showed the highest number of DUIs (2,071, 34.4%), followed by the Richmond region (1,717, 28.5%). Collectively, these two regions accounted for 63% of the state's DUI arrests.

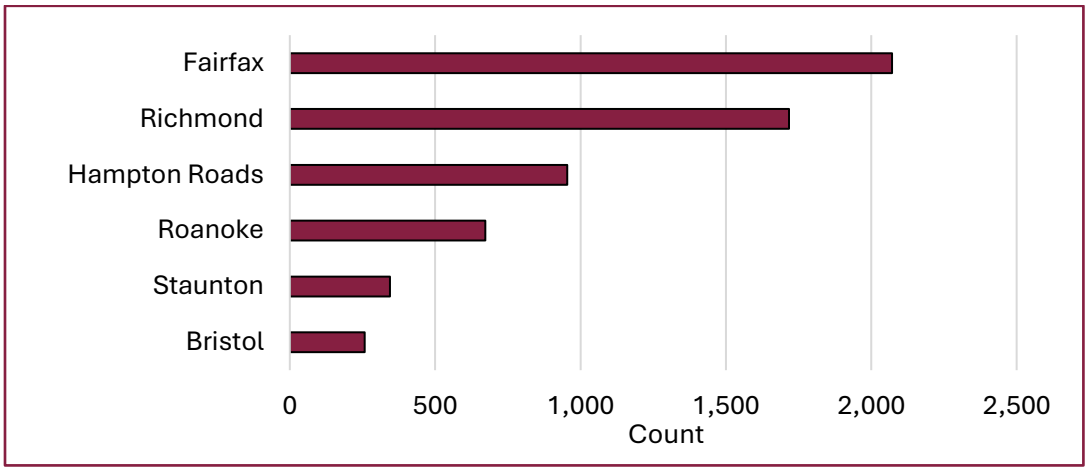

Figure 12.1. Total DUI arrests in Virginia by region

Figure 12.2 shows the results for the counts of VA DUI arrests, by region and year. The results indicate a decreasing annual trend for each region, except Staunton. A large decrease in arrests was noted from 2019 to 2020 in most regions.

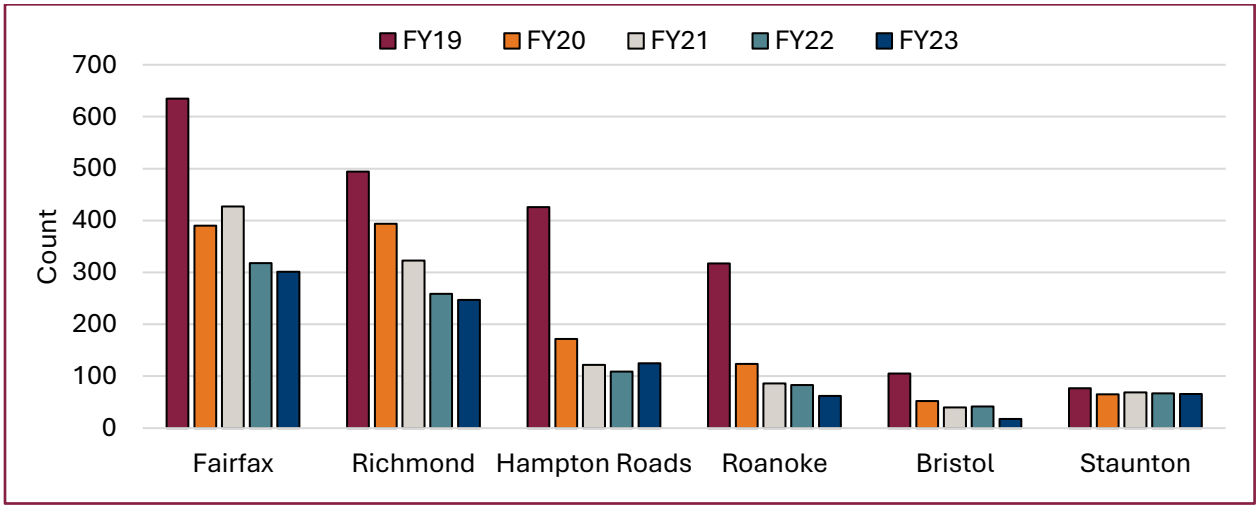

Figure 12.2. DUI arrests by region and year

Figure 12.3 shows the results for the counts of DUIs arrests, by county. When evaluating the number of DUIs by county, Fairfax County showed the greatest number (948, 16.9%). Appendix K contains a full list of DUI arrests by county.

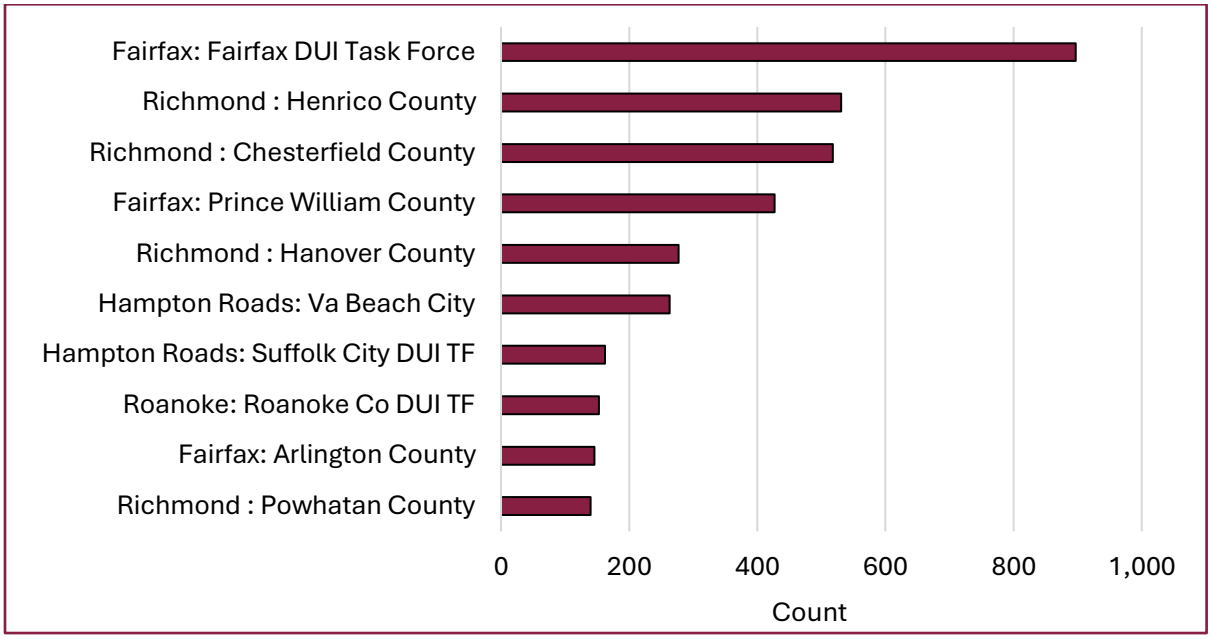

Figure 12.3 DUI arrests by county

Juvenile DUI Arrests

Figure 12.4 shows the results for juvenile DUI arrests by region over the studied years. The results indicate that Fairfax and Staunton had peaks in 2019, with the highest in Staunton (10, 43% of juvenile DUI arrests for 2019).

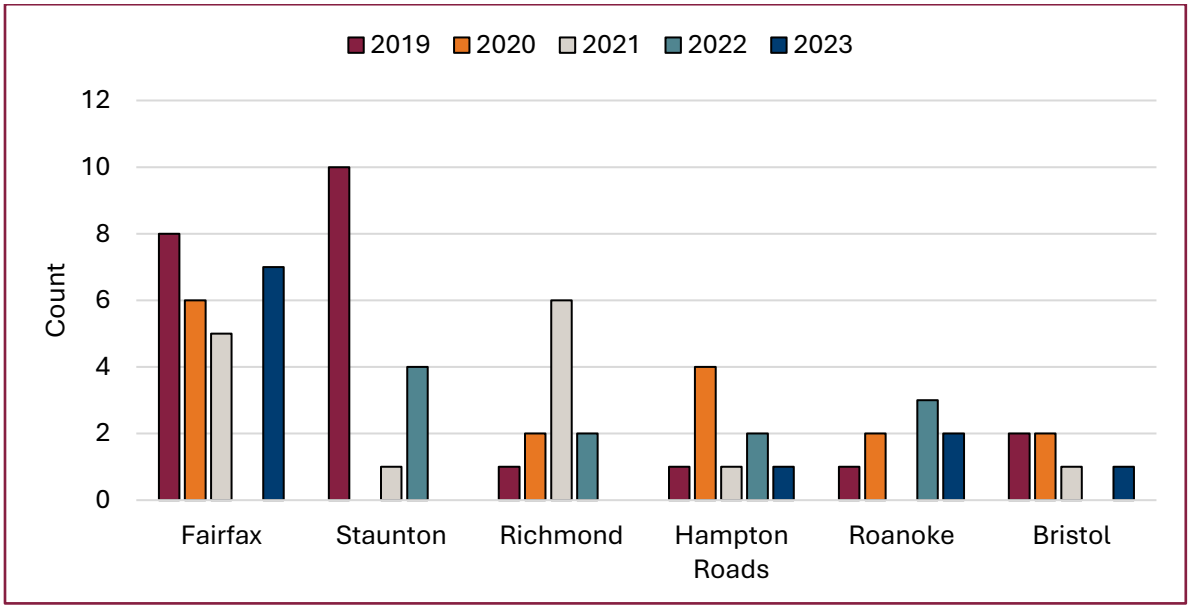

Figure 12.4. Juvenile DUI arrests by region and year

Figure 12.5 shows the results for juvenile DUIs by county. The highest result was in Fairfax County (8) accounting for 12.5% of the state's total. Appendix L contains a full breakdown by county.

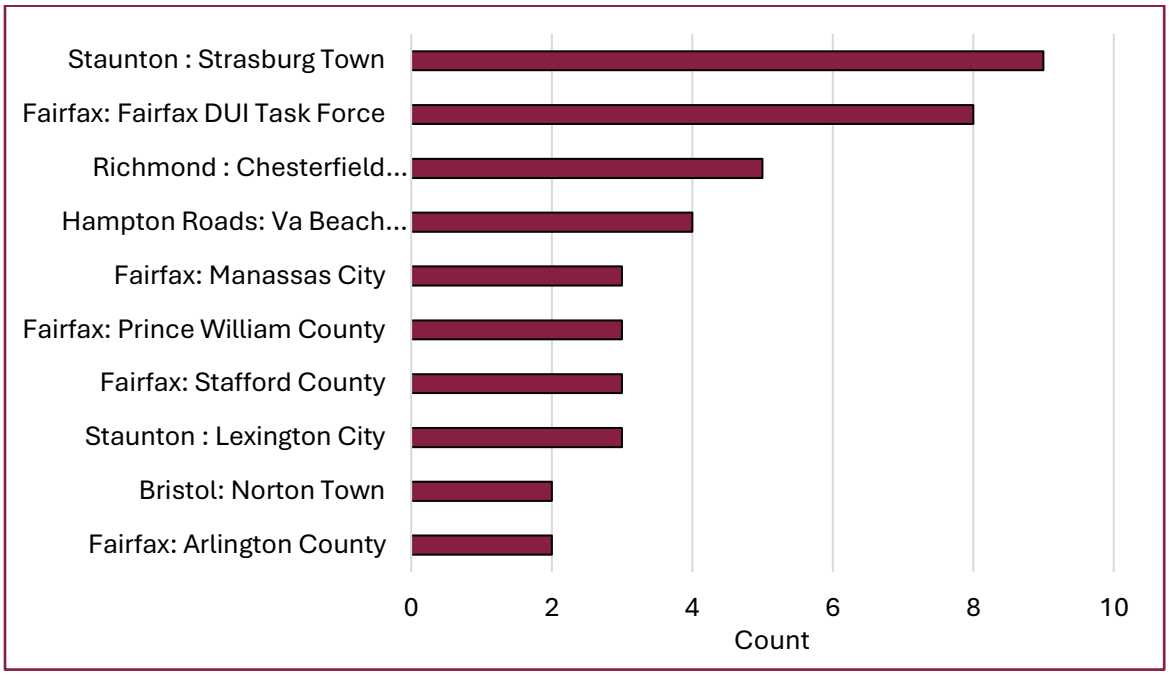

Figure 12.5 Juvenile DUI arrests by county

Underage Drinking

Figure 12.6 shows the number of underage drinking infractions, by region. Aside from a large spike in the Roanoke area in 2020 (114, 18.7%), 2019 was largely the year with the most underage drinking infractions. Another year of note was 2023 in the Richmond area; it showed a local spike in infractions (21, 67.7%).

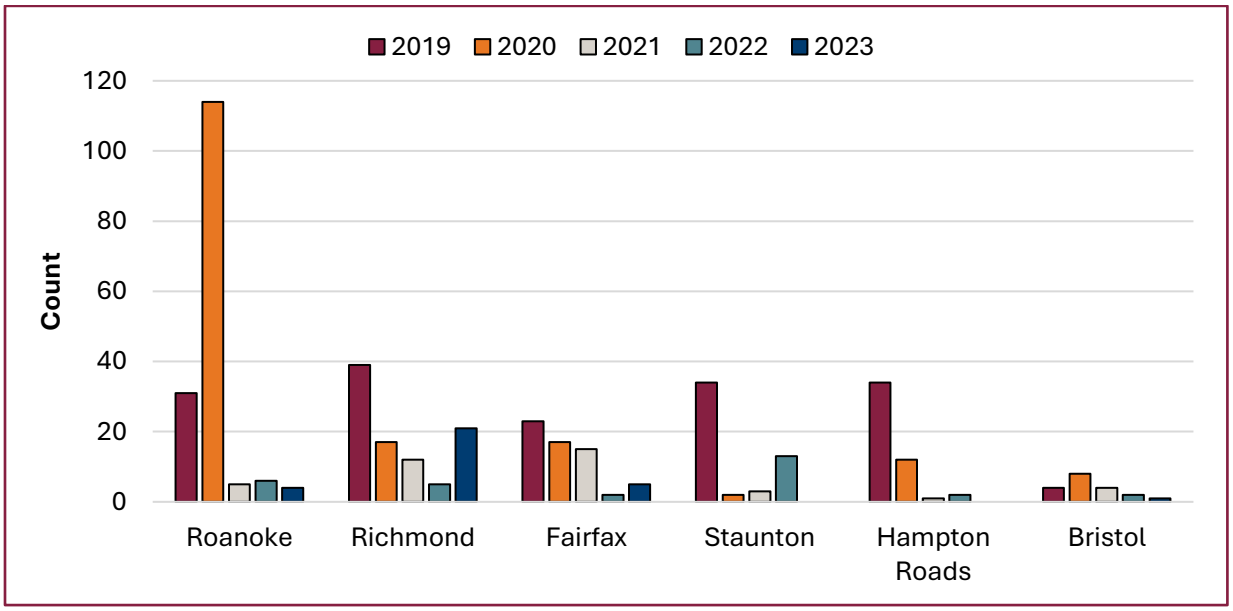

Figure 12.6. Underage drinking infractions by region and year

Figure 12.7 shows the results for underage drinking infractions by county. The results indicate that the three counties with the highest number of underage drinking infractions were Hanover County (24, 8.4%), Lunenburg County (20, 7.0%), and New Kent County (19, 6.6%;). Appendix M contains a full breakdown by county.

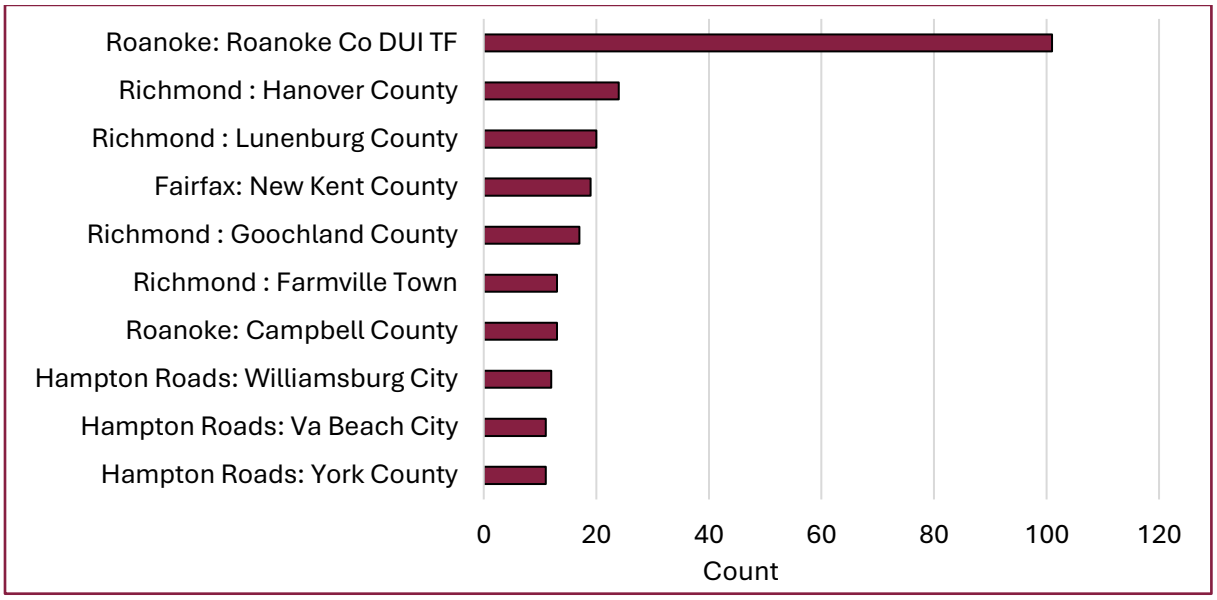

Figure 12.7. Underage drinking infractions by county

Administration of Standard Field Sobriety Tests (SFSTs)

Figure 12.8 shows the number SFSTs administered, by region. Like the number of DUIs issued, 2019 showed a large spike in all regions, except for the Bristol area. The Fairfax region administered the highest number of SFSTs, followed by the Richmond area. Of note was the high number of SFSTs administered in 2019.

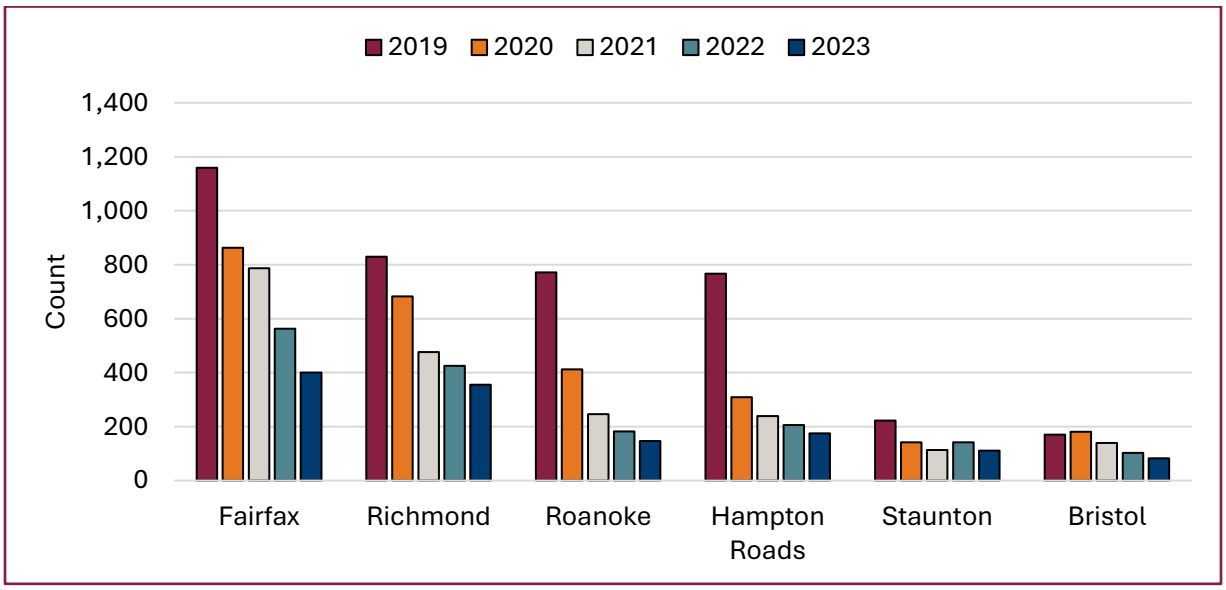

Figure 12.8. SFSTs administered by region and year

Figure 12.9 shows the results for SFSTs administered by county. Fairfax County conducted the greatest number of SFSTs with 1,491 (14.1%) followed by Prince William County (1,103, 10.5%). Appendix N contains a full list of SFSTs administered for all counties.

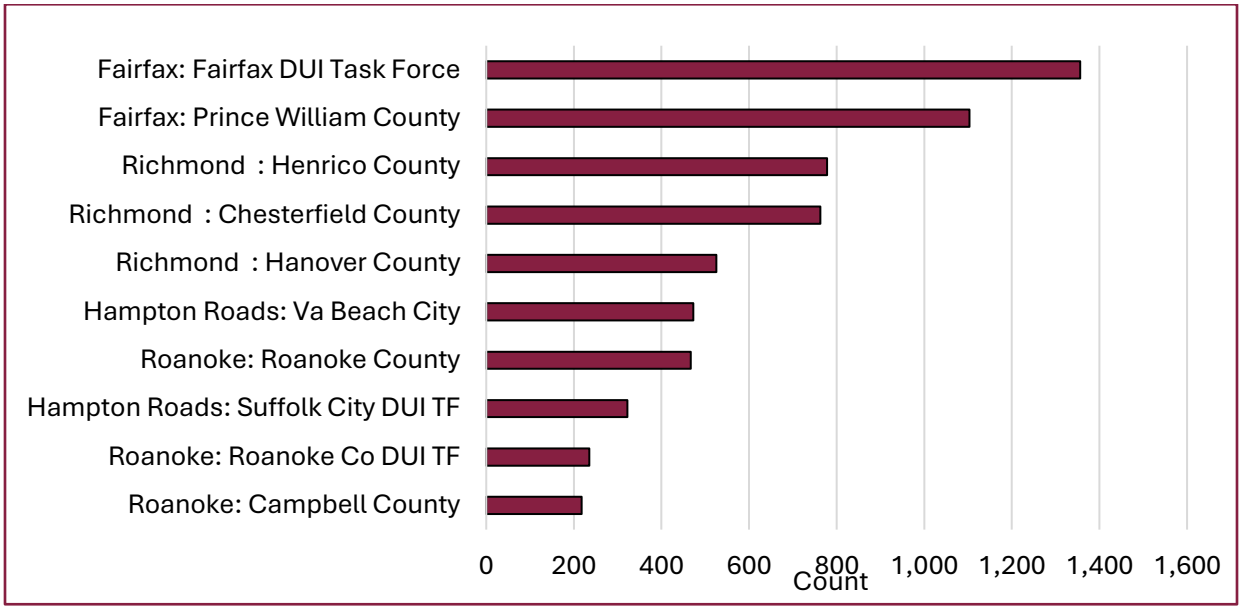

Figure 12.9. SFSTs administered by county

Breath or Blood Test Refusals

Figure 12.10 shows the number of breath or blood test refusals. The results indicate that 2019 showed a relative spike in refusal of tests in the Fairfax, Richmond, Hampton Roads, and Roanoke areas.

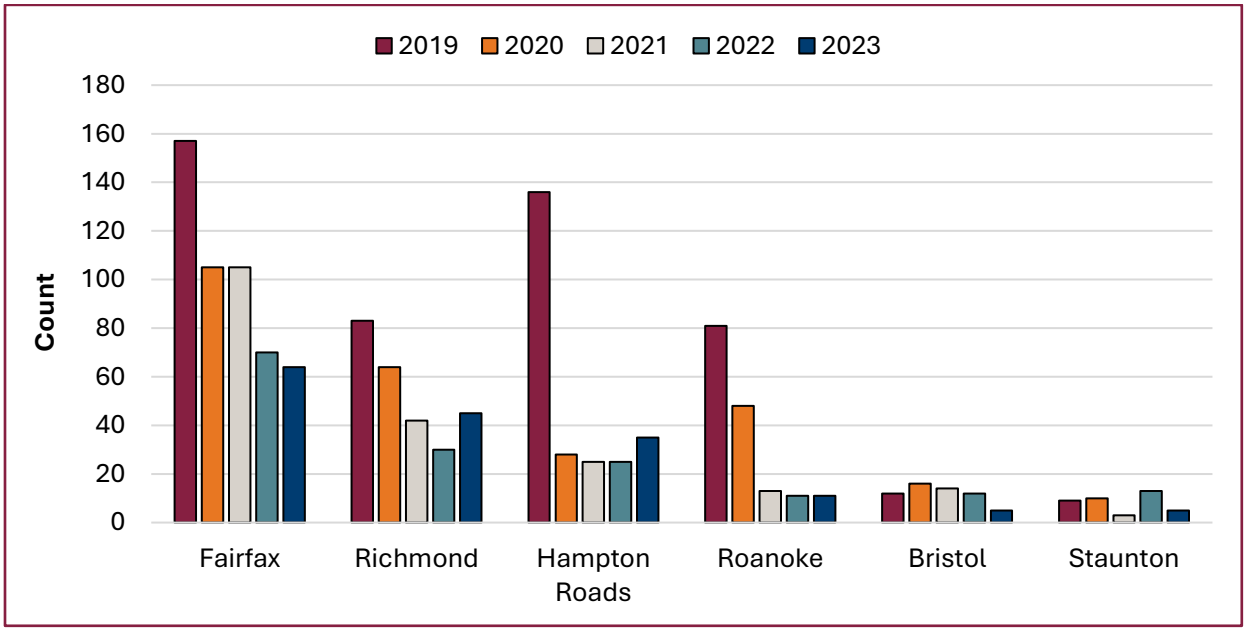

Figure 12.10. Refusal of breath or blood test by region and year

Figure 12.11 shows the results for test refusals, by county. The results indicate that Fairfax County led the state in the number of test refusals with 220 (19.5%), followed by Prince William County (11.7%). Appendix O contains a full list of the test refusals by counties.

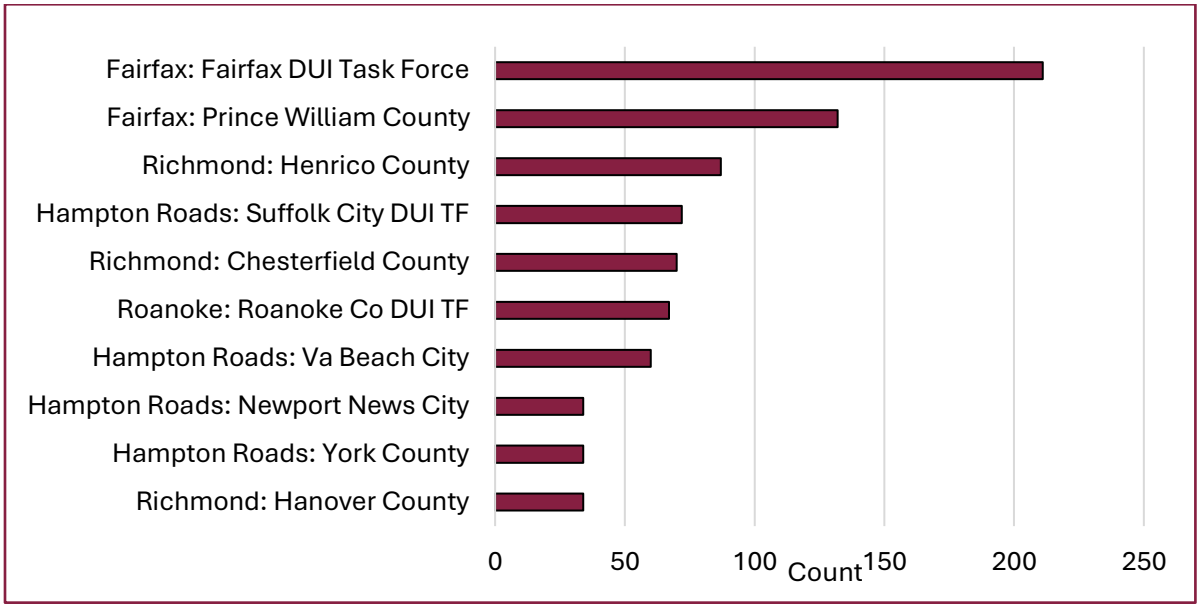

Figure 12.11. Blood or breath test refusals by county

Open Container Violations

Figure 12.12 shows the number of open container violations by region and year. The results indicate that the Hampton Roads area had the highest number of violations in 2019 (101, 35.1%). However, the Fairfax and Richmond areas showed the largest overall count of open container violations across the years, totaling 444 violations and accounting for 54.1% of the state.

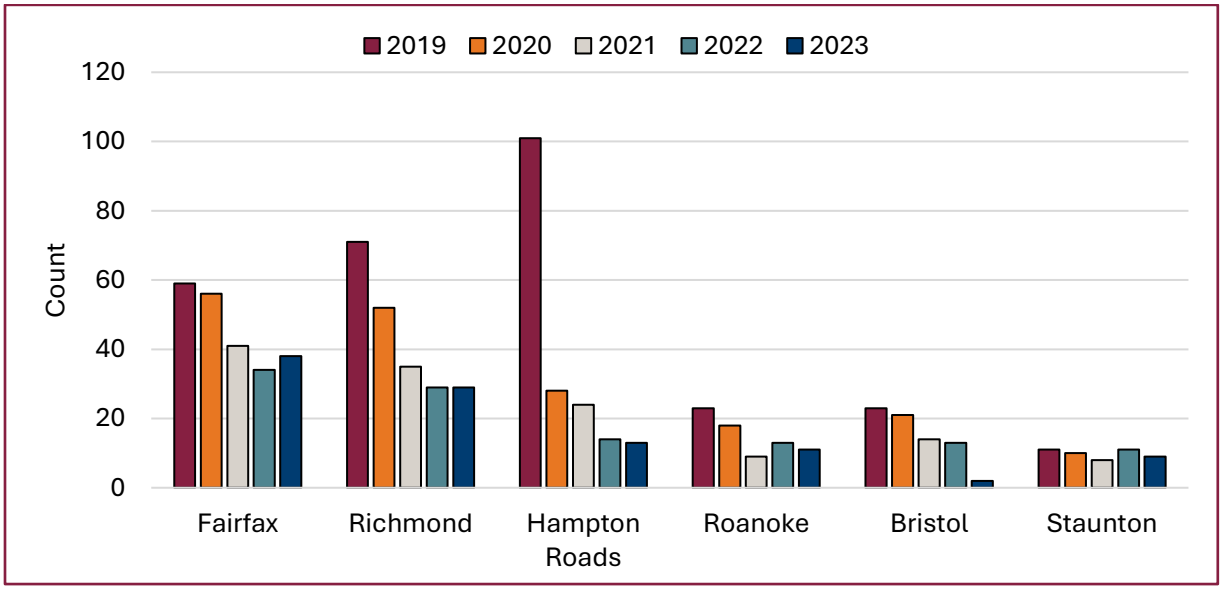

Figure 12.12. Open container violations by region and year

Figure 12.13 shows the number of open container violations by county. The results indicate that New Kent County led the state in (99, 13.2%), followed by Fairfax County (81, 10.8%). Appendix P contains the full set of results.

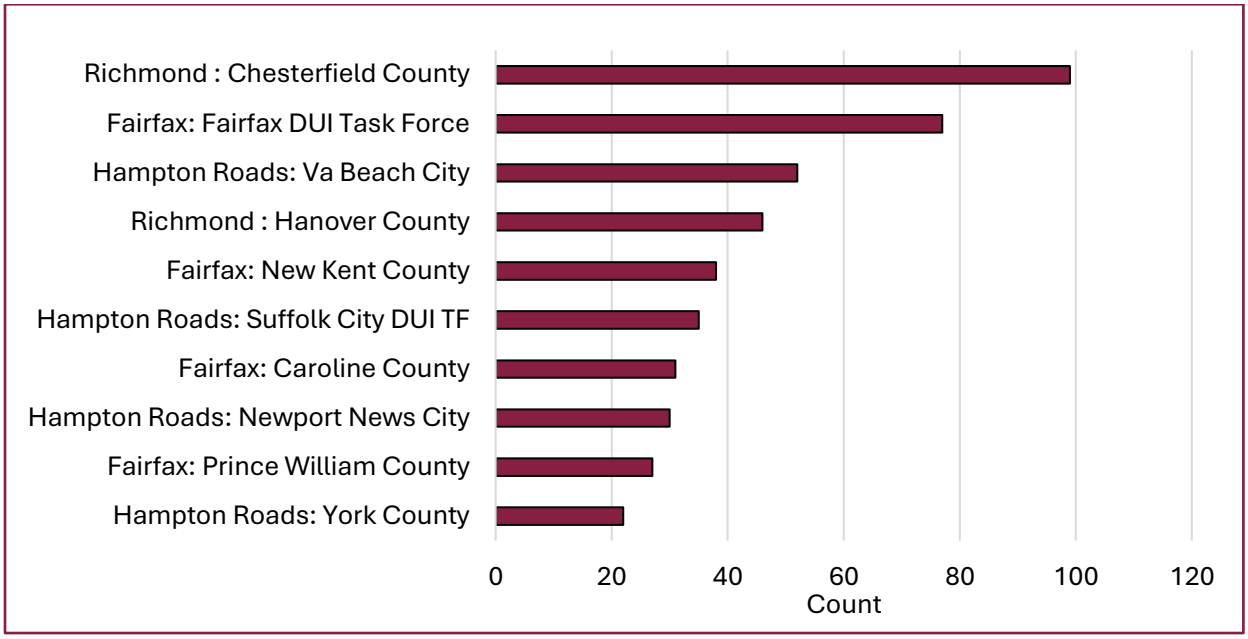

Figure 12.13. Open container violations by county

Drug-Related Enforcement Measures

DUID Arrests

Figure 12.14 shows the total number of DUID arrests in Virginia, by region. The results indicate that the Fairfax region had the highest overall number of arrests by a large margin (202, 40.6%), followed by the Bristol region (77, 15.5%).

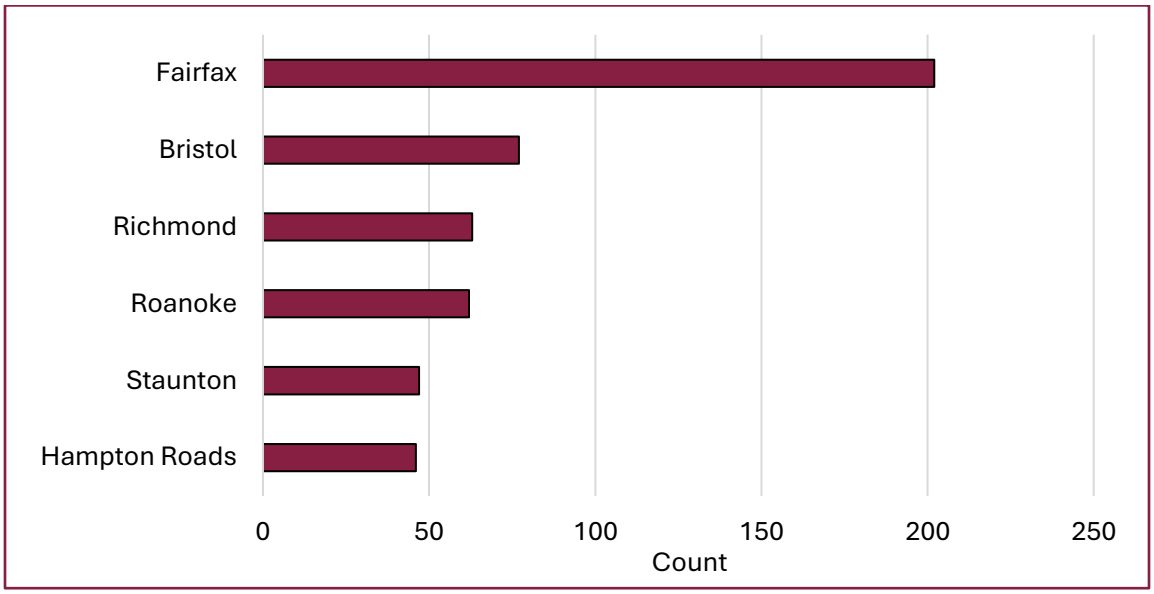

Figure 12.14. Total DUID arrests in Virginia by region

Figure 12.15 shows a breakdown of DUID arrests, by region and year. The results indicate that the Fairfax region largely dominated, regardless of year. Peaks in 2020 and 2021 for the Bristol and Richmond regions, and peaks in 2019 for the Staunton and Hampton Roads regions were also noted.

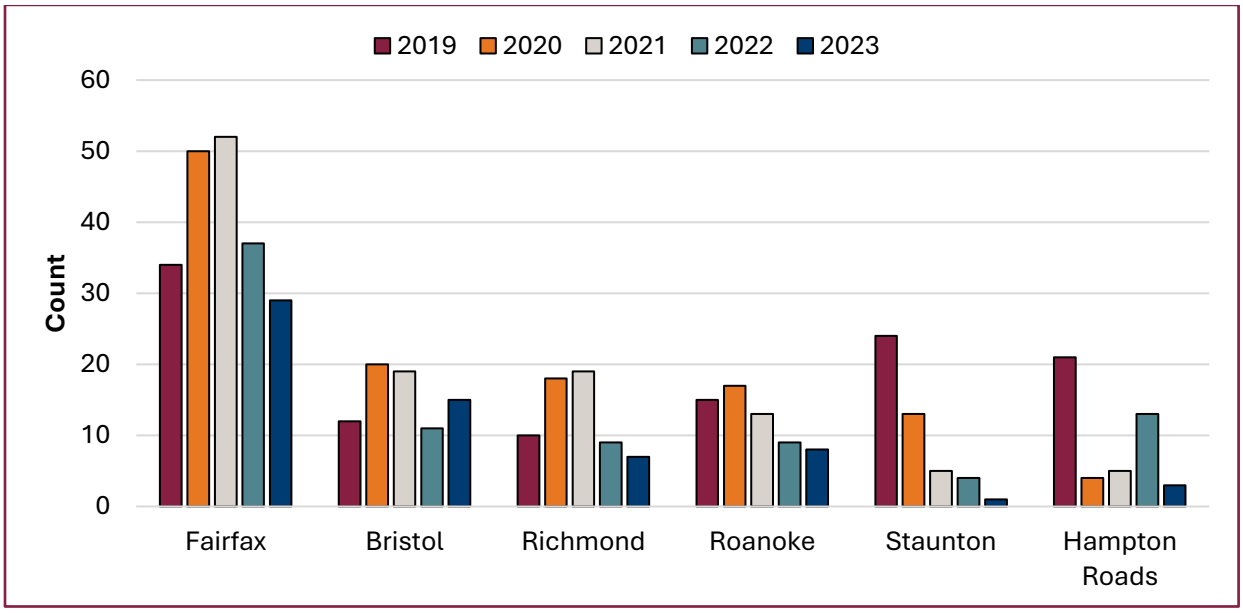

Figure 12.15. DUID arrests by region and year

Figure 12.16 shows the number of DUID arrests, by county. The results indicate that Fairfax County had, by far, the highest number of DUID arrests (126, 28.1%). Appendix Q contains the complete list of DUID arrests by county.

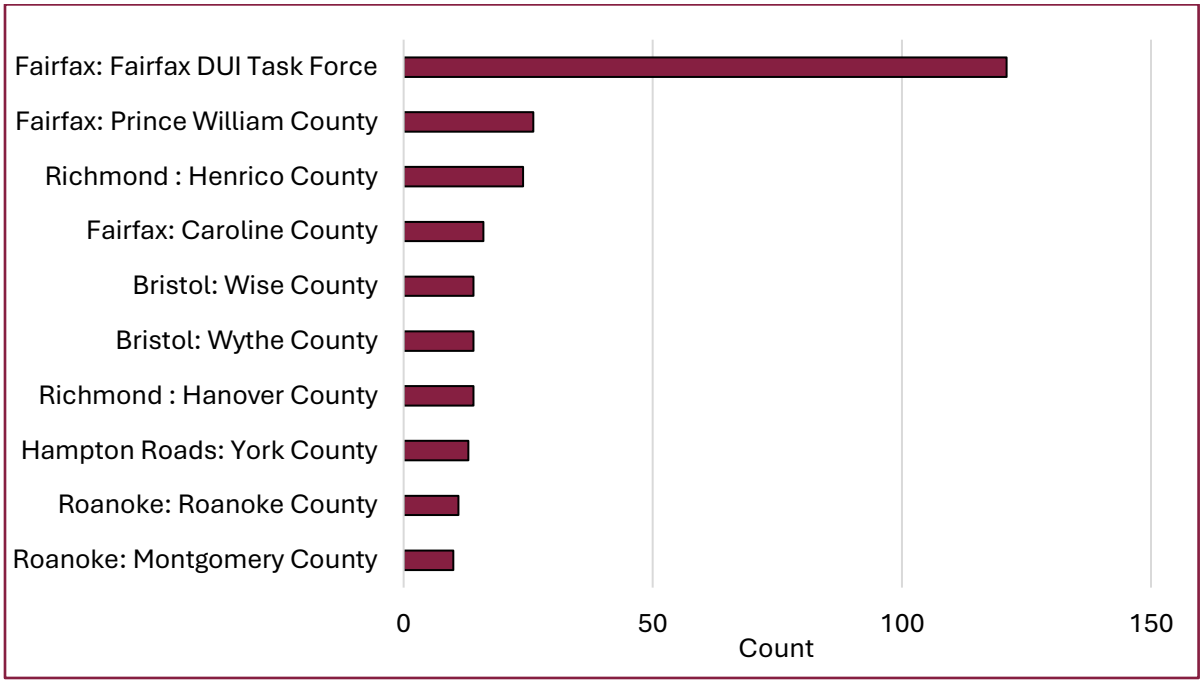

Figure 12.16. DUID arrests by county

Drug Possession Arrests

Figure 12.17 shows the number of drug possession arrests by region and year. The results indicate that, again, 2019 showed the highest number of arrests in each of the regions, with a subsequent downward trend for each of the following years. It was also noted that, until recent years, Richmond had counts that were higher than other regions.

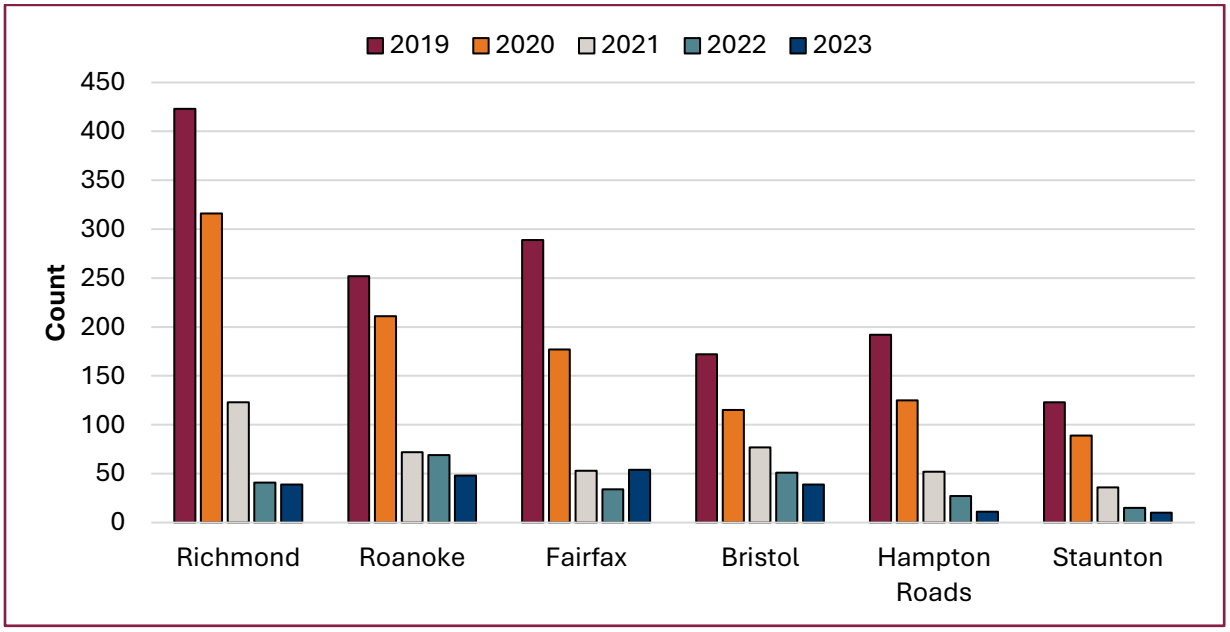

Figure 12.17. Drug possession arrests by region and year

Figure 12.18 shows the number of drug possession arrests, by county. The results indicate that Hanover County led the state in arrests with 277 (8.8%), followed by Chesterfield County (225, 7.1%). Appendix R contains a full list of all drug possession arrests by county.

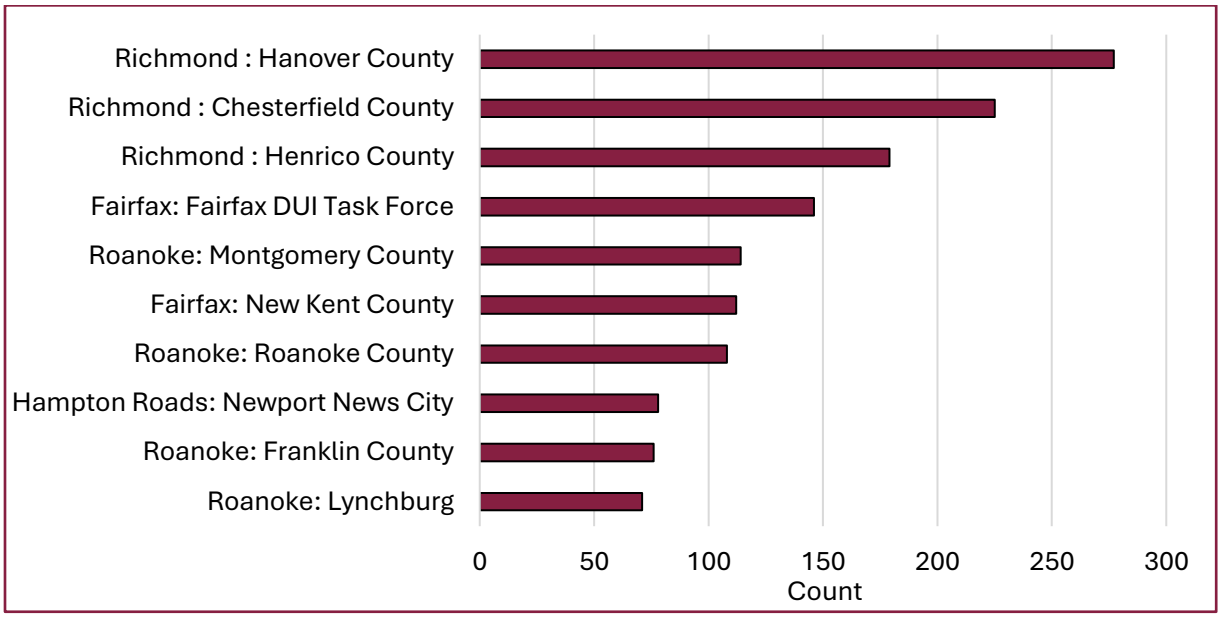

Figure 12.18. Drug possession arrests by county

DUI-Related Law Enforcement Activities

Statement of Work and Special Conditions (SWSC) Activities

SWSC activities refer to those funded by a Virginia Highway Safety Grant, with the goal to reduce the number of crashes, injuries, fatalities, and related economic losses resulting from impaired driving. Activities may include increased enforcement, educational efforts, training, and purchase of associated equipment. Figure 12.19 shows the number of hours attributed to SWSC activities, by region and year. The figure's basis was nearly 407,000 hours across the five Virginia regions over the studied years. Overall, the results indicate that, by far, the largest allotment of time pertained to the Fairfax area (132,194 hours, 32.5%). This was followed by the Richmond area (84,416 hours, 20.8%). There is also a slight downward trend for each region across the studied years, excepting the Roanoke area in 2019.

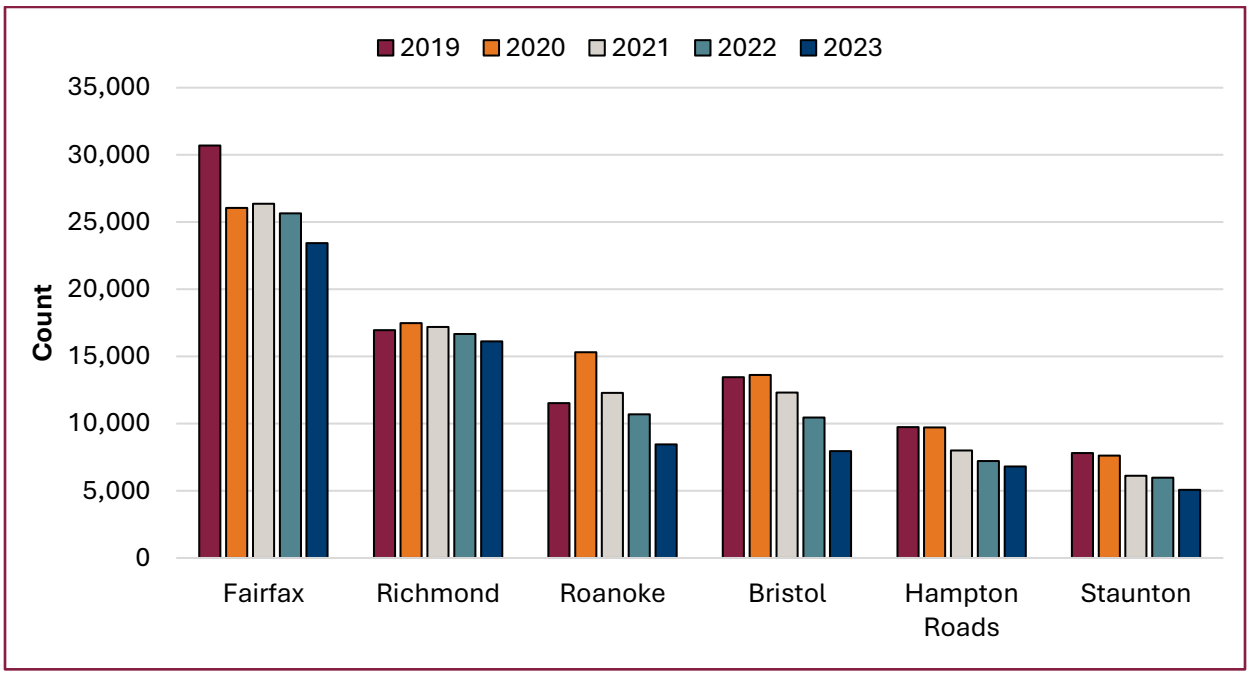

Figure 12.19. Hours allocated to SWSC activities by region and year

DUI Sobriety Checkpoints

Figure 12.20 shows the number of sobriety checkpoints operated, by region over the studied years. In total, 4,566 checkpoints were initiated with 1,482 in the Bristol area (32.5%) and 1,418 in the Richmond area (31.1%). Together, these two areas accounted for nearly two-thirds (63.6%) of all DUI sobriety checkpoints in the state. In general, 2019 was the year with the highest checkpoint counts – aside from 2020 in the Richmond and Roanoke areas. In Richmond, in 2020, 1,082 checkpoints were used, which comprised 56.1% of the state's checkpoints.

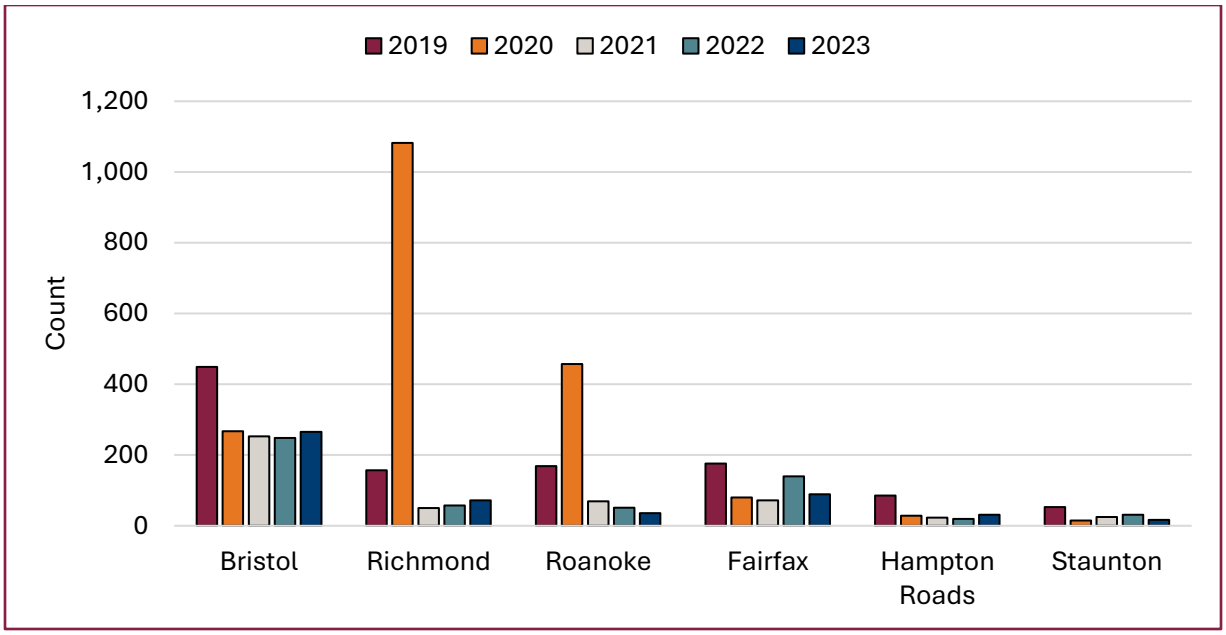

Figure 12.20. DUI sobriety checkpoints performed by region and year

Figure 12.21 shows the number of DUI sobriety checkpoints performed, by county. The results indicate that the highest number of checkpoints performed was in Henrico County (1,039, 26.1%), followed by Roanoke City/County (464, 11.6%). Appendix S contains a full list of sobriety checkpoints by county.

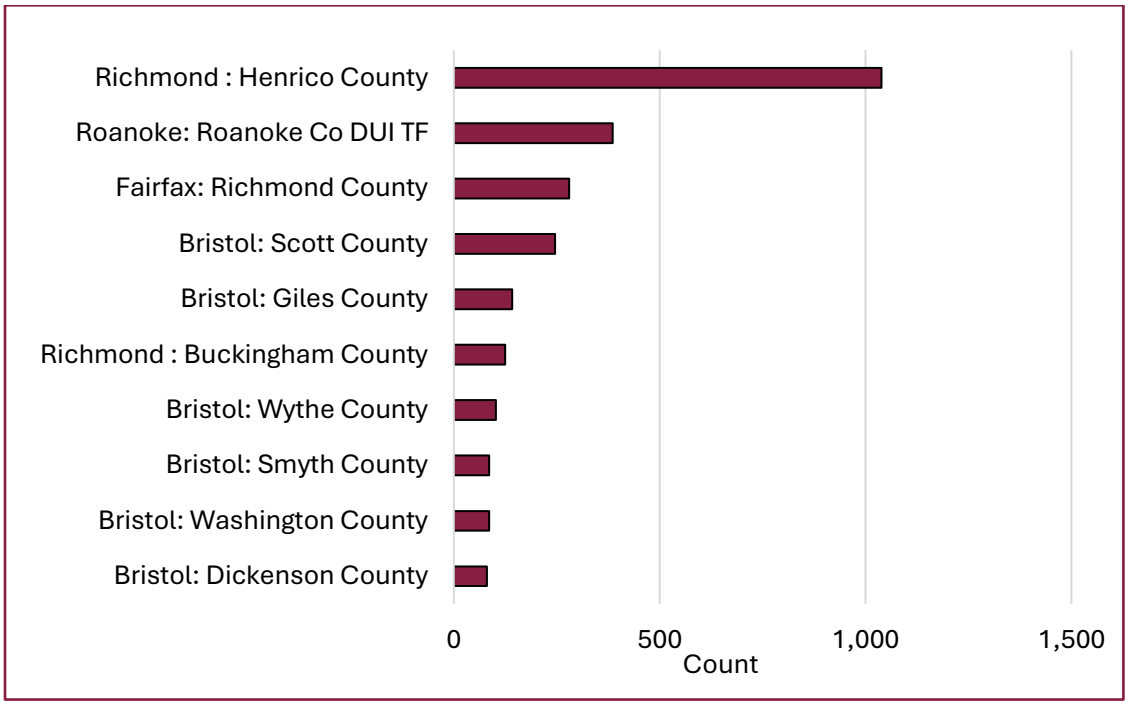

Figure 12.21. DUI sobriety checkpoints performed by county

Figure 12.22 shows the number of DUI sobriety checkpoint contacts by region and year. The results indicate that checkpoints in the Bristol area were responsible for the highest number of contacts, particularly in 2019 (79,959, 38.1%), followed by the Roanoke area, that also peaked in 2019 (58,701, 28.0%).

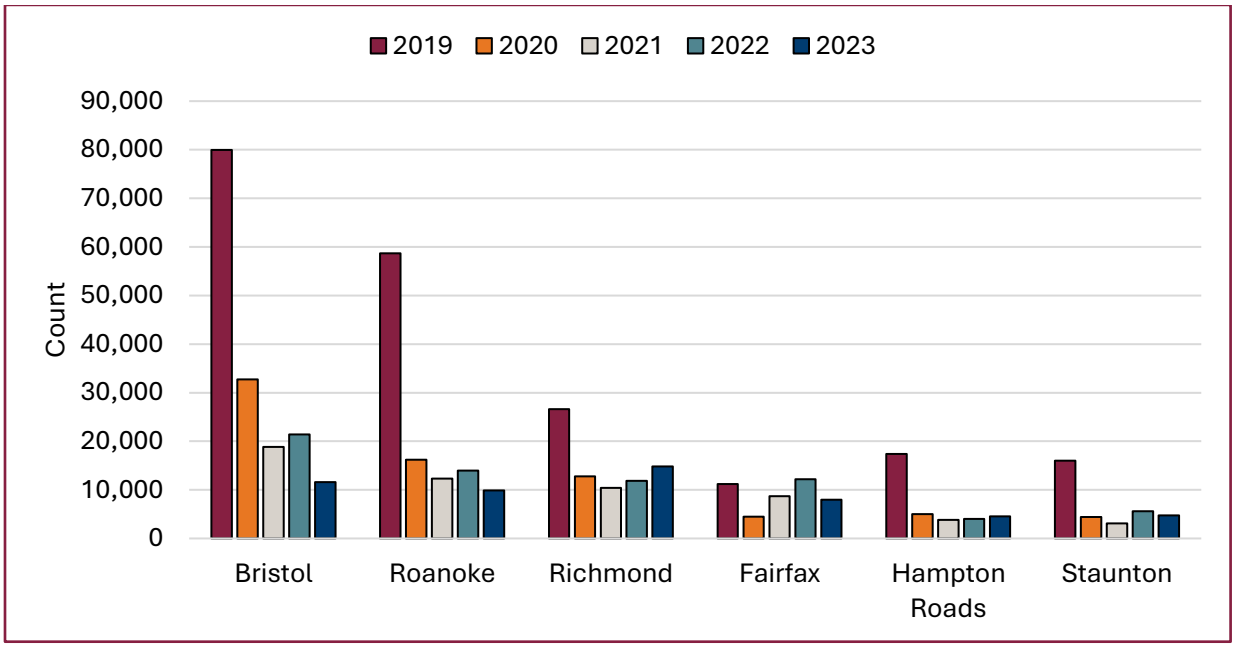

Figure 12.22. DUI sobriety checkpoint contacts by region and year

Figure 12.23 shows the number of sobriety checkpoint contacts by county. The results indicate that Smyth County (28,871, 7.8%) and Campbell County (22,862, 6.2%) had the highest number of checkpoint contacts. Appendix T contains a full list of checkpoint contacts per county.

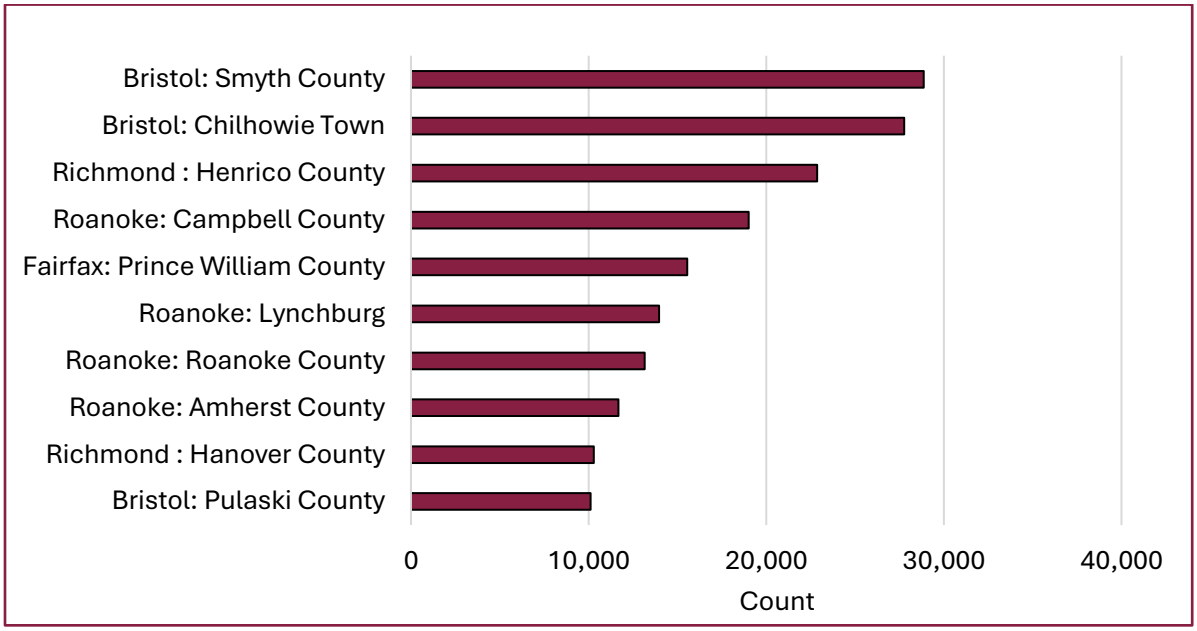

Figure 12.23. DUI sobriety checkpoint contacts by county

Saturation Patrols

Figure 12.24 shows the number of saturation patrols by region and year.[7] The figure's basis was 48,393 patrols. The majority occurred in the Fairfax (14,005, 28.9%) and Richmond regions (11,717, 24.2%). Together, these two areas accounted for 53.2% of statewide saturation patrols. The results indicate there was a downward trend in the Bristol, Roanoke, Hampton Roads, and Staunton areas. In all regions, the year 2019 recorded the highest number of patrols, with the exception being the Richmond area, where 2020 saw the most patrols.

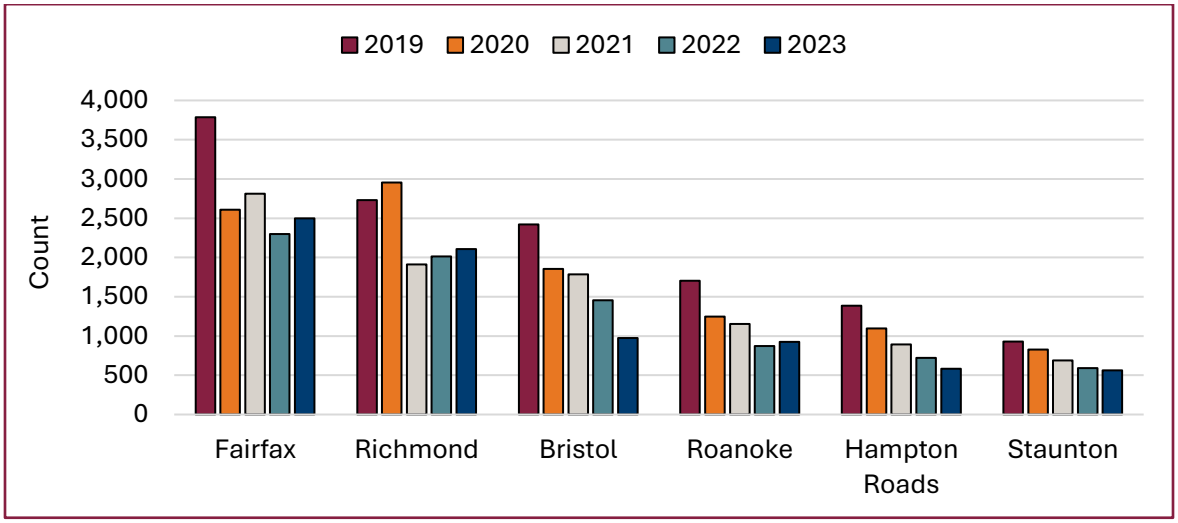

Figure 12.24. Saturation patrols performed by region and year

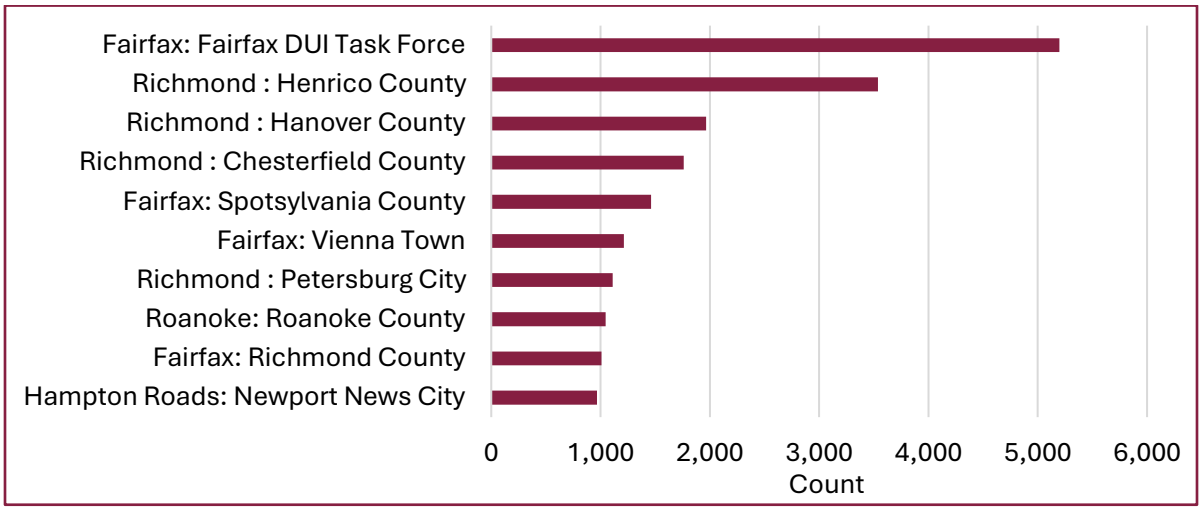

Figure 12.25. Saturation patrols performed by county

Figure 12.25 shows the number of saturation patrols by county. The results indicate that Fairfax County had the highest number of patrols (5,231, 13.1%), followed by Henrico County (3,538, 8.7%). Appendix U provides the complete listing, by county.

[7] A saturation patrol is a law enforcement operation that involves an increased number of police officers patrolling a specific area to look for impaired drivers, especially at times and locations where impaired driving is more common.

Figure 12.26 shows the number of saturation patrol contacts, by region and year. The figure's basis was 219,998 contacts across the state over the studied years. The results indicate that the Richmond area had the most contacts (59,097, 9.2%), followed by the Fairfax region (51,747, 23.5%). Collectively, these two areas accounted for 50.4% of all saturation patrol contacts in the state. The figure shows that 2019 contributed the most contacts, regardless of region. There was a downward trend in contacts for Bristol, Roanoke, Hampton Roads, and Staunton. However, the Richmond and Fairfax areas did not follow the same pattern.

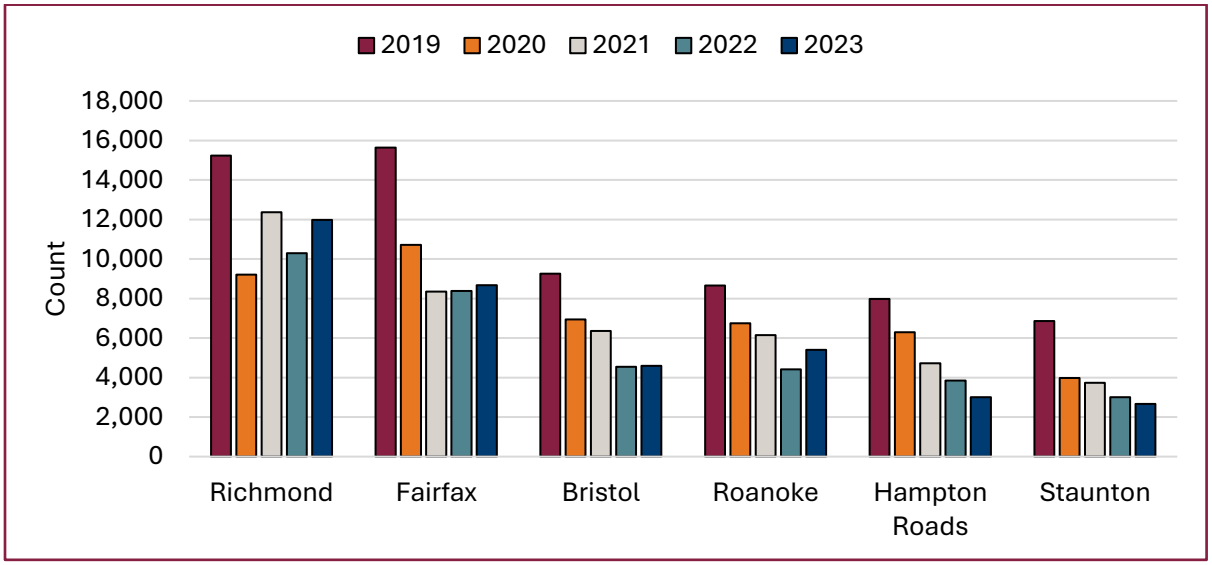

Figure 12.26. Saturation patrol contacts by region and year

Figure 12.27 shows the number of saturation patrol contacts, by county. The results indicate that the highest number of contacts occurred in Henrico County (22,643, 10.3%), followed by Fairfax County DUI Task Force (14,576, 6.6%). Appendix V provides the complete listing of contacts, by county.

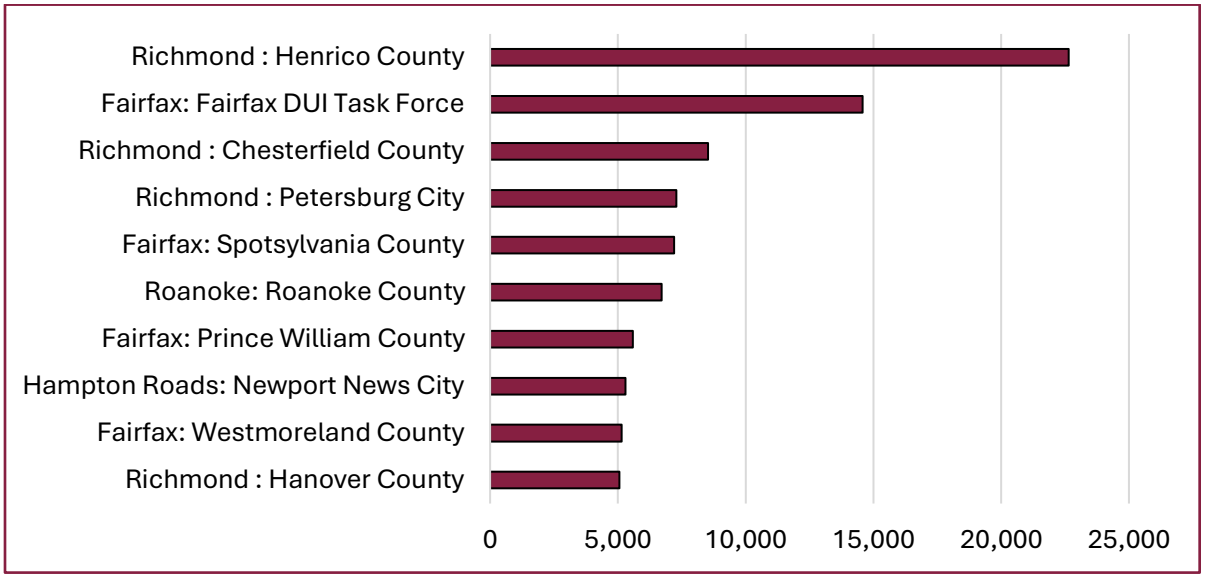

Figure 12.27. Saturation patrol contacts by county

Objective 13: Funding for Drug and Alcohol Programs

The goal for Objective 13 was to investigate the total amount of National Highway Traffic Safety Administration grant money awarded to Virginia, each law-enforcement agency, and any other entity that is not a law-enforcement agency. Data were provided by the Virginia DMV, and, unless otherwise noted, all data and related figures and tables in this section pertained to 2019–2023.

Grant Funding

Figure 13.1 shows the results pertaining to grant funding for alcohol and drug + alcohol programs. The proportion of funded grants for alcohol comprised 68% of funding, with a total of $54.63 million; the drug + alcohol programs made up the remaining 32% ($25.91 million).

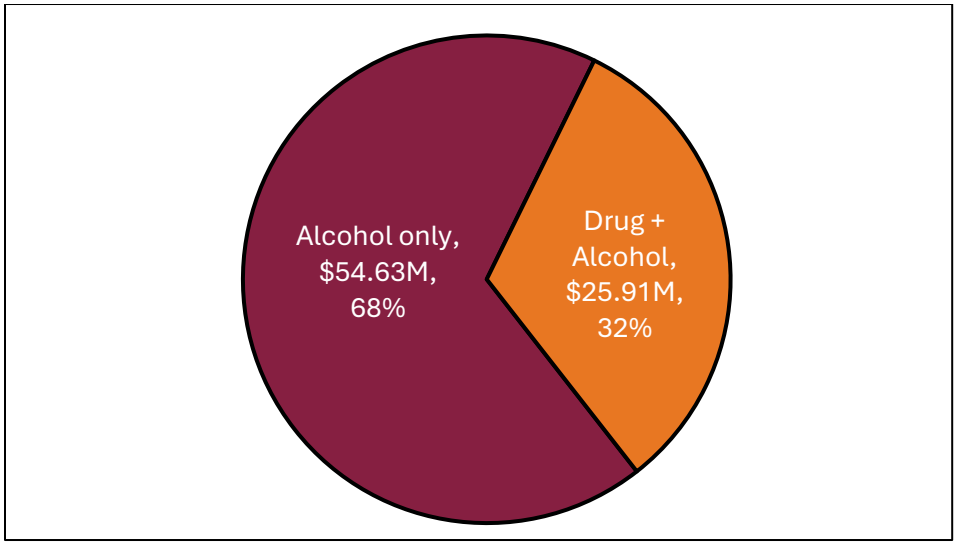

Figure 13.1. Grant funding for alcohol and drug-plus-alcohol programs

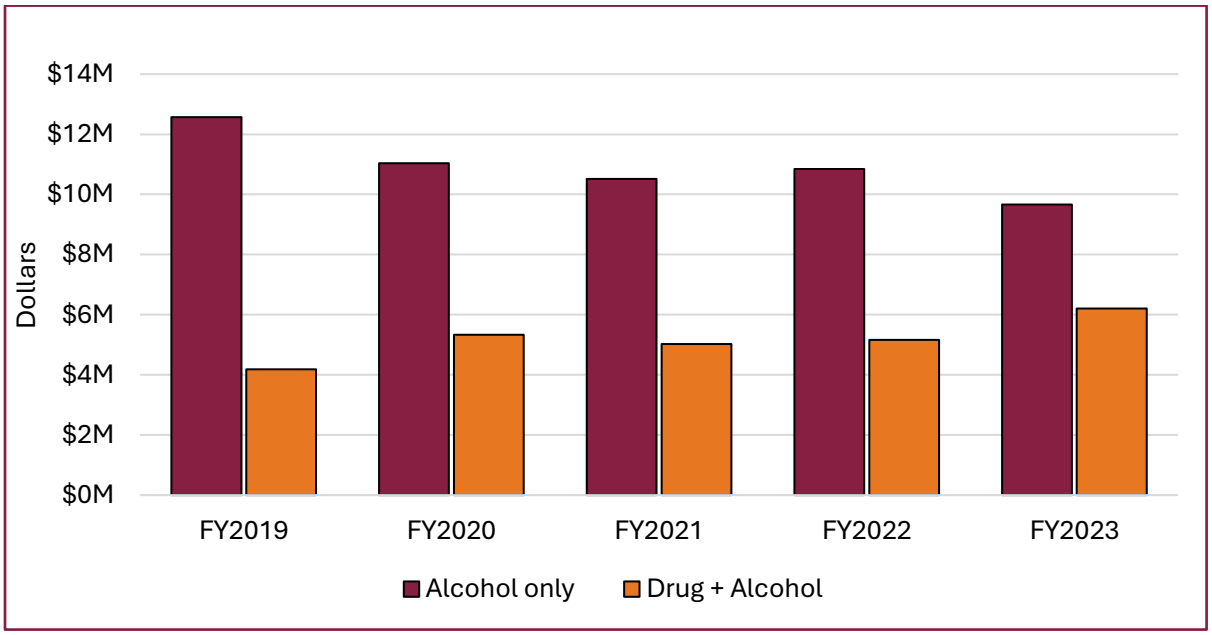

Figure 13.2. Grant funding for alcohol and drug + alcohol programs by year

Figure 13.2 shows the corresponding, underlying, yearly data. The results indicate there was a small downward trend for alcohol-only funding over the studied years (i.e., $12.6 million to $9.7 million, respectively). However, in 2023, funding for drug + alcohol programs showed an increase to $6.2 million from the prior year ($5.2 million).

Grant Funding Recipients

Figure 13.3 shows the grant funding recipients over the studied years, with the figure limited to the top 10 recipients. The figure's basis was 175 recipients of grant funding. The Automotive Coalition for Traffic Safety, who run the Virginia Driver Alcohol Detection System for Safety (DADSS) Pilot Deployment Program, received the largest amount of funding ($25.4 million, 31.5% of the total funding). Appendix W provides the complete list of all 175 recipients of grant funding and the funding amount.

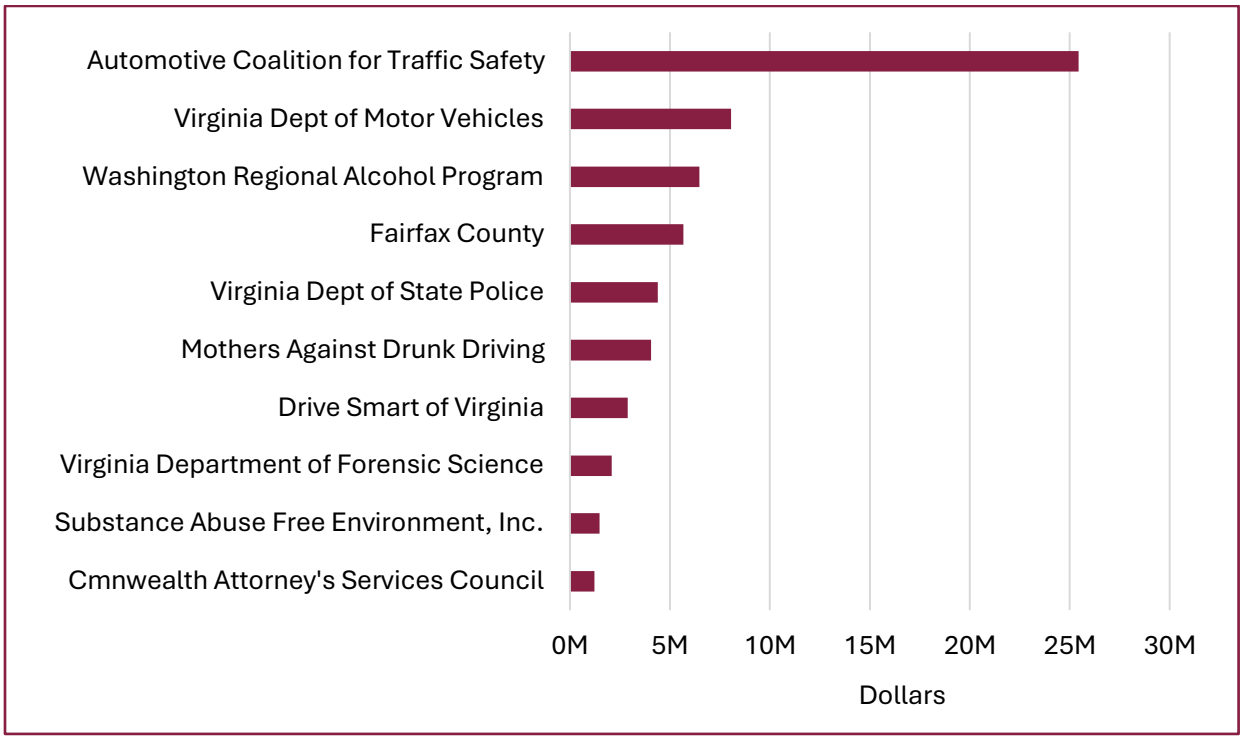

Figure 13.3. Grant funding amount by recipient

Figure 13.4 shows the breakdown of funding by program title for the top recipients. The program VA DADSS Pilot Deployment Program comprised the largest of the awards, although this program will become federally funded, rather than state funded, as of 2024. To improve readability, VTTI collapsed across program title when it was obvious that two programs were the same, but with slightly different names. Appendix X shows which program titles were collapsed while Appendix Y contains a full breakdown of all funded programs.

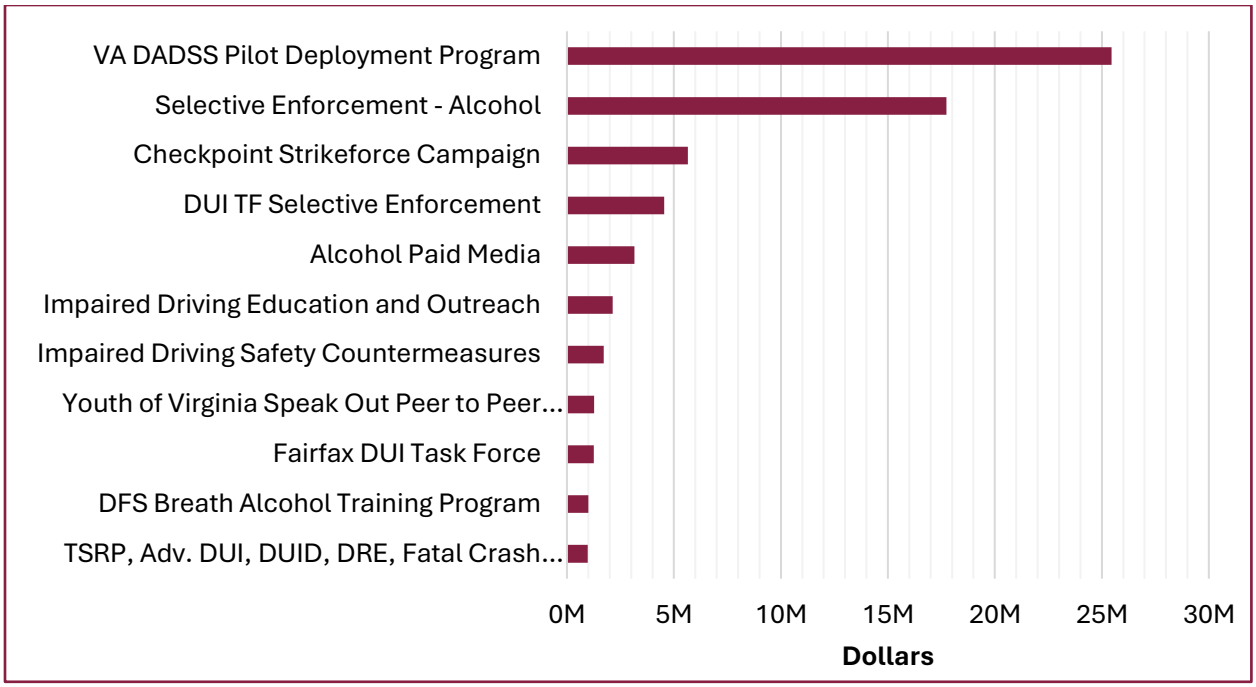

Figure 13.4. Grant funding awards by program title

Table 13.1 shows the longest running, top funded alcohol and drug + alcohol programs in Virginia. The results indicate how funding has changed year-over-year for those that received the most funding. Programs that have received an increase in funding include:

- Alcohol Paid Media
- Impaired Driving Education & Outreach
- Impaired Driving Safety Countermeasures
- Virginia DUI Prevention and Education

Table 13.1. Longest-running, top funded alcohol and drug + alcohol programs by year

Project Title	2019	2020	2021	2022	2023	Total
Alcohol Impaired Driving Program PM SFST Coord.	182,437	183,317	183,317	189,628	189,128	927,827
Alcohol Paid Media	525,000	624,225	624,225	624,225	750,000	3,147,675
Checkpoint Strikeforce Campaign	1,132,805	1,133,805	1,129,805	1,129,280	1,129,280	5,654,975
Drug-Impaired Driving Program Coordination	122,800	29,546	29,546	30,849	30,874	243,615
Impaired Driving Education and Outreach	228,874	510,321	423,634	478,230	500,458	2,141,517
Judicial Outreach Liaison	71,250	63,600	63,600	63,600	63,600	325,650
Judicial Transportation Safety Conference	60,000	60,000	70,000	85,000	90,000	365,000
Public Information & Education and Youth Outreach Programs	175,670	178,640	109,895	153,626	144,870	762,701
Selective Enforcement - Alcohol	3,672,721	3,704,844	3,564,118	3,598,960	3,200,073	17,740,716
Survive the Drive	83,291	73,689	24,698	41,520	70,560	293,758
VA DADSS Pilot Deployment Program	5,099,210	5,099,042	5,098,600	5,091,446	5,061,626	25,449,924
Virginia DUI Prevention and Education	117,747	74,321	144,394	197,525	169,600	703,587
Youth of Virginia Speak Out Peer to Peer Education Program	219,079	232,147	255,737	275,813	292,814	1,275,590
DFS Breath Alcohol Training Program	280,455	273,519	162,354	278,055	0	994,383
DUI TF Selective Enforcement	0	1,353,248	1,092,716	1,026,398	1,067,078	4,539,440
TSRP, Adv. DUI, DUID, DRE, Fatal Crash Training	221,252	241,920	241,920	0	268,655	973,747
Crash Investigation & Reconstruction Program – AL	0	0	45,850	44,550	44,450	134,850
Forensic Science - Toxicological Data Analysis and Submiss	84,290	93,656	113,624	0	0	291,570

Discussion

Peak Year

A common finding was related to peak activity in the year 2019. Local peaks were seen in the raw counts of:

- number of charges and convictions by statute (§ 18.2-266),
- number of individuals referred to VASAP,
- number of arrests (§ 18.2-266),
- number of guilty dispositions,
- number of active IIDs,
- DUIs,
- juvenile DUIs (in Fairfax and Staunton Counties),
- underage drinking,
- refusal of breath or blood tests,
- number of open containers, and
- drug possessions.

It is no surprise that 2019 reflected peaks, as this year also showed peak activity for SFSTs, number of SWSC hours, number of checkpoint contacts, patrols performed, and saturation patrols performed. Clearly there is a correlation between the effort expended by law enforcement and the results above. However, it should be noted that greater levels of law enforcement time and expenditures only provide a closer approximation to the *actual* prevalence of safety-related behaviors. As more enforcement is afforded, it is likely that the number of arrests and charges will increase. However, the increase does not necessarily indicate a higher prevalence, but simply improved detection capabilities.

Additionally, it is worth noting that in 2019, the Staunton and Hampton Roads regions showed outsized numbers of DUIDs. This may be attributed to the somewhat higher number of saturation patrol contacts, SWSC checkpoints, and checkpoint contacts in 2019 for these areas; however, the relative allotment of resources may not completely account for the increased DUIDs. While each of the enforcement strategies was somewhat higher for 2019 in those areas, there may be other factors affecting the results, given that Staunton and Hampton Roads tended to have the lowest total enforcement among the five regions.

Finally, 2020 showed a remarkably high number of checkpoints performed in the Richmond and Roanoke areas. Interestingly, those regions did not show outsized numbers of checkpoint *contacts* during the same period. Perhaps the checkpoints were simply less effective at contacting drivers, or these numbers may be the result of a departmental push to continue utilizing checkpoints in the presence of COVID.

DUI Charges

Most charges levied against individuals were for § 18.2-266 – DWI for alcohol or drugs (70.6%). However, § 18.2-266 was also the most amended charge. Results showed that for amended charges, 93.5% were pleaded down from § 18.2-266. This finding shows that there is a subset of people who qualified for a DUI charge, but for whom law enforcement allowed a lower charge. What is unknown is the recidivism rate not only for people with an initial DUI charge, but for people who managed a lower charge. Are those who have been given grace less likely to receive a second charge later? Knowing the likelihood and circumstances surrounding the charge may provide insight into which drivers can benefit from a one-time show of grace and which drivers will abuse such a system. The current dataset, as maintained by the Supreme Court of Virginia, contains case numbers; however, these values do not appear to be applied on a per-defendant basis. Such information would be invaluable in determining recidivism and highlighting high-risk individuals.

Drug Testing

High levels of positive drug and polydrug use were found by utilizing data from the Department of Forensic Science. Trends showed a sharp increase in the number of blood samples submitted for testing from an average of 2,575 tests (2019-2022) to 4,306 tests in 2023. While it is tempting to assume increased counts of positive tests indicate increased substance use by motorists, several other factors likely affect these trends. An uptick in samples testing positive for cannabis in 2023 could be the result of increased use due to legalization, but it may also be accounted for by increased testing as a result of cannabis legalization.

Analyses that focused on drug testing in the presence of alcohol for both commercial drivers and non-commercial drivers revealed high substance use. For those drivers at a legal DUI limit, 45.5% of commercial drivers and 38.3% of non-commercial drivers also tested positive for drugs. For non-commercial drivers, a diverging trend emerged between 2019 and 2022. The proportion of drivers with a BAC of zero who tested positive for drugs increased dramatically. Conversely, the proportion of drivers who tested positive for drugs with a BAC of 0.08% or higher increased through 2021 but saw a sharp decline in 2022. It is unclear at this point whether 2022 represents a true change in trajectory or if it is an outlier year affected by other factors. Commercial drivers with a BAC of zero followed a similar pattern with an increased proportion of drivers with positive drug tests from 2019–2022. However, those at the BAC DUI level only showed an increase from 2020–2021, with decreases before and after. Together, these findings suggest an area of interest that should be monitored as more data are collected.

Additionally, it is worth noting the biases in collected drug data. Testing may be completed on people who are not representative of the driving population, especially if testing is concentrated in certain areas or locations such as large urban centers. Additionally, different drug metabolites remain present for longer following ingestion. For example, chronic use of cannabis, PCP, or benzodiazepines may lead to a positive test, even if the individual has not consumed the drug recently. The presence of drug metabolites does not necessarily indicate impairment at the time of testing.

A further issue related to non-alcohol drug testing stems from the administration of certain drugs by emergency medical services (EMS) at the scene of a crash or en route to the hospital. The goal of

EMS is to provide pain relief to the victims and stabilize them for transport to a nearby hospital for further evaluation and medical assistance. As part of this process, EMS may administer drugs such as fentanyl, morphine, or ketamine. Unfortunately, the drug testing completed by toxicology labs is not able to differentiate between self-administered (e.g., recreational) and EMS-administered drugs. This may result in an inflated number of positive tests for these drugs typically used by EMS. While these data may exist in patient files, they are likely difficult to obtain due to privacy concerns. Oftentimes, due to the urgency of the situation, EMS personnel communicate drug information verbally with trauma center staff when handing off a patient for potentially lifesaving medical intervention; thus, there may be no written record of this information against which to verify any drug test results.

Finally, in some cases, roadside officers may choose to end testing after detecting an illegal BAC, without progressing to tests for other substances. While this approach is more time-efficient and saves on the cost of additional testing, it introduces a data bias, as individuals with a BAC over 0.08% are not being tested for additional drug use when they should be. Taken together, the prevalence of drugged driving is exceedingly difficult to determine. Procedural standardization is required such that the circumstances under which tests are ordered would reduce overall data bias and help to accurately compare year-over-year results. A standardized approach could provide a more accurate approximation of actual prevalence, which in turn may directly affect the funding allocation for different rehabilitation programs.

Polydrug Use

A finding of interest relates to concurrent alcohol and cannabis use. When testing revealed a BAC of zero, cannabis use accounted for 20.4% of the results. However, when testing revealed a BAC greater than or equal to 0.08%, cannabis accounted for 30.0% of results. Those who were more likely to test above the legal limit for alcohol were *more likely* to have concurrent cannabis use than those who were not above the legal alcohol limit. While the dramatic rise in polydrug use (cannabis and BAC > 0.08%) in 2023 may be mistakenly attributed to recent legalization, it is critical to consider the impact of the change in toxicology testing procedures. Recall that, as of 2023, all drivers arrested for a DUI in Virginia now have a blood sample submitted for further testing with the Department of Forensic Science for the presence of cannabis. This change resulted in a dramatic increase in the overall number of samples submitted, as well as the number of samples that tested positive for a BAC ≥ 0.08, and the number of samples that tested positive for alcohol and cannabis. This example highlights the need to consider all aspects related to the collection and testing of blood samples for the presence of alcohol and/or drugs.

Other common polydrug combinations included opioids + stimulants and cannabis + stimulants. Together, these findings highlight the fact that road users are not limiting themselves to single substances. While the effects of certain drug classes may be relatively well-known, those taken in combination can create unknown intended and unintended effects. This emphasizes the need to consider intervention approaches applicable to multiple substances—for example, a public education campaign focused on unintended effects of common poly drug combinations.

Program Funding

One of the analyses focused on grants awarded to Virginia programs designed to reduce alcohol or drugged driving. Two of the more well-funded programs were the Virginia DADSS program, which has thus far run from 2019–2023 with a total of $25.5 million dollars, and Selective Enforcement – Alcohol, which ran from 2019–2023 with a total of $17.7 million dollars. Together, these two programs account for approximately one third of all awards (31.5%). As of 2024, the Virginia DADSS program will no longer be funded by the state, rather it will be a federally funded program. While some programs are likely valuable and provide important findings, an outsized budgetary allotment warrants an evaluation of their real-world impact. If programs are not leading to measurable improvements in road safety (whether directly or indirectly through learnings), funding may be better allocated to other programs.

Additionally, it is worth noting that of the 73 programs detailed, only 12.5% have been active for more than 2 years. Like the previous funding discussion, evaluations of program outcomes are imperative to determine those that are the most effective and ensure they are funded for multiple years. It would be unfortunate for an effective program to fail to secure additional funding when a less effective one continued to be funded. Finally, the proportion of funding dedicated to alcohol-only programs has decreased between 2019 and 2023, while that for drug and alcohol programs has increased. This shift indicates the recognition of the need for a more inclusive approach to impaired driving. However, it should be noted that, like the above, program evaluations may indicate more efficient uses of resources. For example, it may be conceivable that DUID behavior is more amenable to change than DUI behavior, and therefore resources should be adjusted to reflect those tendencies.

Population Centers

A consistent finding across analyses was that population centers (e.g., Fairfax, Richmond) were often those with higher counts of arrests, charges, crashes, and fatalities. Unsurprisingly, populated areas tend to have more occurrences; however, when taking the local population into account, other areas of interest may emerge. What results is a discussion related to funding and allocation of resources. Discussion should consider whether the goal is to positively affect the greatest number of citizens or rather to assist disproportionately affected locations.

Processing Time

One analysis focused on the average number of days elapsed from offense to filing. In most cases, this number was fewer than 10 days. However, four offenses stand out as taking longer:

- § 18.2-272 – driving after forfeiture of license
- § 18.2-36.1 – involuntary manslaughter, under the influence
- § 18.2-51.4 – victim permanently impaired, DWI vehicle with reckless disregard
- § 18.2-270.1 – tamper with remote alcohol monitoring device

Presumably, different statutes require different forms and protocols to file the charge. §§ 18.2-36.1 and 18.2-51.4 both include the death or serious injury of another, making the delay reasonable. However, §§ 18.2-272 and 18.2-270.1 do not include medical aspects, suggesting they may be

simpler in filing. In the case of both, these drivers represent a high-risk subgroup who either (a) have already lost their license or (b) have a court-ordered alcohol monitoring device. It would seem reasonable that these instances require a faster turnaround time for filing.

It is also worth noting that regardless of statute charged, the number of days from filing to disposition remained remarkably similar, ranging from 140 to 172 days, suggesting little difference in disposition processing time. The longest file-to-disposition time was § 46.2-341.31 – driving a CMV with any alcohol. This statute stands out as the longest by 16 days, suggesting something unique about its processing.

License Orders

Results showed peak numbers of suspensions issued in 2022 and 2023, with no meaningful difference in restrictions and revocations. The peak in 2023 coincides with increased testing; however, the peak in 2022 may be indicative of another factor, especially in light of no outsized enforcement measures. Prior analyses that focused on SWSC, checkpoints, patrols, and saturation patrols all showed 2022 experienced similar levels as 2021 and 2023. Together, this marks an area of potential interest.

A concerning finding about a particular group of drivers resulted from the analysis focusing on licensing orders—repeat offenders. While most orders (80.0%) were single orders, and an additional 16.0% were the second order for an individual, individuals receiving more orders are of importance. An alarming number of citizens have received *three or more* licensing orders (4,041, 4.0%). These individuals represent a high-risk subset who may need a different approach. Clearly, the process of license restriction, suspension, and revocation does not have the desired impact. In these cases, it is worth gaining further understanding as to why the behavior is occurring and may lead to the elimination of the root cause.

Tests Not Administered or Results Not Reported

Datasets focused on drug and alcohol use to complete Objective 2 had a concerning number of instances where a test was not administered, or test results were not reported. Testing for drugs and alcohol for non-CMV drivers showed 133 instances where no test was administered, 199 instances where neither an alcohol or drug test was reported (or reported as unknown), and an additional 39 instances of incomplete data (i.e., one of the results, either the alcohol or drug test results, were not reported, reported as unknown, or not tested). Together, these account for 17.1% of the data. Similarly, CMV drivers had 15 instances of no test administered, 27 instances of neither test reported (or reported as unknown), and 3 instances of incomplete data, which accounts for 16.5% of the total.

Recommendations

Data Standardization & Linkage

In this study, six different agencies provided datasets for analysis. Theoretically, as an individual progresses from initial roadside testing through forensic testing, sentencing, and subsequent enrollment in programs, their data should be traceable from administration to release. For this to be feasible, changes to the way data are stored and transmitted between agencies may be required. A

unique identifier on a per-individual and per-case basis could be used across all agencies to determine the flow of each event through the process from beginning to end. To accomplish this, data standardization between agencies is required. Not only will this facilitate accurate analyses and process evaluation, but standardization would better highlight repeat offenders if some of their cases were pleaded to a lesser charge. Additionally, data continuity between agencies would facilitate better inter-agency communication and tracking of potential high-risk individuals.

Data Reporting

In some cases, the datasets received by VTTI included pre-processed rather than raw data. In most cases, this was not an issue, but it did require additional efforts to either strip or remove unnecessary materials, such as graphics, or investigation into how certain variables were calculated. In the first case, raw data access from the database may have been easier to work with. In many instances, VTTI did not receive a data dictionary describing the dataset, which led to additional efforts to understand and correctly interpret the data. However, if agencies close to the data were to create data dictionaries describing the data, the types of accepted inputs and any notes on use would greatly aid any future efforts.

Additional Data

For Objective 5, VTTI investigated the number of charges and convictions for several violations. Unfortunately, a crucial element was missing from the dataset: a unique identifier *per defendant*. This would allow VTTI to calculate recidivism rates and determine high-risk individuals who may require alternate approaches.

Limitations

Several limitations apply to this study. The first of these is that much of the data were analyzed utilizing raw counts. While counts provide a high-level view of the data, nuance is missed when rates are not also incorporated. Raw counts for items such as DUIs or checkpoint contacts that appear to be prevalent in populated areas may *actually* be less common when accounting for population. Taking local populations into account can provide additional information and highlight underserved communities that raw counts may fail to identify. As such, raw counts do not correctly convey the true magnitude of the behaviors measured. VTTI will attempt to address this limitation in future iterations of the work.

In many cases, the location of an infraction determines where the data are recorded. While largely applicable, this process misses those people who may travel into a population center. A driver from a predominantly rural area who travels into an urban location affects data integrity. That information is lost, raising the question of whether resources should be applied to the location of the infraction (urban area) or to the source location (rural area) in the hopes of improving safety-related behaviors.

Without knowing the true prevalence of drug use, the creation of rates to tease out any differences in driving risk *per drug* is lost. For example, opioids are commonly prescribed for long-term pain management, but (a) the proportion of the driving population using opioids is not known and (b) the type of opioid (short vs long acting) may play a role in driver impairment. Additionally, the rate of drug use among drivers and the crash rate may not necessarily align. Finally, as noted previously,

drug metabolites have varying durations at which they remain detectable in the body—the presence of a metabolite does not necessarily indicate intoxication let alone the degree of intoxication.

Additionally, for one aspect of Objective 6 (Department of Corrections analysis), VTTI received a written report rather than raw data. The written report was compiled by the Virginia Department of Corrections Research Unit and contained five separate analyses. For the current study, VTTI relied on this report, and the analyses presented are those completed by the department. For all subsequent studies, VTTI will engage with the department to ensure raw data delivery rather than a written report. This will allow more in-depth analyses as well as those the department may not have considered.

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