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2022 Pennsylvania State Police Traffic Stop Study:
1st Quarter Report
January 1 – March 31, 2022

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I. INTRODUCTION

On January 1, 2021, the Pennsylvania State Police (PSP) reinstituted the department-wide collection of data during all member-initiated traffic stops, previously collected from 2002-2010. Informed by this previous work and recent developments in best practices, a committee of PSP officials met with the University of Cincinnati (UC) research team in September 2020 to establish the data collection process regarding PSP traffic stops. The renewed data collection effort was designed to examine patterns and trends regarding the initiation and outcomes of traffic stops by PSP members. As is often the case with a statewide data collection effort of this size and scope, several data integrity issues were identified in 2021 that made it impossible to conduct substantive analyses of those data. Detailed information is provided in the *2021 Pennsylvania State Police Traffic Stop Study.*[1] As these issues were discovered, the PSP implemented several modifications to the data collection process that improved the reliability and validity of the data. As a result of these significant improvements, data collected between January 1 and December 31, 2022, will be the second full year of data collected but the first full year of data that the UC research team will analyze.

Given the variety of factors involved in police stop and enforcement decisions, it is beneficial for agencies to identify and better understand trends and patterns to enhance their ability to safely and fairly interact with the public. Furthermore, the voluntary collection and analysis of traffic stop data is consistent with best practices, demonstrates dedication to transparency and accountability to the community it serves, and continues PSP's commitment to evidence-based policing practices.[2]

Quarterly Reports vs. Annual Report

Traffic stop data can be analyzed using a variety of statistical techniques. Typically, researchers rely on a combination of statistical approaches based on the research questions being examined. The following are some of the most frequently used statistical methods employed in examining traffic stop data:

- **Descriptive statistics** summarize quantitative data with counts and percentages.
- **Bivariate analyses** assess the relationship between two variables (e.g., race and reason for stop; race and arrest during a traffic stop) with a chi-square analysis, but do not consider any other factors that might influence these relationships.

[1] Robin Engel & Jennifer Cherkauskas, *2021 Pennsylvania State Police Traffic Stop Study: January 1 – December 31, 2021* (September 2022). Report submitted to the Commissioner of the Pennsylvania State Police. https://www.psp.pa.gov/

[2] Marie Pryor, Philip Goff, Farhang Heydari, & Barry Friedman. "Collecting, Analyzing, and Responding to Stop Data: A Guidebook for Law Enforcement Agencies, Government, and Communities," (2020), https://policingequity.org/images/pdfs-doc/COPS-Guidebook_Final_Release_Version_2-compressed.pdf.

- **Benchmark analyses** compare the percent of racial/ethnic groups who experience an outcome (e.g., traffic stop) to the same groups' *expected* representation in the outcome, assuming no bias; requires the measurement of benchmark data. The validity of different benchmarks varies widely; it is wise to consider multiple benchmarks with the limitations of each in mind.
- **Multivariate Regression Analyses** examine many variables simultaneously and measures the individual and independent impact on the stop outcome of each variable in the model, holding all other variables in the model constant.[3]
    - This allows for the examination of whether driver race or ethnicity is related to traffic stop outcomes once other relevant individual, legal, situational, and environmental factors are considered.
    - A weakness of this type of statistical model is that multivariate analysis can only control for the impact of measured variables; other important factors may not be measured, and therefore not considered in the statistical analyses.
    - Although PSP has one of the most comprehensive traffic stop data collection efforts in the country, no data collection form can reliably measure or quantify all relevant information regarding officer decision making.

The first and subsequent quarterly reports are designed strictly as on-going data audits, focusing on the data collection processes and status updates. Only the annual report (using data from all of 2022) will include substantive and detailed statistical analyses that assess racial/ethnic disparities in traffic stops and outcomes. That is, the results presented in quarterly reports will be purely descriptive and designed to give feedback to PSP administrators, along with exploring initial trends and patterns that may be utilized for data collection improvement, supervisory, or training purposes. This quarterly report provides a preliminary examination of data collected by PSP Troopers from January 1, 2022 through March 31, 2022.

In contrast, the 2022 annual report (delivered in April 2023) will include more in-depth statistical analyses of 12 months of traffic stop data (January 1, 2022 – December 31, 2022). The annual report will include benchmark comparisons for traffic stops, bivariate analyses between race/ethnicity and multiple variables of interest (e.g., reason for stop, stop outcomes, reason for search, etc.), multivariate statistical analyses of stop outcomes that account for multiple explanatory factors, and outcome test analyses of searches and seizures. Based on these findings, the research team will provide actionable recommendations to address any patterns of racial/ethnic disparities identified. Note, however, that even the most comprehensive data collection effort and rigorous statistical analyses cannot determine whether PSP Troopers have individually or collectively made traffic stop or enforcement decisions based on racial bias, nor can it be used to assess the legality of prior or future traffic stops. The continued data collection and analyses, however, will provide police executives with the necessary information to identify potentially problematic areas and refocus training, supervision, and policies accordingly.

[3] Eric A. Hanushek & John E. Jackson, *Statistical methods for social scientists,* Orlando, FL: Academic Press, (1977).

2022 1st Quarter Report Outline

The report is organized into five sections: 1) introduction, 2) data audit of data collected from January 1-March 31, 2022, 3) description of traffic stop data collected during Quarter 1 of 2022 based on preliminary statistical analyses, 4) description of traffic stop outcomes during stops conducted during Quarter 1 of 2022 based on preliminary statistical analyses, and 5) summary and recommendations. The general content for Sections 2 through 5 are described below.

Section 2: Data Audit

Section 2 includes a brief summary of the 2021 data audit and the overall study methodology (more fully described in the *2021 Pennsylvania State Police Traffic Stop Study* report) as context for the 2022 reports. Section 2 includes an initial audit of 2022 Quarter 1 stop data, examining these data for missing and logical inconsistencies for each field captured during a traffic stop. A complete data audit, similar to that conducted for the 2021 data will be provided in the 2022 annual report based on a full year of data.

Section 3: Traffic Stop Data Descriptive Statistics

Section 3 describes the traffic stop data collected during the first three months of 2022. Specifically, it provides information derived from the traffic stop data, such as the number of stops, characteristics of the stops, the reasons for these stops, and the characteristics of the drivers. The averages for this information are reported in tables at the department, area, troop, and station levels. As described above, the racial/ethnic characteristics of stopped drivers will be compared to various benchmark data sources in the 2022 annual report based on a full year of data.

Section 4: Post-Stop Outcome Analyses

Section 4 describes drivers' outcomes as a result of their traffic stops (e.g., warnings, citations, arrests, searches, and seizures). This information is also reported by department, area, troop, and station levels. As described above, more sophisticated statistical analyses of stop outcomes will be provided in the 2022 annual report based on a full year of data.

Section 5: Summary and Recommendations

Section 5 summarizes the information presented in earlier sections of the report and provides recommendations for the ongoing traffic stop data collection effort by the PSP.

II. DATA AUDIT

As context for this first quarter report of 2022, Section 2 includes a summary of the 2021 data audit and the overall study methodology (more fully described in the *2021 Pennsylvania State Police Traffic Stop Study*). Thereafter, the results of an audit of data collected during the first quarter of 2022 are presented, including descriptions of any missing and logical inconsistencies for each field captured during a traffic stop.

Data integrity is a crucial component of effective data analyses. Even the most sophisticated statistical analyses are meaningless if the data used to generate the analyses lack reliability and validity. Data auditing is a vital oversight mechanism to maintain data quality. Improving data accuracy ensures that recommendations regarding policy and training are made based on the highest quality data possible. In addition to increasing data quality, a data auditing system can also help ensure officer compliance with the data collection protocol. Officers will likely be more diligent in their data collection if they know it is being reviewed for comprehensiveness and quality.[4]

In 2004, the Police Executive Research Forum (PERF), a police research and policy organization, published a comprehensive guide for analyzing data from traffic stops that remains a resource for law enforcement agencies nearly two decades later. In this guide, an error rate of less than 10% was recommended for traffic stop data.[5] Our research team recommends a more stringent standard of less than 5%, with a goal of less than 2% of missing or invalid data.

Summary of Study Methodology

PSP Troopers are required to complete Contact Data Reports (CDR) for all member-initiated traffic stops *regardless of the stop's outcome*. Troopers enter data electronically through mobile data terminals (MDTs) in a software system called TraCS (Traffic and Criminal Software). In an effort to minimize redundancy and maximize efficiency, some of the data are auto-populated from other PSP electronic forms.

Throughout 2021, some data fields were updated, and new fields were added. After these revisions, the final CDR form[6] includes the following information:

- **Stop** – date/time, location (county and municipality, and latitude/longitude), type of roadway, use of canine, duration of the stop, and reason(s) for the stop, whether the stop was related to a Special Traffic Enforcement program or Motor Carrier Safety Assistance program, and more specific information related to speeding violations (e.g., posted speed limit, amount over limit, etc.)

[4] Lorie Fridell, *By the Numbers: A Guide for Analyzing Race Data from Vehicle Stops,* Washington, D.C.: Police Executive Research Forum, (2004).
[5] Fridell, 2004.
[6] A copy of the data collection form is provided in the Appendix.

- **Driver –** gender, age, race/ethnicity, zip code of residency, compliant or resistant behavior, whether the driver was a foreign national[7], whether the driver had limited English proficiency (LEP), and if yes, the type of language assistance used
- **Vehicle** – state of registration, number of passengers[8]
- **Outcome of the Stop** – whether the driver and/or passenger was issued a citation (including the number of citations) or warning (including whether it was a verbal or written warning and the number of warnings), whether the driver and/or passenger was arrested and/or searched, and if a search was conducted roadside or following vehicle tow, reason(s) for search, and whether property was seized
- **Identifying Information** – Troopers' assigned station, employee identification, and demographic characteristics

Summary of 2021 Data Audit

Typically, data audits for traffic stop data involve several procedures to check for different types of inaccuracies[9], including:

- Incorrect copying of information from one form to another (e.g., data transfer or entry errors)
- Missing information on individual forms (i.e., no information entered by the PSP member)
- Invalid (i.e., illogical/inconsistent) information on individual forms (e.g., search reason provided but search initiated reported as "no")
- Missing forms for some member-initiated stops conducted (i.e., no forms generated)
- Data contains intentional misstatements of facts

As described in the *2021 Pennsylvania State Police Traffic Stop Study,* the electronic capture of traffic stop data via TraCS mitigates the likelihood of many of these inaccuracies. Furthermore, to increase the reliability and validity of the data collected, the contractual agreement between the PSP and UC team guarantees confidentiality to each Trooper and prohibits any data analyses that would identify individual Troopers.[10] Unfortunately, there are limited methods for directly assessing the intentional distortion of collected data. For example, to check the accuracy of reported drivers' race/ethnicity, a comparison of reported driver race/ethnicity with DMV records would require that drivers' license numbers also be collected on the traffic stop form (a privacy concern) and that the DMV records include race/ethnicity (Pennsylvania does not).

[7] If the driver or passenger is reported as a foreign national (DFN or PFN) a series of additional questions are required including the DFN race/ethnicity, whether the communications desk unit or supervisor was contacted, whether ICE was notified, and if yes, the reason and result, whether the DFN or PFN was detained and the reason and result, whether ICE has an administrative or criminal warrant for the DFN or PFN.
[8] If passengers are present, there are additional data fields for Troopers to complete, including the passenger's race, ethnicity, LEP, whether their identification was requested, and if yes, the type of identification provided.
[9] Fridell, 2004.
[10] These protections are included in the contract and approved by the University of Cincinnati Institutional Review Board, PSP legal team, and PSP union officials. PSP Troopers were advised of this confidentiality agreement by the Principal Investigator from the UC team in a training video.

Furthermore, since officers are supposed to report their *perceptions* of driver race/ethnicity, it is impossible to determine how much discrepancy between recorded and actual race/ethnicity was intentional versus misperceptions.

Therefore, the 2021 data audit focused primarily on missing data, invalid data, and the completeness of the data by comparing the number of stops in the electronic data with other independent sources of information. The data audit revealed that all but two of the variables examined had either no missing or invalid data less than 0.005%. Note, however, that due to limitations with the data collected in 2021, only data fields collected for the entire calendar year were considered. The data audit also showed a percent error of -12.1% between the CDR traffic stop data and a comparison data source based on CAD records of traffic stop incidents. This confirmed PSP's internal audit estimates that PSP Troopers were not systematically completing CDRs for **all** member-initiated traffic stops, mainly stops resulting in verbal warnings. These discrepancies are being addressed as the research team prepared this first quarter report for 2022; therefore, determining if these corrections were effectively implemented across the agency is particularly important.

2022 Quarter 1 Results: January – March

The results of the 2022 Quarter 1 data audit are presented in Table 2.1. It includes assessments of missing data (i.e., no information entered by the officer) and logical inconsistencies (i.e., fields with entries that contradict other fields) for stop, driver, vehicle, and Trooper characteristics. All fields analyzed in this data audit are assessed based on the *CDR Data Dictionary Codebook* provided to the UC team by the PSP. Information entered in a manner inconsistent with the Codebook is considered invalid.

Overall, the results of the first quarter 2022 data audit are positive. As shown in Table 2.1, the majority of the variables examined have either no missing or invalid data or have less than 0.005% (indicated as <0.00 in Table 2.1). This is well within the 2% or less standard recommended by the UC team. Overall, the data validation checks built into TraCS have minimized the errors related to missing and invalid data. There are, however, two remaining data quality issues that should be addressed by PSP officials involving the following traffic stop elements: (1) dedicated enforcement teams, and (2) search initiated. The specific issues identified regarding these data are detailed below.

(1) **Dedicated Enforcement Teams (DET):** Three data fields on the CDR are relevant to this error. First, there is a yes/no question that captures whether the Trooper reporting the stop is ***assigned to a DET***. Second, if a Trooper selects "yes" for this question, a follow-up question asks them to identify ***their assigned DET***. This can include rotational assignments to DET within PSP Troops or full-time assignments to the Safe Highways Initiative through Effective Law Enforcement and Detection (SHIELD) unit or Canine unit. Third, every organizational unit within the PSP has an ***assigned location code***, including Troops and specialized units like SHIELD and Canine.

Table 2.1: Missing and Invalid Data from Member-Initiated Traffic Stops (n=88,534), Q1 2022

	% Missing	% Invalid
Stop Characteristics		
Date of Contact	0.00	0.00
Time of Contact	0.00	0.00
Location of Stop[11]	0.00	0.00
Roadway Type	0.00	0.00
Duration of Stop	0.00	0.00
Whether K-9 Utilized	<0.00	0.00
Reason for the Stop[12]	0.00	0.00
Special Traffic Enforcement	0.00	0.00
Dedicated Enforcement Team	0.00	26.80
MCSAP Related	0.00	0.00
Outcome of the Stop		
Warning Type	0.10	0.00
Number of Driver Warnings	0.00	0.00
Number of Driver Citations	0.00	0.00
Driver Arrest	0.00	0.00
Valid Search	0.93	2.43
Driver Characteristics		
Year of Birth	0.00	0.05[13]
Gender	0.00	0.00
Race	0.00	0.00
Ethnicity	0.00	0.00
LEP	0.00[14]	0.00
Behavior/Demeanor	0.00	0.00
Zip Code	0.00	0.36[15]
Vehicle Characteristics		
Vehicle State of Registration	0.00	0.00
Number of Passengers	0.00	0.00
Trooper Characteristics[16]		
Employee ID Number	0.00	0.00

[11] A "valid location of stop" exists if there is a valid county and municipality code entered ***and/or*** valid latitude and longitude coordinates provided. Latitude and longitude are auto-populated from various TraCS forms (e.g., warning, citation, etc.), while county and municipality codes are auto-filled from the location selected in the TraCS Location Tool (TLT). If information is missing from original forms, it would appear as missing in CDR data.

[12] These percentages reflect the inclusion of valid data for posted speed limit, actual speed, and amount over speed limit for stops made based on speeding violations.

[13] There were 44 CDRs with dates of birth before 1/1/1921 or after 1/1/2011.

[14] The LEP data field was added in January and is missing for 11.2% of stops in the first quarter (n=9,904 CDRs), but there is no missing data once the data field was included in the updated version of the CDR form.

[15] There were 323 CDRs that include zip codes with five digits not in the US Zip Code Database and not equal to 99999, the PSP codebook designation for international addresses.

[16] The CDR form requires employee ID number, which links to an external personnel database and auto-populates the CDR data with information regarding Trooper gender, race, years of service, rank, current assignment/job code, and assigned station code. Therefore, the percent of missing and/or invalid data on employee ID number represents the percent of missing and/or invalid data for all Trooper characteristics.

- Troopers indicated that they were members of DET in 1,906 stops, but the number of stops for the selected enforcement teams does not match the location codes for the same enforcement teams.
    i. For example, 1,033 stops reported SHIELD as DET, but there are 1,204 stops with a SHIELD location code.
- Location codes are auto-populated from personnel data. It is likely that Troopers are underutilizing the dedicated enforcement team data fields.

(2) **Search initiated:** Four data fields are related to this error. ***Search initiated*** is a drop-down field that captures whether Troopers initiate a search, including whether searches conducted are roadside (during the stop) or when vehicles are towed and searched elsewhere.

- 824 stops (0.93%) do not indicate whether a search was initiated. These stops are also missing information for each of the remaining search-related data fields: ***search target, search reason,*** or ***contraband seized***. It is likely that these stops did not involve a search, however, that is not definitively known because the Trooper did not specifically indicate that no search was conducted. They are treated as stops with "no search" by the UC team.
- Based on the PSP codebook, the "search initiated" data field is mandatory, which should indicate that the CDR cannot be submitted without a valid response for this data field.
- In 66 of the 2,713 stops indicating a search was initiated, there was not a valid entry for search target, search reason, and/or property seized (2.4%). Of these 66 cases, 42 were missing data for all three variables. The PSP codebook indicates that these fields should be mandatory to complete when "search initiated" is yes.

In the process of preparing this report, the research team raised questions about these data fields with the PSP team. In response to these identified discrepancies, PSP will adjust the data collection protocol accordingly. First, the Dedicated Enforcement Team (DET) data field will default to "yes" for Troopers assigned to the SHIELD and Canine units (change takes effect in 4th quarter of 2022). Second, after examining the data validation rules for the search-related data fields, minor adjustments were made June 27, 2022 to eliminate the possibility of missing data for the search initiated field as well as the search-related data fields if the search initiated field is a "yes". Both of these corrections will be monitored in future reports to see if any additional action is needed.

III. DESCRIPTION OF TRAFFIC STOP DATA

PSP Troopers engaged in 88,534 traffic stops with the public during the period between January 1 and March 31, 2022. This section describes the characteristics of traffic stops and drivers encountered by Troopers during those stops. The PSP is organized into multiple managerial command levels, including 4 Areas, 16 Troops, and 88 Stations.[17] Information in all reports produced by the UC team is presented for the PSP department, Area, Troop, and Station levels to illustrate differences across organizational units.[18] Presenting information in this manner permits the identification of units that may appear as outliers, providing opportunities for closer examination and focused attention by PSP officials. Several possible explanations for variation across organizational units are unavailable in the aggregate data analyzed. These may include differences in roadway types, traffic volume, posted speed limits, population density, and the demographic makeup of residents and travelers.

Traffic Stop Characteristics

Table 3.1 provides the total number of traffic stops across all organizational units and the temporal breakdown of traffic stops (by month). As shown, there was wide variation in the amount of traffic stop activity across PSP Areas, Troops, and Stations. Overall, Area II accounted for the most traffic stops at the area level (n=26,560). Similarly, Troops H and T, both within Area II, reported the most traffic stops at the Troop level. Troops A and R reported the fewest traffic stops.

At the department level, March accounted for the greatest percentage of stops (39.3%), followed by February (31.5%), and January (29.1%). Although this trend was consistent across most of the lower organizational levels, some differences in the percentage of stops made for each month are illustrated in Table 3.1. There are several reasons to expect that traffic patterns, and thus officer activity, will vary by month, including weather, seasonal tourism, holidays, road construction, and school-related traffic.

[17] The sum of the stops conducted by the four area commands and specialized units does not equal the total of stops conducted department-wide because a small number of stops (0.1%) are made by PSP organizational units outside of the area commands or specialized SHIELD and Canine units.

[18] An examination of specialized units is critical to understanding racial/ethnic disparities in traffic stop outcomes because the activities of these specialized units and the persons with whom they have contact are often different than those of typical patrol Troopers. SHIELD is the Safe Highways Initiative thru Effective Law Enforcement and Detection program and involves PSP members who are specially trained to interdict criminal activity occurring on major highways. These Troopers have been strategically deployed across the entire commonwealth with an emphasis on highway safety through visibility and high-volume traffic stops to identify, disrupt and dismantle criminal activity and organizations. One of the primary objectives of Canine teams focused on narcotic detection is to pursue highway interdiction activity through contacts with field personnel and aiding with traffic stops. Additionally, the narcotic detection teams take a proactive stance by providing traffic enforcement while patrolling the highways and creating a safe highway atmosphere with their visibility.

Table 3.1: Monthly Breakdown of Traffic Stops by Department, Area, Troop, & Station, Q1 2022

	Total # of Stops	January	February	March
PSP Dept.	**88,534**	**29.1%**	**31.5%**	**39.3%**
AREA I	18,551	28.9%	29.9%	41.2%
Troop B	***4,513***	***26.6%***	***29.3%***	***44.1%***
Belle Vernon	790	26.5%	27.7%	45.8%
Pittsburgh	1,272	17.6%	23.8%	58.6%
Uniontown	1,343	29.3%	32.5%	38.2%
Washington	493	41.0%	33.9%	25.2%
Waynesburg	615	28.1%	32.2%	39.7%
Troop C	***5,712***	***31.5%***	***33.3%***	***35.2%***
Clarion	729	35.5%	23.9%	40.6%
Clearfield	954	24.9%	39.4%	35.6%
Dubois	771	27.4%	36.3%	36.3%
Lewis Run	1,059	35.1%	26.6%	38.2%
Marienville	573	36.1%	34.4%	29.5%
Punxsutawney	907	33.7%	35.4%	30.9%
Ridgway	719	28.8%	37.8%	33.4%
Troop D	***4,472***	***27.0%***	***28.0%***	***45.0%***
Beaver	528	17.2%	18.6%	64.2%
Butler	1,237	32.6%	27.2%	40.3%
Kittanning	1,722	27.1%	30.3%	42.7%
Mercer	575	19.8%	37.4%	42.8%
New Castle	410	32.9%	19.8%	47.3%
Troop E	***3,854***	***29.9%***	***27.6%***	***42.5%***
Corry	640	28.8%	24.4%	46.9%
Erie	1,016	37.4%	22.9%	39.7%
Franklin	416	23.6%	33.4%	43.0%
Girard	913	27.8%	28.8%	43.4%
Meadville	438	15.1%	38.1%	46.8%
Warren	404	38.9%	25.2%	35.9%
AREA II	26,560	27.9%	31.6%	40.5%
Troop A	***3,164***	***25.2%***	***23.5%***	***51.3%***
Ebensburg	280	36.4%	16.4%	47.1%
Greensburg	761	24.4%	27.9%	47.7%
Indiana	1,176	21.3%	18.6%	60.0%
Kiski Valley	246	29.3%	16.3%	54.5%
Somerset (A)	701	26.5%	32.4%	41.1%

Table 3.1: Monthly Breakdown of Traffic Stops by Department, Area, Troop, & Station, Q1 2022

	Total # of Stops	January	February	March
Troop G	***5,600***	***29.8%***	***33.8%***	***36.4%***
Bedford	1,109	28.7%	36.8%	34.5%
Hollidaysburg	857	26.0%	34.4%	39.6%
Huntingdon	718	35.8%	29.2%	35.0%
Lewistown	793	31.4%	33.8%	34.8%
McConnellsburg	735	32.4%	26.7%	41.0%
Rockview	1,388	27.7%	37.2%	35.2%
Troop H	***9,721***	***27.7%***	***31.4%***	***40.9%***
Carlisle	2,605	23.5%	31.1%	45.4%
Chambersburg	2,223	26.7%	32.8%	40.5%
Gettysburg	1,675	31.2%	35.8%	33.1%
Harrisburg	2,165	31.9%	31.2%	36.9%
Lykens	552	32.8%	26.3%	40.9%
Newport	500	18.0%	18.6%	63.4%
Troop T	***8,075***	***27.8%***	***33.5%***	***38.7%***
Bowmansville	799	21.4%	34.3%	44.3%
Everett	1,330	31.1%	35.1%	33.8%
Gibsonia	882	33.6%	25.4%	41.0%
Highspire	1	0.0%	100.0%	0.0%
King of Prussia	906	19.8%	38.7%	41.5%
New Stanton	1,265	29.2%	34.2%	36.6%
Newville	859	27.0%	37.8%	35.2%
Pocono	1,053	30.2%	30.3%	39.5%
Somerset (T)	979	27.1%	31.9%	41.1%
AREA III	19,602	31.1%	29.8%	39.1%
Troop F	***5,892***	***31.8%***	***26.9%***	***41.3%***
Coudersport	623	29.1%	30.3%	40.6%
Emporium	268	19.8%	27.2%	53.0%
Lamar	880	24.8%	21.6%	53.6%
Mansfield	448	35.9%	28.8%	35.3%
Milton	1,556	31.7%	28.1%	40.1%
Montoursville	955	30.3%	29.2%	40.5%
Selinsgrove	753	39.3%	25.5%	35.2%
Stonington	409	44.3%	23.2%	32.5%
Troop N	***6,802***	***31.3%***	***30.9%***	***37.9%***
Bloomsburg	818	28.7%	37.9%	33.4%
Fern Ridge	1,052	39.6%	28.0%	32.3%
Hazleton	1,056	25.9%	21.8%	52.4%
Lehighton	351	27.4%	31.9%	40.7%
Stroudsburg	3,521	31.4%	32.7%	35.9%

Table 3.1: Monthly Breakdown of Traffic Stops by Department, Area, Troop, & Station, Q1 2022

	Total # of Stops	January	February	March
Troop P	***3,781***	***29.0%***	***33.7%***	***37.2%***
Laporte	506	33.4%	28.5%	38.1%
Shickshinny	414	29.2%	28.3%	42.5%
Towanda	1,138	36.6%	35.5%	27.9%
Tunkhannock	546	22.5%	39.0%	38.5%
Wilkes-Barre	1,177	22.9%	33.8%	43.3%
Troop R	***3,127***	***31.8%***	***28.5%***	***39.7%***
Blooming Grove	925	32.3%	26.2%	41.5%
Dunmore	537	30.9%	20.9%	48.2%
Gibson	1,073	29.7%	30.1%	40.2%
Honesdale	592	35.6%	36.0%	28.4%
AREA IV	22,177	29.3%	34.4%	36.3%
Troop J	***7,541***	***28.3%***	***32.0%***	***39.8%***
Avondale	1,956	29.9%	31.7%	38.4%
Embreeville	1,961	23.7%	33.9%	42.4%
Lancaster	1,594	25.4%	31.5%	43.1%
York	2,030	33.4%	30.7%	35.9%
Troop K	***5,920***	***32.9%***	***34.9%***	***32.2%***
Media	2,820	33.3%	33.3%	33.4%
Philadelphia	2,144	30.7%	39.1%	30.2%
Skippack	956	36.4%	30.1%	33.5%
Troop L	***3,704***	***24.1%***	***36.8%***	***39.1%***
Frackville	426	18.3%	34.5%	47.2%
Hamburg	599	11.9%	32.9%	55.3%
Jonestown	1,019	26.5%	37.2%	36.3%
Reading	804	23.4%	39.2%	37.4%
Schuylkill Haven	856	33.3%	38.0%	28.7%
Troop M	***5,012***	***30.6%***	***35.7%***	***33.6%***
Belfast	766	28.9%	32.9%	38.3%
Bethlehem	980	28.4%	40.8%	30.8%
Dublin	867	34.6%	35.6%	29.8%
Fogelsville	1,256	33.0%	35.7%	31.3%
Trevose	1,143	28.2%	33.3%	38.5%

Table 3.2 documents, at the PSP department, area, and troop level, the average percent of stops that occurred on weekdays, during the day, on various roadway types, the percent of vehicles with a Pennsylvania registration, presence of passengers, and the stop duration. Table 3.3 displays the same information at the PSP Station level. [19]

As shown in Table 3.2, department-wide, the majority of traffic stops were made on weekdays (71.8%) and during daylight hours (65.4%).[20] State highways (52.7%) and interstates (34.4%) were the most frequent locations for traffic stops. Roughly 80% of vehicles stopped were registered in Pennsylvania; on average, 23.8% had at least one passenger. Most traffic stops department-wide (87.4%) were conducted in 15 minutes or less.

Traffic stop characteristics varied somewhat by PSP Area and Troop (as reported in Table 3.2) and by Station (as reported in Table 3.3). For example, Area IV made fewer traffic stops during daylight hours (54.5% of stops) compared to the department. Similarly, at the Troop level, 82.5% of traffic stops by Troop T were made during daylight hours, compared to 48.2% of traffic stops by Troop J.

In terms of roadway types, there were several noticeable variations. For example, 82.5% of stops made by Troop T occurred on interstates, which is consistent with their primary area of responsibility on the Pennsylvania Turnpike. The percent of stops made on interstates was considerably lower in other troops (e.g., Troop A), with fewer miles of interstate roadways. Much less variation is evident in the average percent of stops that involved vehicles with a Pennsylvania registration, stops with the presence of passengers, and the average stop duration, with only a few outliers. For example, Troop T stopped considerably more drivers with out-of-state vehicle registrations.

There is also significant variation in the traffic stop characteristics for the SHIELD and Canine specialized units. For example, only 22.2% of SHIELD and 31.3% of Canine traffic stops involved vehicles with Pennsylvania registration, compared to the department-wide average of 80.2%.

[19] Highspire station conducted only one stop in the first quarter of 2022. Therefore, throughout Sections 3 and 4, the highest and lowest percentages provided in station-level comparisons exclude Highspire.
[20] The creation of day and night variables from the time of stop data field were roughly adjusted by month to align with the shift in sunrise and sunset throughout the year.

Table 3.2: Traffic Stop Descriptives by Department, Area, & Troop, Q1 2022

	Total #of Stops	Weekday	Daytime	Roadway Type				PA Regist. Vehicle	Vehicles with Passengers	Duration of Stop (minutes)			
				Inter	State	Local	Other			1-15	16-30	31-60	61+
PSP Dept.	88,534	71.8%	65.4%	34.4%	52.7%	12.0%	0.9%	80.2%	23.8%	87.4%	9.3%	2.3%	1.0%
AREA I	18,551	71.3%	67.5%	25.0%	60.0%	14.6%	0.4%	86.7%	25.4%	90.1%	7.7%	1.5%	0.7%
Troop B	4,513	74.2%	70.4%	34.5%	46.5%	18.6%	0.4%	87.1%	25.9%	88.8%	8.1%	2.1%	1.1%
Troop C	5,712	66.3%	63.1%	19.2%	67.1%	13.4%	0.4%	82.9%	25.5%	91.9%	6.3%	1.0%	0.7%
Troop D	4,472	78.0%	67.5%	23.1%	63.0%	13.6%	0.3%	91.3%	21.4%	90.9%	7.0%	1.3%	0.8%
Troop E	3,854	67.7%	70.6%	24.9%	61.9%	12.8%	0.4%	86.5%	29.6%	87.9%	10.2%	1.6%	0.3%
AREA II	26,560	72.3%	70.9%	42.7%	46.8%	8.9%	1.6%	77.6%	24.2%	88.3%	8.8%	2.2%	0.7%
Troop A	3,164	73.1%	75.4%	1.8%	88.7%	9.3%	0.3%	91.7%	20.7%	88.9%	8.5%	2.0%	0.7%
Troop G	5,600	73.4%	72.9%	30.1%	60.3%	9.3%	0.3%	81.1%	22.7%	93.4%	5.4%	0.9%	0.3%
Troop H	9,721	72.4%	58.6%	30.3%	54.3%	15.0%	0.4%	80.2%	21.7%	85.8%	9.8%	3.3%	1.0%
Troop T	8,075	70.9%	82.5%	82.5%	11.9%	1.2%	4.4%	66.6%	29.5%	87.5%	10.1%	1.9%	0.5%
AREA III	19,602	68.8%	65.7%	27.5%	56.2%	15.4%	0.8%	80.3%	23.5%	87.1%	9.3%	2.4%	1.2%
Troop F	5,892	66.9%	62.8%	18.2%	67.3%	14.4%	0.1%	81.9%	26.4%	92.0%	6.0%	1.3%	0.7%
Troop N	6,802	63.7%	60.1%	39.5%	37.6%	21.5%	1.3%	76.5%	23.5%	85.2%	10.0%	3.3%	1.6%
Troop P	3,781	75.6%	73.6%	7.5%	79.3%	11.8%	1.4%	92.7%	18.6%	92.9%	5.4%	1.0%	0.8%
Troop R	3,127	75.2%	73.8%	43.1%	48.0%	8.4%	0.5%	70.7%	23.6%	74.9%	18.8%	4.3%	2.0%
AREA IV	22,177	72.5%	54.5%	34.1%	54.2%	11.3%	0.4%	81.6%	21.5%	85.5%	10.6%	2.6%	1.3%
Troop J	7,541	72.9%	48.2%	15.4%	72.3%	11.6%	0.7%	84.0%	20.2%	86.4%	8.9%	2.9%	1.9%
Troop K	5,920	73.2%	53.9%	60.9%	31.7%	7.1%	0.3%	79.0%	21.2%	87.0%	9.9%	2.3%	0.8%
Troop L	3,704	74.1%	64.7%	23.9%	59.3%	16.5%	0.2%	85.9%	23.8%	85.8%	11.7%	2.0%	0.5%
Troop M	5,012	70.0%	57.1%	38.1%	49.6%	12.0%	0.4%	78.1%	22.2%	82.0%	13.3%	2.9%	1.9%
Specialized Units													
SHIELD	1,204	98.4%	97.4%	98.4%	1.2%	0.3%	0.0%	22.2%	30.4%	76.9%	13.5%	6.8%	2.8%
Canine	367	91.0%	91.3%	82.3%	11.2%	6.3%	0.3%	31.3%	39.2%	70.8%	24.0%	4.4%	0.8%

Table 3.3: Area I Traffic Stop Descriptives by Station, Q1 2022

	Total #of Stops	Weekday	Daytime	Roadway Type				PA Regist. Vehicle	Vehicles with Passengers	Duration of Stop (minutes)			
				Inter	State	Local	Other			1-15	16-30	31-60	61+
Troop B													
Belle Vernon	790	83.3%	78.9%	26.8%	53.4%	19.0%	0.8%	92.8%	32.0%	87.3%	9.5%	2.4%	0.8%
Pittsburgh	1,272	74.9%	65.8%	69.2%	21.9%	8.7%	0.2%	83.5%	16.7%	93.8%	5.6%	0.6%	0.0%
Uniontown	1,343	71.9%	67.2%	2.9%	68.1%	28.6%	0.4%	92.8%	30.4%	88.2%	8.3%	2.5%	1.0%
Washington	493	75.5%	69.2%	51.1%	17.6%	30.6%	0.6%	83.4%	24.5%	76.3%	13.8%	5.1%	4.9%
Waynesburg	615	65.2%	76.7%	28.3%	64.2%	7.3%	0.1%	77.9%	28.1%	91.5%	6.3%	1.3%	0.8%
Troop C													
Clarion	729	69.5%	61.9%	44.4%	48.3%	7.1%	0.1%	73.1%	26.7%	90.5%	8.5%	1.0%	0.0%
Clearfield	954	69.2%	65.8%	44.5%	49.1%	5.9%	0.5%	70.8%	13.5%	94.2%	4.7%	0.8%	0.2%
Dubois	771	61.7%	68.4%	38.7%	50.6%	10.0%	0.8%	76.4%	22.7%	94.4%	3.9%	0.6%	1.0%
Lewis Run	1,059	63.9%	55.6%	1.1%	59.2%	39.2%	0.5%	86.4%	32.4%	89.0%	8.4%	1.3%	1.2%
Marienville	573	60.2%	74.5%	1.7%	95.8%	2.4%	0.0%	90.4%	36.8%	92.8%	5.6%	1.0%	0.5%
Punxsutawney	907	71.4%	51.3%	1.9%	87.5%	10.1%	0.4%	95.4%	27.2%	91.4%	5.8%	1.4%	1.3%
Ridgway	719	66.2%	72.3%	1.1%	90.4%	8.3%	0.1%	89.2%	21.8%	91.7%	7.1%	0.8%	0.4%
Troop D													
Beaver	528	80.1%	79.0%	59.1%	23.1%	17.6%	0.2%	86.0%	18.0%	94.7%	4.5%	0.8%	0.0%
Butler	1,237	77.2%	62.7%	13.3%	67.5%	19.0%	0.2%	93.6%	19.6%	91.7%	6.1%	1.5%	0.8%
Kittanning	1,722	79.0%	62.3%	1.0%	88.3%	10.6%	0.1%	96.1%	22.8%	89.5%	8.1%	1.2%	1.2%
Mercer	575	78.8%	79.5%	63.3%	32.5%	4.0%	0.2%	80.7%	21.7%	91.7%	6.6%	0.7%	1.0%
New Castle	410	72.7%	72.4%	43.2%	37.1%	18.0%	1.7%	86.3%	24.4%	88.0%	9.3%	2.2%	0.5%
Troop E													
Corry	640	68.9%	59.1%	0.2%	84.7%	14.7%	0.5%	96.3%	25.8%	93.1%	5.8%	1.1%	0.0%
Erie	1,016	60.6%	67.1%	14.5%	67.0%	18.3%	0.2%	87.6%	33.9%	84.5%	13.4%	1.8%	0.3%
Franklin	416	67.5%	66.6%	10.6%	72.1%	15.6%	1.7%	87.5%	24.3%	88.7%	8.4%	2.6%	0.2%
Girard	913	65.3%	81.2%	64.0%	29.1%	6.6%	0.3%	77.0%	32.0%	86.3%	12.5%	0.9%	0.3%
Meadville	438	78.8%	75.3%	37.9%	54.6%	7.5%	0.0%	84.0%	32.0%	87.9%	8.9%	2.5%	0.7%
Warren	404	75.0%	71.0%	0.5%	88.6%	10.9%	0.0%	91.6%	22.3%	90.6%	7.4%	1.5%	0.5%

Table 3.3: Area II Traffic Stop Descriptives by Station, Q1 2022

	Total #of Stops	Weekday	Daytime	Roadway Type				PA Regist. Vehicle	Vehicles with Passengers	Duration of Stop (minutes)			
				Inter	State	Local	Other			1-15	16-30	31-60	61+
Troop A													
Ebensburg	280	64.3%	87.5%	0.0%	91.1%	8.9%	0.0%	84.6%	30.0%	89.6%	9.6%	0.7%	0.0%
Greensburg	761	74.5%	59.7%	5.5%	75.7%	18.1%	0.7%	95.4%	26.0%	75.6%	18.0%	4.5%	2.0%
Indiana	1,176	75.8%	82.1%	1.2%	95.5%	3.2%	0.1%	90.1%	18.3%	94.7%	3.3%	1.7%	0.3%
Kiski Valley	246	74.0%	82.5%	0.4%	93.9%	5.3%	0.4%	93.1%	18.7%	87.0%	11.0%	1.6%	0.4%
Somerset (A)	701	70.3%	74.2%	0.1%	88.4%	11.3%	0.1%	92.4%	16.1%	94.0%	5.4%	0.3%	0.3%
Troop G													
Bedford	1,109	68.9%	75.3%	25.6%	67.9%	6.3%	0.2%	79.1%	25.0%	94.7%	4.1%	0.7%	0.5%
Hollidaysburg	857	74.4%	79.9%	40.7%	36.9%	22.1%	0.4%	85.8%	20.5%	93.3%	4.7%	1.6%	0.4%
Huntingdon	718	74.8%	76.3%	0.7%	91.9%	7.2%	0.1%	96.1%	9.7%	86.2%	13.1%	0.6%	0.1%
Lewistown	793	76.5%	68.1%	0.5%	89.7%	9.8%	0.0%	92.3%	32.4%	94.6%	4.8%	0.4%	0.3%
McConnellsburg	735	67.6%	71.7%	49.7%	45.2%	5.0%	0.1%	59.6%	35.1%	96.7%	2.3%	1.0%	0.0%
Rockview	1,388	76.9%	68.1%	48.9%	43.7%	6.6%	0.7%	77.2%	16.9%	93.8%	4.8%	0.9%	0.5%
Troop H													
Carlisle	2.605	75.5%	65.3%	44.0%	31.9%	23.8%	0.3%	78.8%	24.1%	80.0%	14.4%	4.6%	1.0%
Chambersburg	2,223	75.7%	64.7%	22.0%	61.5%	16.1%	0.4%	84.3%	22.2%	90.7%	7.5%	1.3%	0.4%
Gettysburg	1,675	64.9%	48.5%	0.4%	93.7%	5.9%	0.1%	73.5%	12.8%	94.3%	3.5%	0.8%	1.4%
Harrisburg	2,165	70.3%	52.6%	59.5%	30.8%	8.8%	0.9%	75.3%	23.2%	78.7%	12.3%	7.1%	1.9%
Lykens	552	71.6%	60.5%	1.8%	83.0%	15.0%	0.2%	97.3%	30.3%	92.8%	6.5%	0.5%	0.2%
Newport	500	77.8%	54.8%	0.8%	76.2%	22.4%	0.6%	93.4%	20.4%	89.0%	10.0%	0.6%	0.4%
Troop T													
Bowmansville	799	69.8%	81.6%	94.6%	3.3%	2.0%	0.1%	78.6%	31.3%	87.1%	9.9%	1.8%	1.3%
Everett	1,330	74.0%	77.2%	97.8%	0.9%	0.0%	1.3%	50.2%	36.8%	88.9%	8.4%	2.3%	0.3%
Gibsonia	882	72.9%	86.1%	92.6%	5.1%	1.7%	0.6%	74.0%	23.5%	84.8%	12.7%	1.1%	1.4%
Highspire	1	100.0%	100.0%	0.0%	100.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%	0.0%
King of Prussia	906	68.1%	82.5%	91.5%	1.0%	0.6%	7.0%	78.3%	22.5%	70.6%	28.0%	1.1%	0.2%
New Stanton	1,265	74.3%	86.7%	57.2%	24.4%	4.0%	14.5%	79.9%	28.7%	91.4%	7.0%	1.1%	0.6%
Newville	859	65.9%	80.3%	91.3%	0.0%	0.3%	8.4%	56.0%	40.4%	90.9%	7.5%	1.2%	0.5%
Pocono	1,053	70.7%	75.7%	48.1%	51.9%	0.0%	0.0%	74.4%	32.8%	95.9%	2.8%	0.9%	0.4%
Somerset (T)	979	68.5%	91.2%	96.4%	1.2%	0.7%	1.6%	45.0%	18.4%	86.5%	8.1%	5.3%	0.1%

Table 3.3: Area III Traffic Stop Descriptives by Station, Q1 2022

	Total #of Stops	Weekday	Daytime	Roadway Type				PA Regist. Vehicle	Vehicles with Passengers	Duration of Stop (minutes)			
				Inter	State	Local	Other			1-15	16-30	31-60	61+
Troop F													
Coudersport	623	75.9%	66.1%	0.2%	93.1%	6.4%	0.3%	88.6%	23.1%	88.3%	11.1%	0.3%	0.3%
Emporium	268	75.0%	64.9%	0.0%	86.9%	13.1%	0.0%	92.9%	31.0%	97.8%	1.9%	0.4%	0.0%
Lamar	880	64.4%	74.4%	35.9%	48.8%	15.1%	0.2%	69.4%	29.9%	95.1%	4.1%	0.7%	0.1%
Mansfield	448	62.7%	61.6%	5.6%	85.9%	8.3%	0.2%	70.3%	19.6%	92.0%	5.6%	1.1%	1.3%
Milton	1,556	67.3%	64.3%	26.7%	64.8%	8.4%	0.0%	76.8%	25.8%	93.3%	4.4%	1.7%	0.6%
Montoursville	955	63.6%	55.7%	32.5%	46.4%	21.0%	0.1%	87.3%	26.0%	90.4%	6.7%	1.9%	1.0%
Selinsgrove	753	68.7%	59.9%	0.7%	81.5%	17.8%	0.0%	88.8%	28.6%	91.2%	6.9%	1.1%	0.8%
Stonington	409	60.9%	48.4%	0.0%	66.5%	33.3%	0.2%	98.0%	27.1%	87.3%	8.3%	2.9%	1.5%
Troop N													
Bloomsburg	818	61.7%	62.1%	58.2%	31.8%	9.9%	0.1%	75.1%	25.1%	93.6%	3.2%	1.8%	1.3%
Fern Ridge	1,052	55.5%	77.4%	64.7%	27.2%	6.9%	1.1%	57.3%	37.2%	81.9%	14.4%	3.0%	0.7%
Hazleton	1,056	67.8%	70.5%	33.9%	46.6%	18.8%	0.7%	83.1%	23.5%	89.6%	7.5%	1.25	1.7%
Lehighton	351	78.6%	70.4%	2.3%	80.3%	16.2%	1.1%	93.4%	30.5%	87.2%	6.6%	1.15	5.1%
Stroudsburg	3,521	63.8%	50.3%	33.1%	35.2%	30.0%	1.8%	78.8%	18.4%	82.6%	11.3%	4.5%	1.6%
Troop P													
Laporte	506	68.2%	54.5%	6.5%	69.0%	24.5%	0.0%	91.9%	23.9%	93.1%	5.3%	1.2%	0.4%
Shickshinny	414	66.7%	75.4%	8.0%	80.0%	2.9%	9.2%	94.2%	16.7%	93.5%	5.6%	0.2%	0.7%
Towanda	1,138	80.6%	69.6%	1.0%	88.7%	9.8%	0.6%	90.9%	18.7%	93.8%	4.5%	0.9%	0.8%
Tunkhannock	546	79.1%	72.7%	0.7%	90.1%	9.2%	0.0%	96.2%	17.2%	92.1%	6.6%	0.9%	0.4%
Wilkes-Barre	1,177	75.5%	85.6%	17.3%	69.5%	12.6%	0.6%	92.7%	17.7%	91.9%	5.6%	1.4%	1.1%
Troop R													
Blooming Grove	925	79.0%	62.7%	50.7%	32.0%	16.1%	1.2%	67.5%	20.4%	76.3%	17.0%	3.9%	2.8%
Dunmore	537	68.9%	73.6%	45.8%	48.6%	5.2%	0.4%	79.9%	27.2%	63.7%	30.4%	3.9%	2.0%
Gibson	1,073	71.0%	81.0%	56.6%	38.9%	4.5%	0.1%	57.5%	26.8%	72.6%	18.6%	6.4%	2.3%
Honesdale	592	82.3%	78.5%	4.2%	89.2%	6.3%	0.3%	91.4%	19.6%	87.2%	11.5%	1.2%	0.2%

Table 3.3: Area IV Traffic Stop Descriptives by Station, Q1 2022

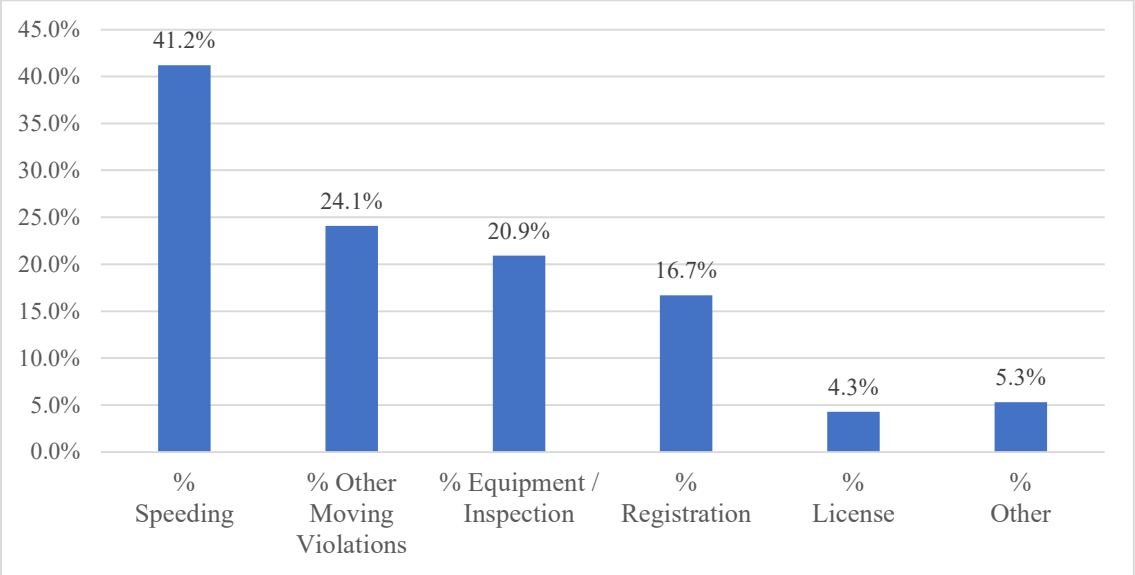
	Total #of Stops	Weekday	Daytime	Roadway Type				PA Regist. Vehicle	Vehicles with Passengers	Duration of Stop (minutes)			
				Inter	State	Local	Other			1-15	16-30	31-60	61+
Troop J													
Avondale	1,956	71.3%	47.6%	1.2%	88.3%	8.9%	1.6%	76.8%	22.3%	85.6%	10.3%	3.2%	0.9%
Embreeville	1,961	75.4%	57.8%	0.4%	90.9%	8.6%	0.1%	90.5%	18.2%	86.0%	9.8%	2.0%	2.2%
Lancaster	1,594	73.0%	47.1%	2.9%	86.3%	10.5%	0.3%	91.8%	20.4%	84.9%	9.4%	3.4%	2.3%
York	2,030	71.8%	40.2%	53.3%	27.8%	18.1%	0.8%	78.4%	20.0%	88.5%	6.3%	3.1%	2.2%
Troop K													
Media	2,820	73.5%	45.8%	64.6%	32.1%	3.1%	0.2%	69.7%	22.0%	88.8%	7.9%	2.5%	0.8%
Philadelphia	2,144	72.4%	63.1%	81.2%	9.1%	9.5%	0.2%	84.8%	23.2%	84.1%	13.1%	2.4%	0.5%
Skippack	956	74.3%	56.9%	4.6%	81.4%	13.5%	0.5%	93.3%	14.3%	88.6%	8.4%	1.5%	1.6%
Troop L													
Frackville	426	79.3%	76.3%	32.2%	53.1%	14.1%	0.7%	87.1%	29.1%	88.7%	10.6%	0.7%	0.0%
Hamburg	599	77.5%	82.5%	44.2%	47.9%	7.8%	0.0%	77.1%	22.9%	78.1%	16.7%	4.3%	0.8%
Jonestown	1,019	72.6%	57.0%	39.3%	41.4%	19.1%	0.2%	78.8%	24.3%	85.8%	11.5%	2.3%	0.5%
Reading	804	81.3%	53.0%	6.8%	69.3%	23.6%	0.2%	91.8%	16.2%	86.8%	10.9%	1.5%	0.7%
Schuylkill Haven	856	63.9%	66.5%	3.5%	82.2%	14.0%	0.2%	94.3%	28.3%	88.8%	9.8%	1.3%	0.1%
Troop M													
Belfast	766	72.8%	59.9%	28.5%	57.7%	13.8%	0.0%	73.8%	23.5%	82.2%	12.4%	4.3%	1.0%
Bethlehem	980	68.6%	49.0%	5.6%	87.3%	7.0%	0.0%	87.4%	20.0%	84.5%	11.4%	1.8%	2.2%
Dublin	867	68.9%	52.2%	2.7%	82.5%	13.5%	1.4%	91.9%	19.6%	82.1%	14.3%	2.4%	1.2%
Fogelsville	1,256	75.5%	55.7%	52.6%	29.0%	18.1%	0.3%	71.5%	22.4%	78.7%	15.4%	4.0%	1.9%
Trevose	1,143	64.1%	67.5%	83.2%	9.5%	7.1%	0.2%	69.8%	25.1%	83.1%	12.2%	2.1%	2.5%

Reason for the Stop

Tables 3.4 & 3.5 report the reasons for the stops initiated by PSP Troopers, including speeding, other moving violations, equipment violation, registration, license, and other. These tables also report the average speed over the limit observed for traffic stops involving speeding violations. The PSP data collection protocol indicates Troopers should select all applicable reasons. Almost 11% of stops involved two or more reasons for the stop; as a result, the percentages reported in Figure 3.1, Table 3.4, and Table 3.5 sum to more than 100%.

Figure 3.1 displays the stop reasons at the department level. As shown, speeding was the most common reason for a stop (41.2%). The next most common reasons were other moving violations (24.1%), equipment/inspection violations (20.9%), and registration violations (16.7%).

Figure 3.1: Department-Wide Reason for Stop, Q1 2022



Similar to the department-level trends, speeding was the most frequent reason for stop across most Areas and Troops, although in Area IV, the most frequent reason was other moving violations (36.5%). The percent of stops made for speeding varied by area, with a high of 53% in Area II, compared to the lowest percentage in Area IV (31.3%). The troops varied in their percentage of traffic stops for speeding from a high of 75.4% (Troop T) to a low of 29.2% (Troop K).

At the department level, the average amount over the posted speed limit recorded for a speeding was 21.6 miles per hour. This varied from a low of 20.2 miles per hour over the limit in Area I to a high of 24.5 in Area IV. Troop-level variation was also evident, with a low of 17.7 miles per hour over the limit in Troop C to a high of 27.7 miles per hour in Troop M.

Other moving violations were the second most common reason across the department at 24.1%. Areas varied in the percentage of stops based on other moving violations, from 36.5% in Area IV to 15.6% in Area I. Other moving violations were the most frequent reason for stops in Troop J

(35%), Troop K (45.2%), and Troop M (36.9%), which are all in Area IV. The percent of stops for other moving violations varied from 11.7% in Troops E and T to 45.2% of stops in Troop K. See Table 3.4 for additional reasons for the stops across Areas and Troops.

For specialized units, the reasons for traffic stops had similar patterns in both units. The most common traffic stop reason by SHIELD and Canine was other moving violations (46.3% and 59.7%, respectively). The second most common stop reason was for equipment/inspection (30.7% and 22.6%). Finally, speeding was the third most common in both specialized units (19.5% and 18.8%), and both units demonstrated a considerably lower average amount over the speed limit during speeding stops (11.2 and 10.3 mph) compared to the departmental average of 21.6 mph.

Table 3.5 shows that traffic stop reasons varied dramatically across Stations. On average, speeding is by far the most frequent reason for a stop, but it varies from 11.8% in Erie Station to 91.7% in Pocono Station. The average miles per hour over the limit ranged from 15.9 in Stonington Station to 32.6 in Trevose Station. The second most common reason for a stop is other moving violations; however, its prevalence ranges from a low of 5.9% in Girard Station to a high of 56.4% in Philadelphia Station. On average, equipment or inspection violations were the third most common stop reason, but this varied across Stations, from 1.8% in Pocono Station to 54.1% in Honesdale Station.

Table 3.4: Reason for Stop by Department, Area, & Troop, Q1 2022

	Total # of Stops	Speeding	Avg. Amount Over Limit (MPH)	Other Moving Violation	Equipment/ Inspection	Registration	License	Other
PSP Department	**88,534**	**41.2%**	**21.6**	**24.1%**	**20.9%**	**16.7%**	**4.3%**	**5.3%**
AREA I	18,551	41.3%	20.2	15.6%	26.9%	18.4%	4.7%	4.9%
Troop B	4,513	42.2%	23.1	17.3%	24.2%	21.6%	7.0%	5.3%
Troop C	5,712	40.6%	17.7	15.5%	29.2%	13.9%	3.0%	4.6%
Troop D	4,472	40.0%	21.4	17.4%	26.1%	20.2%	4.9%	4.6%
Troop E	3,854	42.7%	19.1	11.7%	27.5%	19.1%	4.2%	4.9%
AREA II	26,560	53.0%	21.7	18.0%	18.0%	14.6%	3.2%	5.1%
Troop A	3,164	59.3%	22.3	14.8%	15.5%	13.9%	3.1%	5.1%
Troop G	5,600	54.5%	21.4	13.6%	19.6%	16.5%	3.1%	3.3%
Troop H	9,721	31.5%	19.8	26.8%	24.8%	17.2%	4.4%	5.6%
Troop T	8,075	75.4%	22.6	11.7%	9.5%	10.5%	1.9%	5.7%
AREA III	19,602	38.2%	20.5	24.4%	23.2%	15.7%	5.0%	5.6%
Troop F	5,892	46.1%	18.8	20.8%	20.6%	14.4%	4.0%	3.4%
Troop N	6,802	33.1%	21.6	33.4%	17.1%	14.8%	5.6%	8.7%
Troop P	3,781	35.5%	22.0	14.8%	30.9%	19.1%	4.4%	3.9%
Troop R	3,127	37.5%	20.3	23.2%	32.0%	16.1%	5.9%	5.0%
AREA IV	22,177	31.3%	24.5	36.5%	16.7%	19.2%	5.0%	5.2%
Troop J	7,541	30.7%	23.6	35.0%	16.9%	19.1%	4.5%	4.4%
Troop K	5,920	29.2%	26.1	45.2%	14.0%	19.9%	4.5%	5.6%
Troop L	3,704	37.3%	20.6	25.4%	19.4%	17.8%	6.1%	3.3%
Troop M	5,012	30.2%	27.7	36.9%	17.4%	19.6%	5.4%	7.5%
Specialized Units								
SHIELD	1,204	19.5%	11.2	46.3%	30.7%	11.6%	1.5%	8.1%
Canine	367	18.8%	10.3	59.7%	22.6%	14.2%	1.6%	16.3%

Table 3.5: Area I Reason for Stop by Station, Q1 2022

	Total # of Stops	Speeding	Avg. Amount Over Limit (MPH)	Other Moving Violation	Equipment/ Inspection	Registration	License	Other
Troop B								
Belle Vernon	790	31.0%	24.4	9.1%	36.8%	29.7%	10.3%	10.1%
Pittsburgh	1,272	58.2%	24.7	16.4%	20.0%	15.6%	5.7%	3.0%
Uniontown	1,343	35.9%	21.0	21.9%	19.7%	25.1%	7.1%	5.0%
Washington	493	25.8%	22.9	25.4%	35.7%	19.1%	9.5%	5.3%
Waynesburg	615	50.4%	21.7	12.8%	17.6%	17.6%	3.7%	4.6%
Troop C								
Clarion	729	48.0%	16.5	18.9%	19.1%	12.2%	3.2%	3.0%
Clearfield	954	60.4%	17.5	14.9%	15.4%	8.9%	1.8%	4.7%
Dubois	771	41.6%	19.0	17.4%	24.4%	17.1%	3.2%	4.8%
Lewis Run	1,059	23.2%	17.3	12.7%	47.1%	15.6%	4.3%	2.5%
Marienville	573	47.3%	18.3	9.9%	28.6%	14.0%	1.7%	7.5%
Punxsutawney	907	20.3%	17.2	20.4%	39.0%	18.2%	4.6%	7.1%
Ridgway	719	51.6%	18.2	13.1%	24.6%	11.0%	1.1%	3.8%
Troop D								
Beaver	528	46.2%	25.2	15.2%	16.3%	21.6%	4.4%	1.7%
Butler	1,237	36.4%	22.0	23.0%	28.9%	18.3%	3.7%	4.0%
Kittanning	1,722	36.4%	20.0	15.9%	30.0%	19.1%	5.7%	4.6%
Mercer	575	45.7%	21.0	13.6%	23.0%	23.3%	4.9%	9.4%
New Castle	410	50.7%	20.9	15.9%	18.0%	24.1%	5.1%	3.7%
Troop E								
Corry	640	32.7%	17.5	6.9%	40.6%	19.8%	4.2%	5.3%
Erie	1,016	11.8%	19.5	18.2%	45.0%	29.6%	6.5%	5.7%
Franklin	416	28.4%	17.9	19.0%	28.1%	23.3%	6.5%	4.6%
Girard	913	77.5%	20.2	5.9%	8.5%	9.2%	3.6%	3.1%
Meadville	438	58.9%	18.3	12.1%	14.4%	14.8%	2.1%	5.0%
Warren	404	51.7%	18.4	8.2%	21.3%	15.6%	0.2%	7.2%

Table 3.5: Area II Reason for Stop by Station, Q1 2022

	Total # of Stops	Speeding	Avg. Amount Over Limit (MPH)	Other Moving Violation	Equipment/ Inspection	Registration	License	Other
Troop A								
Ebensburg	280	69.6%	23.0	12.1%	9.6%	13.6%	2.1%	5.4%
Greensburg	761	37.7%	22.2	25.8%	23.7%	20.1%	4.6%	3.8%
Indiana	1,176	76.4%	22.8	7.3%	7.1%	8.7%	1.4%	3.1%
Kiski Valley	246	37.0%	22.9	34.1%	19.9%	14.6%	6.9%	5.7%
Somerset (A)	701	57.9%	20.8	9.7%	21.5%	16.0%	3.1%	9.6%
Troop G								
Bedford	1,109	55.7%	19.7	7.1%	20.5%	18.0%	1.5%	2.3%
Hollidaysburg	857	38.6%	21.5	14.1%	29.3%	25.4%	5.8%	2.3%
Huntingdon	718	57.5%	19.1	12.4%	16.7%	15.0%	3.5%	2.8%
Lewistown	793	58.1%	20.8	11.6%	21.2%	14.4%	3.9%	7.8%
McConnellsburg	735	64.4%	26.5	15.9%	11.3%	12.9%	1.2%	1.8%
Rockview	1,388	54.6%	21.3	18.9%	17.9%	13.5%	3.2%	3.2%
Troop H								
Carlisle	2,605	27.8%	20.2	22.9%	36.5%	13.3%	3.7%	6.0%
Chambersburg	2,223	39.1%	18.6	20.5%	23.3%	23.2%	3.6%	2.3%
Gettysburg	1,675	29.4%	19.3	32.2%	23.3%	14.9%	5.6%	1.5%
Harrisburg	2,165	29.0%	21.0	39.2%	12.7%	14.6%	4.6%	12.7%
Lykens	552	32.8%	19.6	12.7%	29.2%	24.1%	6.7%	3.4%
Newport	500	32.8%	20.7	18.8%	24.2%	22.8%	4.0%	4.6%
Troop T								
Bowmansville	799	68.6%	21.9	10.1%	9.4%	16.6%	2.5%	3.0%
Everett	1,330	84.1%	22.4	8.0%	7.9%	7.4%	1.7%	9.5%
Gibsonia	882	72.4%	19.0	18.5%	17.2%	9.9%	2.2%	7.4%
Highspire	1	0.0%	--	100.0%	0.0%	0.0%	0.0%	0.0%
King of Prussia	906	62.6%	24.6	13.6%	19.3%	11.6%	2.9%	6.6%
New Stanton	1,265	64.3%	21.8	16.1%	13.8%	16.4%	2.4%	8.5%
Newville	859	82.0%	24.4	9.7%	3.3%	8.8%	1.4%	2.0%
Pocono	1,053	91.7%	24.1	7.0%	1.8%	1.3%	1.0%	0.7%
Somerset (T)	979	75.0%	22.7	11.1%	4.2%	12.6%	1.4%	5.5%

Table 3.5:Area III Reason for Stop by Station, Q1 2022

	Total # of Stops	Speeding	Avg. Amount Over Limit (MPH)	Other Moving Violation	Equipment/ Inspection	Registration	License	Other
Troop F								
Coudersport	623	39.2%	17.8	11.1%	39.5%	11.1%	1.0%	1.3%
Emporium	268	62.7%	17.6	20.1%	11.9%	15.3%	4.5%	4.1%
Lamar	880	50.3%	19.4	20.0%	18.8%	13.1%	2.4%	4.1%
Mansfield	448	39.3%	16.2	28.3%	17.4%	11.6%	1.8%	5.6%
Milton	1,556	51.5%	19.7	24.0%	13.7%	10.2%	5.3%	2.8%
Montoursville	955	47.2%	18.2	17.8%	20.9%	18.3%	4.9%	2.7%
Selinsgrove	753	37.6%	21.4	22.3%	24.6%	22.4%	5.6%	2.5%
Stonington	409	36.7%	15.9	22.0%	22.7%	16.6%	3.7%	7.6%
Troop N								
Bloomsburg	818	42.9%	19.8	17.6%	18.6%	14.4%	4.6%	9.2%
Fern Ridge	1,052	51.8%	19.8	23.8%	16.0%	11.7%	3.5%	8.0%
Hazleton	1,056	32.9%	21.9	32.8%	17.8%	14.1%	11.4%	10.8%
Lehighton	351	45.9%	21.7	19.9%	22.8%	17.7%	4.6%	2.3%
Stroudsburg	3,521	24.1%	23.3	41.4%	16.4%	15.8%	4.9%	8.7%
Troop P								
Laporte	506	29.8%	19.6	18.2%	21.7%	25.9%	6.5%	5.9%
Shickshinny	414	48.1%	21.6	13.0%	21.0%	18.4%	6.0%	2.9%
Towanda	1,138	22.4%	19.4	14.9%	39.5%	21.4%	4.0%	4.7%
Tunkhannock	546	32.8%	20.1	10.3%	33.5%	24.5%	3.3%	2.9%
Wilkes-Barre	1,177	47.4%	24.6	16.0%	28.8%	11.8%	3.9%	3.2%
Troop R								
Blooming Grove	925	25.3%	17.7	35.0%	30.5%	16.1%	5.0%	3.5%
Dunmore	537	51.6%	24.3	20.9%	18.8%	17.3%	6.9%	3.4%
Gibson	1,073	47.1%	19.2	21.1%	27.9%	15.3%	7.5%	8.3%
Honesdale	592	26.5%	20.3	10.8%	54.1%	16.4%	3.9%	2.9%

Table 3.5: Area IV Reason for Stop by Station, Q1 2022

	Total # of Stops	Speeding	Avg. Amount Over Limit (MPH)	Other Moving Violation	Equipment/ Inspection	Registration	License	Other
Troop J								
Avondale	1,956	33.0%	23.6	37.8%	12.6%	19.3%	4.9%	6.0%
Embreeville	1,961	37.0%	26.4	31.1%	18.0%	17.6%	3.9%	4.4%
Lancaster	1,594	29.2%	20.3	36.8%	15.6%	18.6%	5.7%	3.1%
York	2,030	23.6%	22.3	34.7%	21.0%	20.8%	3.6%	3.8%
Troop K								
Media	2,820	33.2%	24.4	40.2%	10.3%	22.0%	4.8%	5.4%
Philadelphia	2,144	22.2%	29.4	56.4%	15.1%	18.6%	4.9%	7.6%
Skippack	956	33.2%	26.1	34.5%	22.2%	16.3%	3.1%	1.5%
Troop L								
Frackville	426	33.1%	21.0	12.9%	27.0%	24.2%	7.0%	2.3%
Hamburg	599	58.1%	19.3	20.4%	11.5%	13.0%	3.3%	1.2%
Jonestown	1,019	33.2%	19.7	34.5%	17.3%	16.9%	3.2%	5.9%
Reading	804	26.5%	24.3	33.0%	22.3%	17.9%	9.6%	3.1%
Schuylkill Haven	856	40.0%	20.2	16.9%	21.1%	18.8%	7.6%	2.6%
Troop M								
Belfast	766	34.3%	26.9	30.7%	23.2%	16.8%	6.3%	3.8%
Bethlehem	980	22.3%	27.5	41.1%	15.2%	17.6%	5.7%	8.1%
Dublin	867	17.9%	26.2	31.5%	30.1%	23.1%	5.5%	11.2%
Fogelsville	1,256	34.6%	23.7	42.2%	13.6%	17.4%	4.2%	3.5%
Trevose	1,143	38.5%	32.6	35.7%	10.1%	22.8%	5.9%	11.1%

Drivers' Characteristics

The characteristics of drivers stopped by PSP Troopers during the first quarter of 2022 are described at the Department, Area, and Troop levels in Table 3.6, and at the Station level in Table 3.7. The characteristics of the drivers are grouped by: 1) drivers' age and gender, 2) drivers' race and ethnicity, and 3) drivers' behavior. Note that, as described in the 2021 report, the gender and racial/ethnic characteristics of drivers are determined by officers' perceptions rather than asking drivers to identify their gender, race, or ethnicity. This is consistent with the guidance of best practice guides regarding traffic stop data collection; identifying driver race/ethnicity based on officers' perceptions is the recommended method of data collection for examining racially biased policing. [21] Officers may incorrectly perceive drivers' actual race and/or ethnicity. This possible misperception, however, is irrelevant for data collection analyses that seek to explain officer-decision making.[22] Other information about the driver (e.g., year of birth) was gathered from drivers' licenses.

Drivers' Age & Gender

As shown in Table 3.6, department-wide, the average age of drivers stopped by Troopers was 37.3 years, which is similar to the averages at the Area, Troop, and Station levels. The largest difference in the average age of drivers occurred at the Station level (see Table 3.7). For instance, the average age of drivers stopped by Troopers in the Warren and Emporium Stations was 41.8 years, compared to 33.2 years in Pocono Station.

At the department level, 67.1% of stopped drivers were male; likewise, males were more likely than females to be stopped across organizational units within the department. The lowest percent of male drivers stopped occurred in Area I (64.7%) and, more specifically, Troop E (63.3%). The highest percent of male drivers stopped occurred in Somerset (T) Station (72.9%), while the lowest percent occurred in Beaver Station (58.9%).

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[21] Engel & Cherkauskas, 2022, p.10; Lorie Fridell, Robert Lunney, Drew Diamond & Bruce Kubu, "Racially Biased Policing: A Principled Response, Police Executive Research Forum," (2001), https://www.policeforum.org/assets/docs/Free_Online_Documents/Racially-Biased_Policing/racially%20biased%20policing%20-%20a%20principled%20response%202001.pdf; Pryor et al., 2020; Ramirez et al., 2000.

[22] Concerns regarding racial, ethnic, and gender profiling are often based on the presumption that officers treat citizens differently due to their personal bias. Therefore, proper data collection efforts must identify officers' perceptions of the race/ethnicity of the driver, not necessarily the driver's actual race/ethnicity.

Table 3.6: Characteristics of Drivers Stopped by Department, Area & Troop, Q1 2022

		Age	Gender	Race					Ethnicity		Behavior			
	Total # of Stops	Average (years)	Male	White	Black	Amer. Indian or Alaskan Native	Asian/ Pacific Islander	Unknown	Hispanic	Unknown	Civil	Disrespect-ful	Non-compliant	Verbal or Phys Resistant
PSP Dept.	88,534	37.3	67.1%	78.3%	14.5%	0.3%	1.7%	5.2%	8.3%	6.9%	97.9%	1.1%	0.5%	1.0%
AREA I	18,551	38.3	64.7%	86.3%	8.6%	0.1%	0.9%	4.2%	1.3%	5.0%	98.1%	1.0%	0.5%	0.9%
Troop B	4,513	37.7	63.5%	81.5%	14.0%	0.1%	1.0%	3.5%	1.2%	6.3%	97.4%	1.1%	0.8%	1.1%
Troop C	5,712	39.4	67.0%	88.8%	3.3%	0.1%	0.9%	6.8%	1.5%	6.3%	98.3%	1.1%	0.4%	0.7%
Troop D	4,472	37.3	64.2%	86.3%	10.6%	0.1%	0.6%	2.5%	0.8%	3.2%	98.6%	0.8%	0.3%	0.7%
Troop E	3,854	38.6	63.3%	88.3%	7.6%	0.1%	1.0%	3.0%	1.7%	3.8%	98.1%	1.0%	0.4%	1.1%
AREA II	26,560	36.9	66.8%	78.8%	12.9%	0.3%	1.9%	6.1%	6.0%	7.1%	98.1%	1.0%	0.4%	0.9%
Troop A	3,164	37.1	65.4%	91.1%	7.2%	0.1%	0.5%	1.1%	1.1%	2.7%	98.2%	1.1%	0.3%	1.0%
Troop G	5,600	37.0	63.7%	86.5%	7.4%	0.4%	1.7%	4.0%	3.2%	4.1%	98.6%	0.9%	0.3%	0.5%
Troop H	9,721	37.4	67.5%	80.3%	14.4%	0.3%	1.6%	3.3%	9.3%	3.8%	97.2%	1.6%	0.7%	1.5%
Troop T	8,075	36.1	68.7%	66.8%	17.0%	0.5%	2.9%	12.8%	5.8%	15.0%	98.8%	0.5%	0.2%	0.6%
AREA III	19,602	37.7	67.2%	80.6%	11.0%	0.2%	1.2%	6.9%	9.0%	9.5%	98.0%	1.0%	0.5%	0.9%
Troop F	5,892	37.8	65.8%	87.0%	7.8%	0.3%	1.2%	3.7%	4.1%	4.3%	98.3%	0.8%	0.4%	0.8%
Troop N	6,802	36.8	69.0%	70.1%	16.9%	0.3%	1.5%	11.2%	15.9%	15.6%	97.7%	1.2%	0.7%	1.0%
Troop P	3,781	38.3	63.8%	89.8%	7.5%	0.1%	0.3%	2.2%	5.6%	2.4%	98.3%	1.0%	0.3%	0.7%
Troop R	3,127	38.5	70.4%	80.5%	8.7%	0.3%	1.2%	9.3%	7.7%	14.9%	97.9%	1.1%	0.7%	1.1%
AREA IV	22,177	36.7	68.9%	69.4%	24.2%	0.4%	2.3%	3.8%	14.9%	6.0%	97.4%	1.3%	0.6%	1.4%
Troop J	7,541	36.8	66.2%	76.5%	20.0%	0.4%	1.6%	1.6%	13.4%	3.1%	97.7%	1.1%	0.6%	1.1%
Troop K	5,920	36.6	70.2%	50.9%	40.4%	0.5%	3.0%	5.2%	8.5%	7.9%	96.3%	1.9%	0.7%	1.9%
Troop L	3,704	36.6	69.5%	84.2%	11.6%	0.1%	1.6%	2.4%	21.0%	4.2%	98.5%	0.6%	0.4%	0.8%
Troop M	5,012	36.6	71.1%	69.7%	20.6%	0.4%	2.9%	6.3%	20.3%	9.2%	97.2%	1.5%	0.7%	1.5%
Specialized Units														
SHIELD	1,204	38.3	86.8%	71.0%	16.1%	1.5%	11.0%	0.4%	29.0%	6.5%	98.4%	0.7%	0.4%	0.9%
Canine	367	38.4	77.7%	76.6%	18.8%	0.3%	3.3%	1.1%	13.4%	1.1%	98.1%	1.4%	0.5%	0.5%

Table 3.7: Area I Characteristics of Drivers Stopped by Station, Q1 2022

		Age	Gender	Race					Ethnicity					
	Total # of Stops	Average (years)	Male	White	Black	Amer. Indian or Alaskan Native	Asian/ Pacific Islander	Unknown	Hispanic	Unknown	Civil	Disrespect-ful	Non-compliant	Verbal or Phys Resistant
Troop B														
Belle Vernon	790	38.1	61.9%	77.7%	1.4%	0.1%	0.3%	9.4%	1.4%	11.4%	97.2%	1.3%	0.1%	1.8%
Pittsburgh	1,272	37.2	66.0%	70.0%	1.1%	0.2%	2.0%	3.0%	1.0%	10.5%	96.1%	1.6%	1.7%	0.7%
Uniontown	1,343	37.2	59.5%	88.5%	1.0%	0.1%	0.4%	1.7%	1.0%	1.8%	98.2%	1.0%	0.4%	0.7%
Washington	493	39.4	65.5%	85.8%	2.9%	0.2%	0.8%	2.2%	2.8%	2.0%	97.0%	0.8%	0.4%	2.4%
Waynesburg	615	37.6	67.8%	90.9%	0.7%	0.0%	0.8%	2.1%	0.7%	4.6%	98.7%	0.3%	0.5%	0.7%
Troop C														
Clarion	729	38.3	65.0%	82.4%	3.8%	0.1%	1.4%	7.5%	3.6%	6.4%	98.4%	0.7%	0.3%	1.0%
Clearfield	954	37.9	67.7%	85.0%	2.5%	0.3%	1.8%	8.1%	2.3%	8.5%	98.1%	1.5%	0.4%	0.4%
Dubois	771	38.5	68.5%	81.1%	3.8%	0.1%	1.7%	13.1%	3.4%	10.9%	98.1%	1.3%	0.8%	0.6%
Lewis Run	1,059	39.6	66.9%	94.2%	0.3%	0.1%	0.3%	2.5%	0.3%	2.2%	98.3%	0.9%	0.5%	0.8%
Marienville	573	41.7	71.3%	94.8%	0.4%	0.0%	0.3%	2.8%	0.3%	3.7%	98.8%	0.7%	0.0%	0.5%
Punxsutawney	907	40.5	63.9%	98.2%	0.3%	0.1%	0.4%	0.6%	0.3%	0.3%	97.9%	1.4%	0.3%	0.8%
Ridgway	719	39.7	66.8%	84.1%	0.8%	0.0%	0.7%	14.6%	0.7%	14.2%	99.2%	0.6%	0.1%	0.4%
Troop D														
Beaver	528	37.7	58.9%	79.0%	1.8%	0.0%	0.9%	1.3%	1.7%	7.8%	98.5%	0.9%	0.2%	0.4%
Butler	1,237	37.5	65.2%	90.1%	0.6%	0.1%	0.4%	2.7%	0.6%	2.7%	98.5%	0.9%	0.4%	0.9%
Kittanning	1,722	37.3	65.0%	88.7%	0.6%	0.1%	0.2%	1.0%	0.6%	0.8%	99.1%	0.6%	0.3%	0.3%
Mercer	575	35.4	64.9%	78.6%	1.7%	0.2%	2.3%	8.2%	1.6%	8.2%	98.1%	1.4%	0.3%	0.9%
New Castle	410	39.4	62.9%	84.6%	0.5%	0.0%	0.0%	1.5%	0.5%	1.5%	97.3%	1.0%	0.2%	2.0%
Troop E														
Corry	640	39.2	66.9%	98.8%	0.0%	0.0%	0.5%	0.3%	0.0%	0.3%	99.2%	0.5%	0.0%	0.3%
Erie	1,016	38.6	62.9%	83.3%	3.4%	0.2%	1.5%	2.2%	3.3%	2.7%	96.9%	1.5%	0.9%	2.6%
Franklin	416	39.3	62.3%	85.6%	1.7%	0.0%	0.5%	8.4%	1.4%	13.7%	97.4%	1.9%	0.5%	1.0%
Girard	913	36.7	60.1%	85.9%	2.2%	0.0%	1.8%	2.4%	2.2%	2.2%	98.8%	0.5%	0.2%	0.4%
Meadville	438	37.6	66.2%	85.6%	0.5%	0.2%	0.2%	6.4%	0.5%	7.1%	97.7%	1.1%	0.2%	1.4%
Warren	404	41.8	64.1%	96.3%	0.3%	0.0%	0.2%	1.7%	0.2%	2.0%	98.8%	0.7%	0.2%	0.2%

Table 3.7: Area II Characteristics of Drivers Stopped by Station, Q1 2022

	Total # of Stops	Age	Gender	Race					Ethnicity		Behavior			
		Average (years)	Male	White	Black	Amer. Indian or Alaskan Native	Asian/ Pacific Islander	Un-known	Hispanic	Unknown	Civil	Disrespect-ful	Non-compliant	Verbal or Phys Resistant
Troop A														
Ebensburg	280	36.7	65.0%	88.6%	6.4%	0.0%	1.1%	3.9%	1.1%	5.7%	98.6%	1.1%	0.4%	1.1%
Greensburg	761	39.4	64.0%	92.4%	6.8%	0.1%	0.4%	0.3%	2.0%	0.3%	97.5%	1.4%	0.3%	1.6%
Indiana	1,176	34.3	65.6%	88.4%	9.9%	0.1%	0.5%	1.0%	1.1%	4.7%	98.8%	0.4%	0.3%	0.6%
Kiski Valley	246	40.3	69.1%	93.5%	5.7%	0.0%	0.0%	0.8%	0.8%	0.4%	98.0%	1.6%	0.4%	0.8%
Somerset (A)	701	38.4	65.6%	94.2%	3.9%	0.1%	0.6%	1.3%	0.4%	1.6%	97.7%	1.6%	0.0%	1.0%
Troop G														
Bedford	1,109	36.5	63.0%	89.5%	6.5%	0.3%	1.5%	2.2%	1.5%	1.6%	98.6%	1.0%	0.1%	0.5%
Hollidaysburg	857	36.7	66.0%	87.2%	8.1%	0.9%	2.1%	1.8%	3.9%	2.1%	98.9%	0.8%	0.0%	0.2%
Huntingdon	718	39.7	59.9%	90.7%	2.2%	0.0%	0.0%	7.1%	0.9%	7.5%	99.6%	0.1%	0.1%	0.3%
Lewistown	793	37.7	59.4%	89.7%	5.8%	0.1%	1.6%	2.8%	4.7%	2.6%	97.9%	0.5%	1.1%	0.9%
McConnellsburg	735	37.4	68.0%	76.1%	10.6%	0.3%	2.2%	10.9%	2.9%	11.2%	98.2%	1.5%	0.0%	0.4%
Rockview	1,388	35.6	65.1%	85.3%	9.6%	0.6%	2.2%	2.3%	5.3%	2.8%	98.3%	1.1%	0.2%	0.6%
Troop H														
Carlisle	2,605	37.2	70.7%	79.3%	17.0%	0.2%	1.6%	1.9%	8.9%	2.5%	97.2%	1.4%	0.6%	1.3%
Chambersburg	2,223	37.6	62.0%	87.8%	9.9%	0.1%	0.8%	1.4%	8.1%	2.6%	97.8%	1.1%	0.3%	1.4%
Gettysburg	1,675	36.4	68.1%	84.4%	11.7%	0.3%	1.4%	2.3%	11.5%	2.0%	95.0%	3.5%	1.9%	2.7%
Harrisburg	2,165	38.3	70.2%	64.6%	22.6%	0.6%	3.2%	9.0%	13.7%	9.3%	97.4%	1.1%	0.5%	1.6%
Lykens	552	37.3	62.9%	93.1%	5.4%	0.0%	0.7%	0.7%	4.6%	1.3%	98.4%	1.1%	0.7%	0.4%
Newport	500	37.8	65.8%	92.4%	5.0%	0.0%	0.8%	1.8%	3.2%	1.4%	98.4%	0.8%	0.6%	0.4%
Troop T														
Bowmansville	799	34.9	68.6%	68.3%	23.0%	0.3%	2.5%	5.9%	11.8%	9.5%	99.1%	0.0%	0.1%	0.8%
Everett	1,330	36.1	70.1%	55.3%	18.3%	0.2%	4.4%	21.8%	6.3%	20.9%	99.2%	0.4%	0.2%	0.2%
Gibsonia	882	38.1	65.3%	78.1%	14.5%	0.8%	1.8%	4.8%	2.1%	14.6%	98.8%	1.0%	0.1%	0.2%
Highspire	1	33.0	100.0%	100.0	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%
King of Prussia	906	35.1	71.7%	58.2%	21.1%	0.7%	3.0%	17.1%	9.0%	23.6%	97.7%	1.1%	0.1%	1.2%
New Stanton	1,265	37.8	65.5%	79.0%	6.6%	0.2%	0.6%	13.6%	1.5%	14.9%	99.0%	0.3%	0.3%	0.6%
Newville	859	34.7	70.6%	69.8%	23.7%	0.1%	4.9%	1.4%	9.2%	2.1%	98.6%	0.8%	0.5%	0.2%
Pocono	1,053	33.2	65.7%	74.8%	18.9%	1.2%	3.3%	1.7%	11.1%	1.6%	99.0%	0.6%	0.0%	0.5%
Somerset (T)	979	38.0	72.9%	51.6%	14.5%	0.6%	2.9%	30.4%	4.8%	29.4%	99.1%	0.1%	0.1%	0.9%

Table 3.7: Area III Characteristics of Drivers Stopped by Station, Q1 2022

		Age	Gender	Race					Ethnicity		Behavior			
	Total #of Stops	Average(years)	Male	White	Black	Amer. Indian or Alaskan Native	Asian / Pacific Islander	Un-known	Hispanic	Un-known	Civil	Dis-respectful	Non-compliant	Verbal or Phys Resistant
Troop F														
Coudersport	623	41.4	69.5%	95.7%	1.6%	0.2%	0.2%	2.4%	1.1%	2.6%	98.6%	0.8%	0.6%	0.3%
Emporium	268	41.8	69.8%	98.1%	1.1%	0.4%	0.0%	0.4%	0.7%	0.4%	99.3%	0.7%	0.0%	0.0%
Lamar	880	36.6	65.2%	84.9%	8.1%	0.7%	2.4%	4.0%	5.2%	3.8%	98.8%	0.6%	0.3%	0.5%
Mansfield	448	38.6	66.5%	78.1%	4.9%	0.2%	1.6%	15.2%	1.8%	16.3%	94.4%	2.7%	1.3%	2.2%
Milton	1,556	36.2	67.0%	85.2%	10.7%	0.3%	1.6%	2.1%	7.0%	2.4%	98.7%	0.5%	0.2%	1.0%
Montoursville	955	37.3	65.1%	81.8%	12.7%	0.2%	1.5%	3.9%	2.7%	4.1%	98.1%	0.8%	0.5%	1.2%
Selinsgrove	753	38.0	63.2%	90.2%	6.1%	0.0%	0.5%	3.2%	3.6%	6.5%	99.7%	0.1%	0.1%	0.0%
Stonington	409	38.7	59.9%	94.4%	4.4%	0.0%	0.2%	1.0%	4.2%	1.0%	97.1%	1.0%	0.7%	1.2%
Troop N														
Bloomsburg	818	35.7	67.2%	76.5%	11.6%	0.0%	1.0%	10.9%	7.8%	12.3%	99.0%	0.4%	0.4%	0.6%
Fern Ridge	1,052	37.4	71.4%	78.0%	15.8%	0.5%	2.6%	3.1%	15.4%	4.1%	98.2%	0.9%	0.6%	1.0%
Hazleton	1,056	35.9	67.2%	67.3%	10.4%	0.1%	1.0%	21.1%	31.8%	23.4%	96.5%	2.2%	0.5%	1.5%
Lehighton	351	37.9	66.4%	82.9%	6.6%	0.0%	0.3%	10.3%	5.7%	13.7%	97.2%	1.7%	0.6%	0.9%
Stroudsburg	3,521	37.0	69.5%	65.7%	21.4%	0.4%	1.6%	10.9%	14.1%	17.7%	97.6%	1.1%	0.9%	1.1%
Troop P														
Laporte	506	38.7	64.8%	89.1%	9.1%	0.6%	0.4%	0.8%	6.3%	1.6%	98.8%	0.4%	0.2%	0.6%
Shickshinny	414	38.5	65.5%	88.2%	10.6%	0.0%	0.7%	0.5%	10.6%	0.5%	99.0%	0.5%	0.0%	0.7%
Towanda	1,138	38.1	64.7%	98.2%	1.1%	0.0%	0.1%	0.6%	1.3%	0.6%	97.8%	1.7%	0.3%	0.8%
Tunkhannock	546	39.2	63.4%	90.7%	3.5%	0.0%	0.2%	5.7%	2.4%	5.3%	97.3%	1.8%	0.7%	0.9%
Wilkes-Barre	1,177	37.8	61.9%	82.2%	13.8%	0.1%	0.4%	3.4%	9.0%	3.7%	98.8%	0.3%	0.3%	0.6%
Troop R														
Blooming	925	39.7	71.4%	74.8%	6.9%	0.3%	0.8%	17.2%	5.8%	29.4%	97.7%	1.1%	0.6%	1.3%
Dunmore	537	37.4	69.5%	81.2%	12.8%	0.4%	0.7%	4.8%	10.1%	13.0%	98.0%	1.5%	0.4%	0.2%
Gibson	1,073	37.4	70.1%	78.9%	11.4%	0.3%	2.2%	7.2%	11.5%	8.4%	97.3%	1.2%	1.0%	1.9%
Honesdale	592	39.7	70.1%	91.7%	2.7%	0.0%	0.7%	4.9%	1.7%	5.7%	99.2%	0.3%	0.3%	0.2%

Table 3.7: Area IV Characteristics of Drivers Stopped by Station, Q1 2022

	Total # of Stops	Age	Gender	Race					Ethnicity		Behavior			
		Average (years)	Male	White	Black	Amer. Indian or Alaskan Native	Asian / Pacific Islander	Un-known	Hispanic	Un-known	Civil	Dis-respectful	Non-compliant	Verbal or Phys Resistant
Troop J														
Avondale	1,956	37.2	66.6%	81.4%	16.2%	0.2%	1.3%	0.8%	19.1%	1.9%	97.0	1.5%	0.8%	1.5%
Embreeville	1,961	37.8	64.4%	70.6%	23.9%	0.8%	2.4%	2.3%	9.6%	3.9%	98.4	1.0%	0.6%	0.8%
Lancaster	1,594	36.0	69.0%	80.8%	16.4%	0.3%	1.6%	0.9%	15.7%	1.7%	98.5	0.6%	0.4%	0.8%
York	2,030	36.2	65.3%	74.0%	22.6%	0.2%	0.9%	2.3%	9.7%	4.6%	97.1	1.3%	0.7%	1.5%
Troop K														
Media	2,820	36.8	70.0%	51.5%	43.0%	0.6%	3.0%	1.8%	7.4%	2.3%	97.3	1.5%	0.6%	1.2%
Philadelphia	2,144	35.7	72.0%	41.2%	45.0%	0.3%	3.2%	10.3%	9.9%	15.1%	94.9	2.4%	1.1%	3.0%
Skippack	956	37.5	66.6%	71.0%	22.3%	0.4%	2.3%	4.0%	8.7%	8.4%	96.5	2.0%	0.2%	1.6%
Troop L														
Frackville	426	37.6	65.7%	85.7%	8.0%	0.0%	0.2%	6.1%	13.6%	5.4%	99.8	0.2%	0.0%	0.0%
Hamburg	599	36.7	69.7%	79.0%	16.7%	0.7%	2.5%	1.2%	18.4%	3.0%	99.2	0.3%	0.3%	0.3%
Jonestown	1,019	35.8	69.0%	83.5%	11.5%	0.1%	2.7%	2.2%	24.7%	3.5%	98.4	0.6%	0.2%	1.2%
Reading	804	36.0	74.1%	81.3%	14.2%	0.0%	1.1%	3.4%	34.0%	8.2%	97.3	1.5%	1.0%	1.0%
Schuylkill Haven	856	37.7	67.6%	90.8%	7.5%	0.0%	0.9%	0.8%	9.8%	1.6%	98.8	0.4%	0.2%	0.8%
Troop M														
Belfast	766	36.5	71.2%	69.6%	24.7%	0.1%	2.9%	2.7%	21.3%	3.3%	95.7	2.7%	0.5%	2.1%
Bethlehem	980	35.9	70.3%	69.9%	15.3%	0.2%	1.4%	13.2%	24.6%	13.6%	97.7	1.4%	0.4%	1.3%
Dublin	867	38.7	68.2%	76.6%	7.5%	0.3%	2.0%	13.6%	7.5%	15.3%	95.5	1.7%	1.8%	2.3%
Fogelsville	1,256	37.3	72.6%	74.4%	21.1%	0.6%	2.0%	1.9%	28.3%	4.8%	98.5	0.5%	0.4%	1.0%
Trevose	1,143	35.1	72.3%	59.1%	31.8%	0.8%	6.0%	2.3%	16.8%	9.8%	97.6	1.8%	0.7%	1.4%

Drivers' Race & Ethnicity

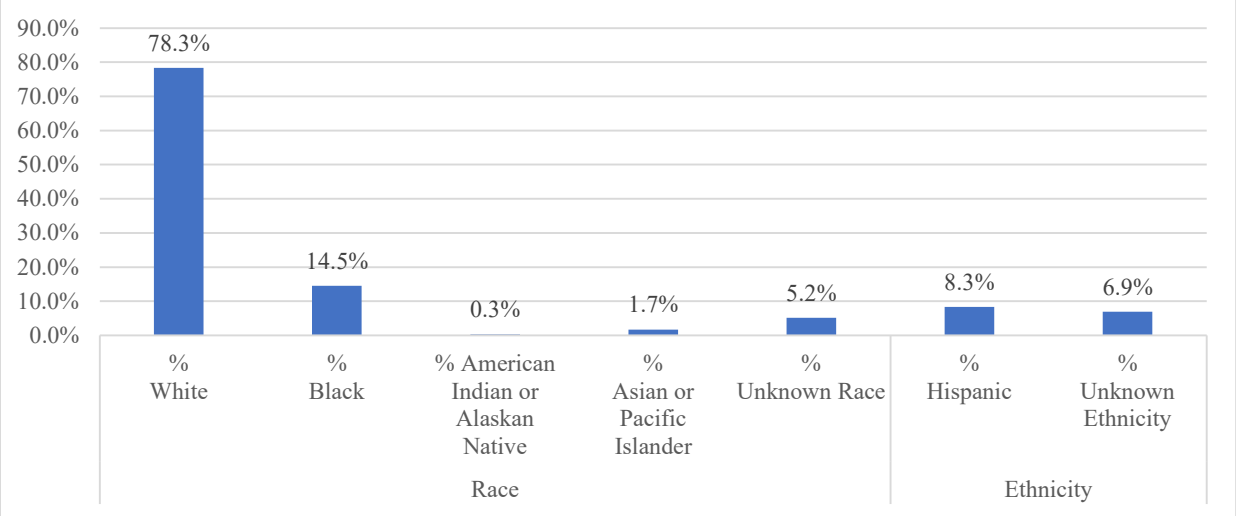
Drivers' race and ethnicity are captured in separate fields on the stop data collection form with the following available response options:

- Race: White, Black, American Indian/Alaskan Native, Asian/Pacific Islander, and Unknown
- Ethnicity: Hispanic Origin, Not of Hispanic Origin, and Unknown

Figure 3.2 displays the perceived race and ethnicity of drivers stopped by Troopers department wide. As shown, the majority of drivers stopped (78.3%) were White, followed by 14.5% Black, 1.7% Asian, and 0.3% American Indian or Alaskan Native. In the ethnicity field, 8.3% of stopped drivers were reported to be Hispanic.

As shown in Figure 3.2, PSP Troopers indicated they were unable to identify the race of the driver in 5.2% of all traffic stops and were unable to identify driver ethnicity during 6.9% of stops. In 88% of the cases with unknown driver race, the ethnicity of the driver was also reported as unknown, while in 66% of the cases with unknown driver ethnicity, the race of the driver was also unknown. In total, Troopers reported driver race *and* ethnicity to be unknown in 4.5% of all stops made in the first quarter of 2022. Other observational and traffic studies have reported the difficulties associated with identifying driver race and ethnicity, particularly with distinguishing Hispanics from White drivers.[23] This issue is explored in more detail below.

Figure 3.2: Department-Wide Racial/Ethnic Characteristics of Drivers Stopped, Q1 2022



[23] Alpert Group (Alpert, G.P., Smith, M.R., Dunham, R., & Piquero, A., & Parker, K.). "Miami-Dade Police Department racial profiling study," Columbia, SC: Author, (November 2004); James E. Lange, J. E., Kenneth O. Blackman, K. O., & Mark B. Johnson, "Speed Violation Survey of the New Jersey Turnpike: Final Report," Trenton, NJ: Office of the Attorney General, (2001); Steven K. Smith & Carol J. DeFrances, "Assessing measurement techniques for identifying race, ethnicity, and gender: Observation-based data collection in airports and at immigration checkpoints," Washington, D.C.: U.S. Department of Justice, (2003).

Table 3.6 displays the perceived race and ethnicity of drivers stopped by Department, Areas, Troops, and specialized units, while Table 3.7 displays the same information at the Station level. These tables demonstrate large variation in the race/ethnicity of drivers stopped across organizational units. Some variation is to be expected based on geographic, demographic, and roadway type differences across the Commonwealth.

Most important for this data audit is a comparison of the percent of drivers with unknown race/ethnicity reported across organizational units. This information represented graphically in Figure 3.3 (by Department and Area), Figure 3.4 (by Troop), and Figure 3.5 (by Station). At the Area level, the highest percent of unknown race was reported in Area III (6.9% of stops), and the lowest in Area IV (3.8%). Across Troops, the highest percent of unknown race occurred in Troop T (12.8% of stops) and the lowest in Troop A (1.1% of stops). As shown in Table 3.7 and Figure 3.5, of the 88 Stations, 15 (17.0%) reported 1% or fewer stops with unknown driver race[24] , and 10 Stations (11.4%) reported 1% or fewer stops with unknown driver ethnicity.[25] Conversely, 16 Stations (18.2%) reported 10% or more stops with unknown driver race[26], and 21 Stations (23.9%) with 10% or more stops with driver ethnicity unknown.[27]

In summary, there was considerable variation in the racial and ethnic characteristics of drivers stopped across Areas, Troops, and Stations. This is to be expected due to differences in the demographic makeup of residents and travelers, along with differences in traffic flow patterns in these locations. The wide variation in the percent of unknown race and ethnicity reported by Troopers, however, warrants further scrutiny by PSP officials and is discussed in the report summary.

[24] Stations with 1% or fewer stops with unknown drivers' *race* include: Punxsutawney, Kittanning, Corry, Greensburg, Indiana, Kiski Valley, Highspire, Emporium, Stonington, Laporte, Shickshinny, Towanda, Avondale, Lancaster, and Schuylkill Haven.
[25] Stations with 1% or fewer stops with unknown drivers' *ethnicity* include: Punxsutawney, Kittanning, Corry, Greensburg, Kiski Valley, Highspire, Emporium, Stonington, Shickshinny, and Towanda.
[26] Stations that reported 10% or more stops with unknown drivers' *race* include: Dubois, Ridgway, McConnellsburg, Everett, King of Prussia, New Stanton, Somerset (T), Mansfield, Bloomsburg, Hazelton, Lehighton, Stroudsburg, Blooming Grove, Philadelphia, Bethlehem, and Dublin.
[27] Stations that reported 10% or more stops with unknown drivers' *ethnicity* include: Belle Vernon, Pittsburgh, Dubois, Ridgway, Franklin, McConnellsburg, Everett, Gibsonia, King of Prussia, New Stanton, Somerset (T), Mansfield, Bloomsburg, Hazelton, Lehighton, Stroudsburg, Blooming Grove, Dunmore, Philadelphia, Bethlehem, Dublin.

Figure 3.3: Percentages of Unknown Race/Ethnicity by Department and Area Command, Q1 2022

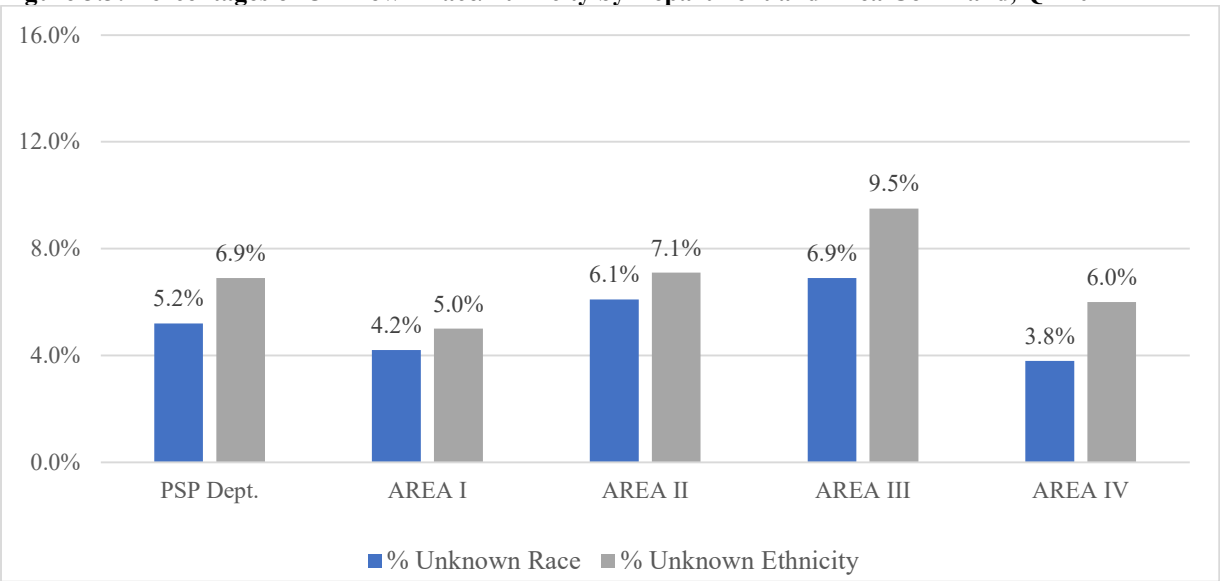


Figure 3.4: Percentages of Unknown Race/Ethnicity by Troop, Q1 2022

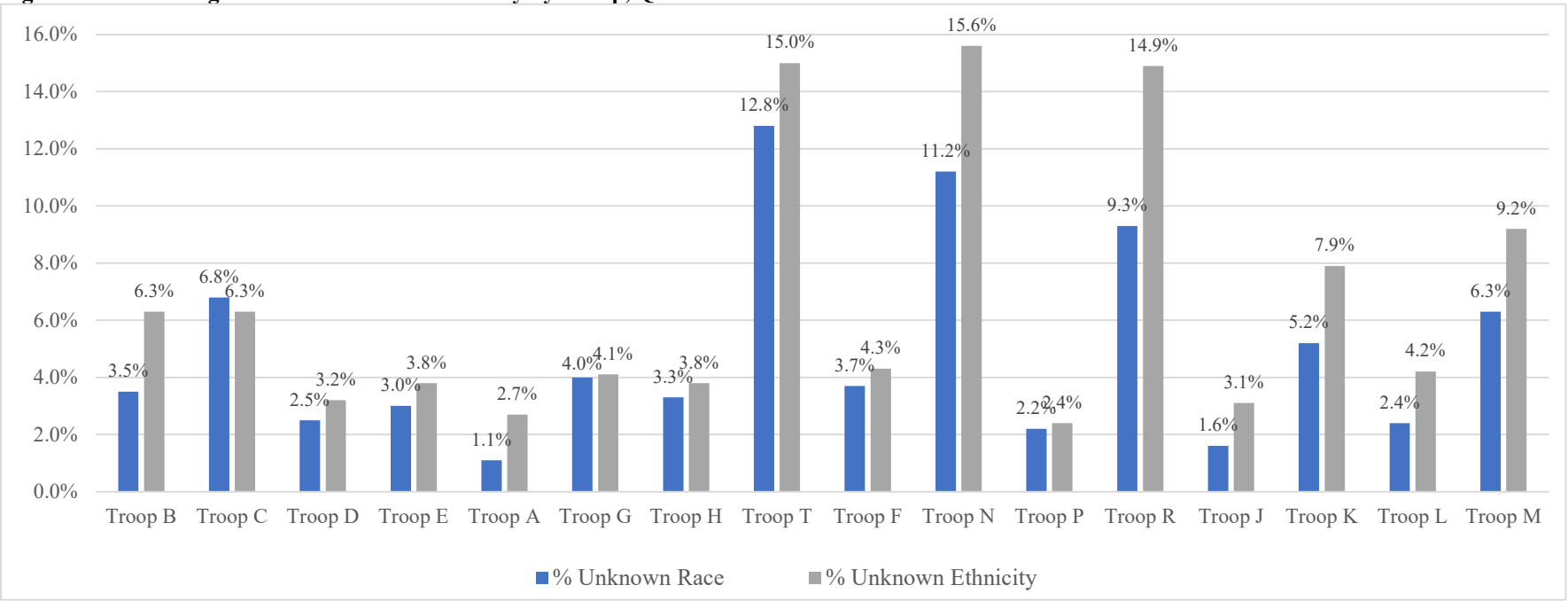
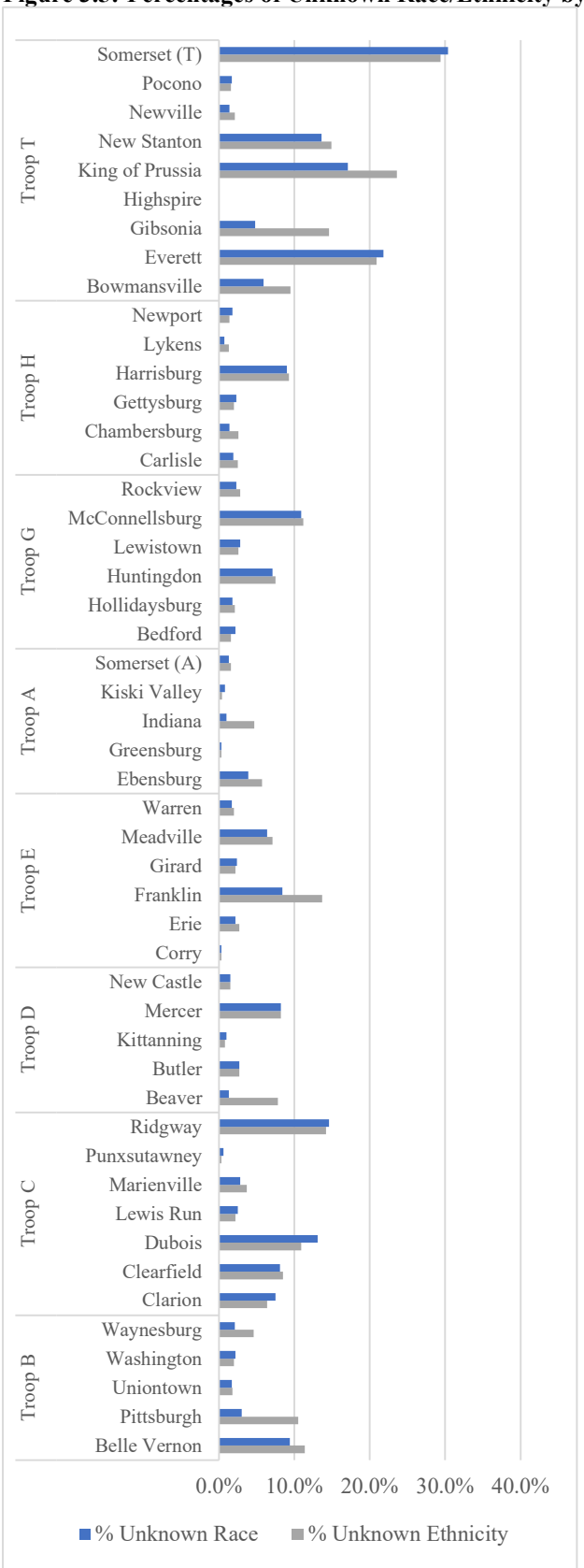
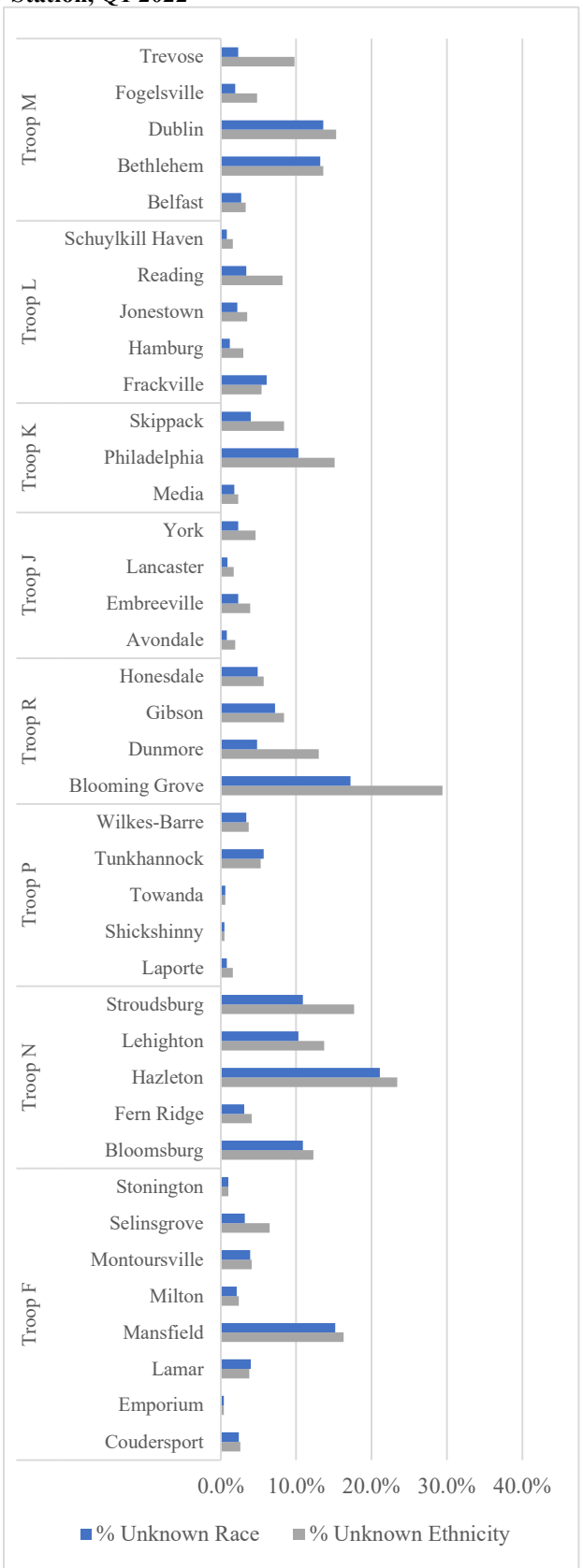


Figure 3.5: Percentages of Unknown Race/Ethnicity by Station, Q1 2022





Drivers' Behavior

Finally, Tables 3.6 and 3.7 provide information about drivers' behavior, including whether they were civil, disrespectful, non-compliant, verbally resistant, or physically resistant toward Troopers during traffic stops. Troopers are instructed to select all that apply, so there are a small number of cases where drivers were reported to be civil as well as one of the other categories (n=165, 0.2%).[28]

As shown, at the department level, 97.9% of drivers are reported as only civil. Disrespectful drivers are identified in 1.1% of stops. Non-compliant and/or resistant drivers were rare. These findings were consistent at the Area and Troop levels. There is slightly more variation across Stations, but the lowest reported civil rate is still only 94.4% at the Mansfield station.

Summary

Section 3 described the characteristics of traffic stops and stopped drivers across various PSP organizational units based on data collected from January 1, 2022 to March 31, 2022. The department-level trends in these descriptive findings are summarized below.

- Across the department, the majority of traffic stops had the following characteristics:
  - Occurred on a weekday (71.8%)
  - Occurred during the daytime (65.4%)
  - Occurred on a state highway (52.7%) or an interstate (34.4%)
  - Involved a vehicle registered in Pennsylvania (80.2%)
  - Involved vehicles without passengers (76.2%)
  - Lasted between 1-15 minutes (87.4%)
- Across the department, characteristics of the stop show:
  - The most frequent reason for traffic stops as speeding (41.2%), followed by moving violations (24.1%), equipment inspections (20.9%), and registration (16.7%)
  - For speeding stops, the average amount over the posted speed limit was 21.6 mph
- Across the department, characteristics of the drivers include:
  - Average age of 37.3 years
  - 67.1% male
  - White (78.3%), Black (14.5%), Hispanic (8.3%), Asian (1.7%), American Indian or Alaskan Native (0.3%), unknown race (5.2%), unknown ethnicity (6.9%)
  - Driver behavior was overwhelmingly civil (97.9%), with only a small percentage of stops reported to involve disrespectful, non-compliant, or resistant drivers
- Considerable variation is reported in stop characteristics, reasons for the stop, and driver characteristics across PSP organizational units. This is to be expected due to differences

[28] In this table, the percent "civil" reflects stops where that was the only behavior category selected by the Trooper. If a Trooper selected civil and another behavior category or categories, they are reported in the percent for the other categories. Overall, in 99.4% of traffic stops, Troopers selected only one category for this data field.

in the geography, roadways, jurisdiction, traffic flow, and demographic makeup of residents and travelers across the state.

- The large variation across organizational units in the percentage of drivers reported as unknown race/ethnicity, however, must be further examined by PSP officials.

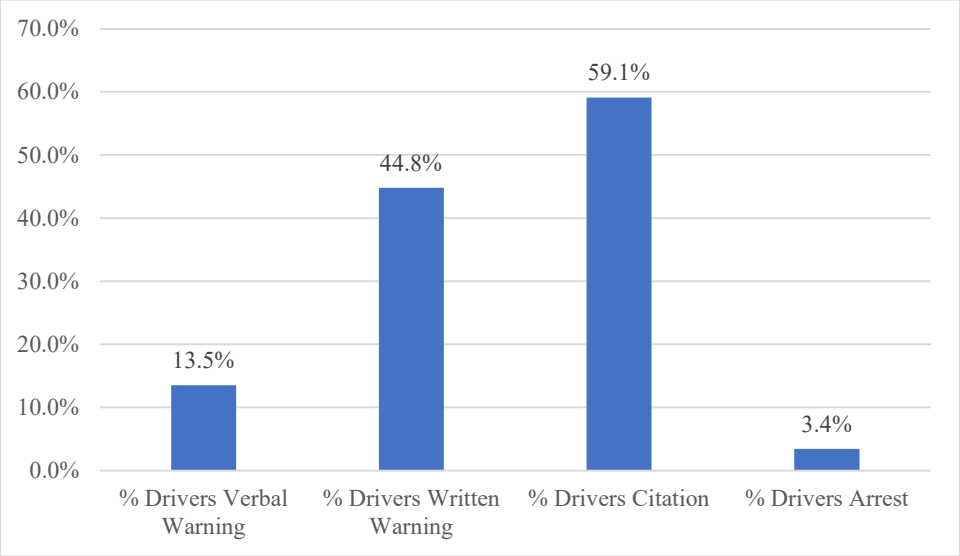
IV. ANALYSES OF POST-STOP OUTCOMES

This section reports traffic stop outcomes during member-initiated traffic stops conducted in the first quarter of 2022. The disposition of traffic stops (e.g., warnings, citations, and arrests) is reported at the Department, Area, and Troop levels in Table 4.1 and the Station level in Table 4.2. These tables report the total number and percentage of stops resulting in a *driver* warning, citation, and/or arrest. It is important to note that these percentages may exceed 100%, as drivers may experience one or more post-stop outcomes (e.g., a driver may be both warned and cited in the same stop). Tables 4.3 and 4.4 display information related to stops that resulted in searches at the Department, Area, and Troop levels.[29]

Description of Post-Stop Outcomes

Figure 4.1 and Table 4.1 report the post-stop outcomes for drivers during the 88,534 stops initiated by PSP Troopers in the first quarter of 2022. As shown, 59.1% of drivers were issued citations, while 58.4% received verbal or written warnings (13.5% and 44.8%, respectively). Driver arrests were rare, occurring in only 3.4% of traffic stops.

Figure 4.1: Department-Wide Post-Stop Outcomes, Q1 2022

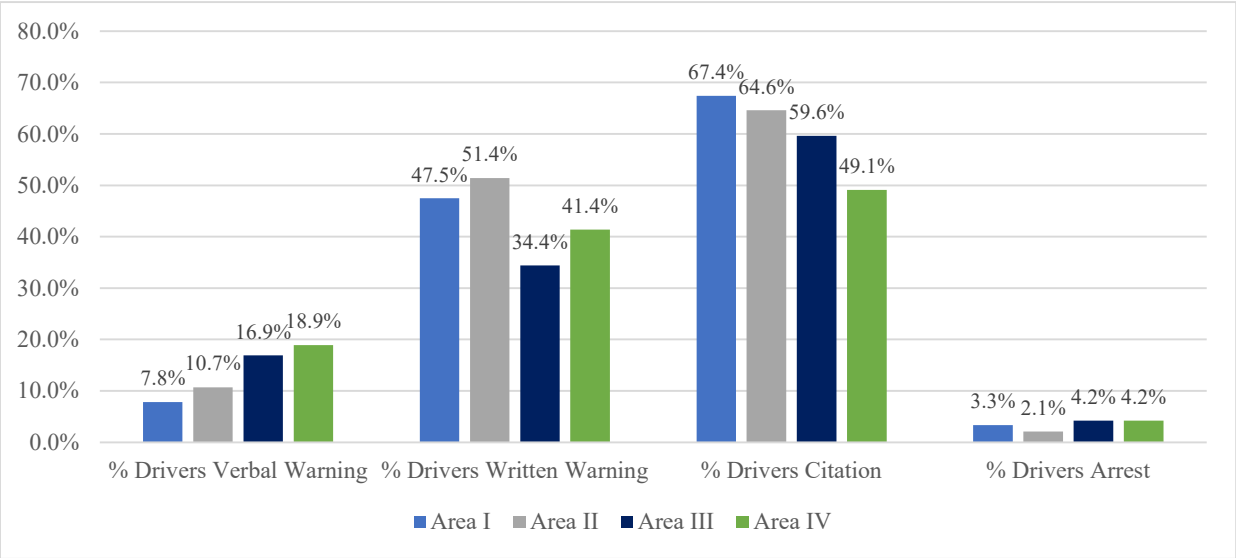


As reported in Table 4.1 and graphically displayed in Figure 4.2, post-stop outcomes differed across PSP Areas. For example, Troopers assigned to Area II issued the most warnings to drivers (10.7% verbal and 51.4% written warnings), while Troopers in Area III issued the least (16.9% verbal, 34.4% written warnings). Drivers in Areas I and II were the most likely to be cited (67.4% and 64.6%, respectively), while drivers in Area IV were least likely to be issued citations

[29] This information will be presented at the Station level in the 2022 annual report, but due to the limited number of searches, it is not presented at the Station level for quarterly reports.

(49.1%). Troopers in Area II arrested the smallest percentage of stopped drivers (2.1%), while Area III and Area IV reported the highest percentage of drivers arrested (4.2%).

Figure 4.2: Post-Stop Outcomes by PSP Area, Q1 2022



Troops ranged in issuing warnings from a high of 73.4% in Troop H to a low of 38.9% in Troop B. For citations, Troop T had the highest percentage of drivers cited (84.3%), while Troop J had the lowest (45.7%). Traffic stop outcomes at the Troop level demonstrated the greatest variation, with driver arrests ranging from 5.2% of stops in Troop N, to 0.4% in Troop T.

As for specialized units, the SHIELD unit issued a very high number of warnings (2.5% verbal, 95.4% written warnings). The Canine unit also issued about 95.6% warnings but had a higher percentage of verbal warnings (46.3%) than the SHIELD unit. In addition, both units infrequently cited drivers. Finally, the SHIELD unit arrested 2.2% of drivers, while the Canine unit arrested 1.9% of drivers.

Table 4.1: Post-Stop Outcomes by Department, Area & Troop, Q1 2022

	Total # of Stops	Drivers Verbal Warning	Drivers Written Warning	Drivers Citation	Drivers Arrest
PSP Dept.	**88,534**	**13.5%**	**44.8%**	**59.1%**	**3.4%**
AREA I	18,551	7.8%	47.5%	67.4%	3.3%
Troop B	4,513	8.9%	30.0%	75.5%	3.2%
Troop C	5,712	9.7%	55.4%	61.5%	2.7%
Troop D	4,472	5.7%	56.4%	60.5%	4.6%
Troop E	3,854	6.0%	45.9%	74.7%	3.0%
AREA II	26,560	10.7%	51.4%	64.6%	2.1%
Troop A	3,164	5.6%	42.1%	73.3%	3.2%
Troop G	5,600	9.8%	52.4%	63.4%	2.8%
Troop H	9,721	17.2%	56.3%	46.1%	2.8%
Troop T	8,075	5.7%	48.4%	84.3%	0.4%
AREA III	19,602	16.9%	34.4%	59.6%	4.2%
Troop F	5,892	15.3%	37.4%	56.7%	4.7%
Troop N	6,802	21.3%	31.5%	56.8%	5.2%
Troop P	3,781	14.3%	35.1%	62.3%	2.4%
Troop R	3,127	13.4%	34.2%	67.7%	3.1%
AREA IV	22,177	18.9%	41.4%	49.1%	4.2%
Troop J	7,541	23.7%	38.3%	45.7%	4.9%
Troop K	5,920	17.2%	43.8%	49.0%	3.0%
Troop L	3,704	18.3%	37.1%	56.0%	4.8%
Troop M	5,012	14.2%	46.4%	49.3%	4.4%
Specialized Units					
SHIELD	1,204	2.5%	95.4%	0.5%	2.2%
Canine	367	46.3%	49.3%	7.1%	1.9%

Table 4.2 reports post-stop outcomes at the Station level. There is considerable variability across Stations for all stop outcomes. The highest percent of warnings were issued at New Stanton Station (88.4%) and the fewest at Pocono Station (25.7%) – both Stations are within Troop T, which is responsible for the PA Turnpike. Troopers assigned to Pocono Station had the highest citation rate (92.4%). In approximately 14% of PSP Stations (13 of 88 Stations), drivers were arrested in 1.0% or less of all stops. Selinsgrove Station reported the largest percentage of drivers who were arrested (14.5%), compared to less than 0.1% of drivers in Somerset (T) Station.

Table 4.2: Post-Stop Outcomes by Station, Q1 2022

	Total # of Stops	Drivers Verbal Warning	Drivers Written Warning	Drivers Citation	Drivers Arrest
AREA I					
Troop B					
Belle Vernon	790	6.3%	22.9%	84.8%	3.5%
Pittsburgh	1,272	13.9%	23.8%	78.5%	1.0%
Uniontown	1,343	7.5%	39.9%	70.7%	2.4%
Washington	493	9.1%	34.6%	65.9%	11.0%
Waynesburg	615	4.7%	26.4%	75.3%	2.8%
Troop C					
Clarion	729	5.2%	44.0%	65.6%	2.5%
Clearfield	954	9.0%	36.2%	68.7%	1.6%
Dubois	771	14.3%	70.0%	71.2%	1.7%
Lewis Run	1,059	6.3%	68.1%	55.3%	5.0%
Marienville	573	11.9%	41.9%	67.0%	1.9%
Punxsutawney	907	5.9%	66.7%	49.0%	3.1%
Ridgway	719	18.1%	54.6%	58.3%	1.9%
Troop D					
Beaver	528	7.4%	21.4%	86.4%	2.8%
Butler	1,237	8.9%	56.6%	63.9%	9.3%
Kittanning	1,722	2.9%	69.2%	43.5%	2.3%
Mercer	575	6.6%	42.7%	73.9%	3.5%
New Castle	410	4.1%	66.1%	69.8%	3.7%
Troop E					
Corry	640	3.6%	58.8%	67.0%	1.9%
Erie	1,016	5.6%	50.4%	71.3%	4.7%
Franklin	416	12.0%	45.7%	64.4%	4.1%
Girard	913	3.2%	24.6%	87.6%	2.1%
Meadville	438	6.3%	48.8%	75.3%	2.7%
Warren	404	6.7%	62.1%	78.7%	2.2%
AREA II					
Troop A					
Ebensburg	280	9.4%	27.3%	85.4%	0.7%
Greensburg	761	6.2%	62.2%	61.4%	5.1%
Indiana	1,176	3.8%	32.5%	77.4%	3.6%
Kiski Valley	246	9.3%	37.4%	76.0%	2.4%
Somerset (A)	701	5.0%	43.9%	73.6%	1.9%
Troop G					
Bedford	1,109	5.1%	64.7%	68.9%	1.1%
Hollidaysburg	857	21.0%	44.6%	54.5%	5.5%
Huntingdon	718	8.4%	42.9%	76.9%	6.0%
Lewistown	793	3.3%	51.5%	65.1%	2.1%
McConnellsburg	735	6.7%	63.0%	66.8%	0.5%
Rockview	1,388	13.0%	47.2%	54.7%	2.4%

Table 4.2: Post-Stop Outcomes by Station , Q1 2022 (p. 2 of 3)

	Total # of Stops	Drivers Verbal Warning	Drivers Written Warning	Drivers Citation	Drivers Arrest
Troop H					
Carlisle	2,605	7.9%	67.2%	48.8%	2.0%
Chambersburg	2,223	14.8%	54.1%	59.4%	1.4%
Gettysburg	1,675	24.8%	57.0%	30.4%	2.3%
Harrisburg	2,165	28.3%	44.0%	36.8%	5.8%
Lykens	552	6.9%	61.2%	67.2%	2.7%
Newport	500	13.8%	54.4%	42.6%	2.4%
Troop T					
Bowmansville	799	10.9%	24.3%	85.2%	0.5%
Everett	1,330	2.3%	77.2%	84.1%	0.6%
Gibsonia	882	3.1%	76.9%	87.3%	0.6%
Highspire	1	0.0%	100.0%	0.0%	0.0%
King of Prussia	906	8.9%	19.6%	92.1%	0.3%
New Stanton	1,265	8.1%	80.2%	67.5%	0.3%
Newville	859	4.5%	28.0%	78.9%	0.3%
Pocono	1,053	5.1%	20.6%	92.4%	0.3%
Somerset (T)	979	3.6%	36.2%	92.0%	0.1%
AREA III					
Troop F					
Coudersport	623	9.5%	53.6%	53.0%	1.1%
Emporium	268	10.4%	62.7%	48.9%	0.7%
Lamar	880	20.6%	18.9%	60.6%	1.1%
Mansfield	448	19.7%	38.0%	58.7%	6.0%
Milton	1,556	12.7%	31.7%	56.3%	3.9%
Montoursville	955	27.5%	30.9%	52.8%	2.1%
Selinsgrove	753	5.7%	53.0%	63.7%	14.5%
Stonington	409	9.8%	43.9%	54.8%	9.8%
Troop N					
Bloomsburg	818	13.9%	28.9%	67.1%	2.8%
Fern Ridge	1,052	12.9%	20.0%	77.3%	2.7%
Hazleton	1,056	17.9%	27.4%	69.4%	3.6%
Lehighton	351	16.0%	28.5%	78.9%	8.5%
Stroudsburg	3,521	27.1%	37.1%	42.3%	6.6%
Troop P					
Laporte	506	25.4%	28.0%	56.1%	2.6%
Shickshinny	414	10.9%	34.8%	72.5%	1.7%
Towanda	1,138	18.6%	38.9%	51.7%	2.5%
Tunkhannock	546	8.1%	61.0%	50.2%	3.5%
Wilkes-Barre	1,177	9.4%	22.5%	77.3%	2.0%
Troop R					
Blooming Grove	925	14.9%	39.9%	55.1%	3.7%
Dunmore	537	11.0%	36.6%	73.9%	2.2%
Gibson	1,073	13.2%	27.0%	75.8%	4.0%
Honesdale	592	13.4%	36.2%	67.1%	1.4%

Table 4.2: Post-Stop Outcomes by Station, Q1 2022 (p. 3 of 3)

	Total # of Stops	Drivers Verbal Warning	Drivers Written Warning	Drivers Citation	Drivers Arrest
AREA IV					
Troop J					
Avondale	1,956	22.8%	47.1%	41.6%	3.2%
Embreeville	1,961	12.7%	42.3%	59.2%	3.6%
Lancaster	1,594	27.3%	32.4%	42.7%	6.4%
York	2,030	32.2%	30.8%	38.9%	6.5%
Troop K					
Media	2,820	19.3%	42.3%	42.6%	3.3%
Philadelphia	2,144	17.5%	41.0%	57.5%	2.6%
Skippack	956	10.5%	54.4%	49.0%	2.9%
Troop L					
Frackville	426	28.6%	23.7%	58.5%	1.6%
Hamburg	599	12.5%	31.4%	72.6%	2.8%
Jonestown	1,019	22.9%	39.9%	49.4%	5.6%
Reading	804	17.1%	42.2%	47.9%	9.6%
Schuylkill Haven	856	12.7%	39.6%	58.8%	2.5%
Troop M					
Belfast	766	17.5%	33.0%	56.8%	2.5%
Bethlehem	980	11.7%	40.4%	54.9%	4.1%
Dublin	867	9.0%	60.0%	41.3%	5.7%
Fogelsville	1,256	13.7%	47.1%	47.3%	4.4%
Trevose	1,143	18.5%	49.3%	47.8%	5.0%

Searches & Seizures

Table 4.3 displays information related to traffic stops that resulted in searches at the Department, Area, and Troop levels. Specifically, the percentage of stops resulting in searches, total number of searches, percent of searches that were conducted roadside as compared to searches that were conducted after the vehicle was towed, and the percent of searches resulting in the seizure of contraband (sometimes referred to as the "hit rate" or "search success rate") are reported.

Approximately 3.1% of traffic stops made by PSP Troopers resulted in a search, with 2,713 searches conducted department-wide during the first quarter of 2022. The prevalence of searches varied across PSP Areas, with Area II having the lowest percentage of stops that resulted in searches (1.7%) and Area IV having the highest (4.7%). Similarly, there is variation in the percentages of traffic stops resulting in searches at the Troop level. For example, 0.2% of stops conducted in Troop T resulted in a search, compared to 5.1% in Troop K. Of note, all Troops within Area IV averaged a higher percentage of stops resulting in searches than the department-wide average of 3.1%. Finally, the average search rate was considerably higher for the

specialized units in comparison to the department-wide average. Specifically, searches were conducted during 13.7% of traffic stops made by the SHIELD unit and 10.7% by the Canine unit.

The overwhelming majority of searches, both department-wide and at the Area and Troop levels, were conducted roadside. Each Area and nearly every Troop conducted at least 90% of searches roadside and less than 10% of searches after a tow, aligning with the overall PSP department average. Troop T was the only Troop to significantly differ in this regard, with 80% of its searches conducted roadside and 20% of searches conducted after a tow.

The percentage of searches that were successful in the seizure of evidence and/or contraband was 39.6% across the department. This seizure rate varied across Areas, from a high of 48.9% of searches in Area I to a low of 34.3% in Area IV. Of note, Area IV had the highest percentage of stops that resulted in a search, but the lowest seizure rate. The 2022 annual report will examine search and seizure rates in more detail to further explore possible explanations for this trend. At the Troop level, Troop C had the highest percentage of searches resulting in seizures of evidence/contraband (62.5% of searches), while Troop K had the lowest (20.7% of searches). Again, due to the small number of searches conducted in many stations, it is only appropriate to report seizure rates at the Area and Troop levels until more data is collected.

Table 4.3: Searches by Department, Area & Troop, Q1 2022

	Stops Resulting in Search	Total # of Searches	Searches Conducted Roadside	Searches After Tow	Searches Resulting in Seizure
PSP Dept.	**3.1%**	**2,713**	**94.2%**	**5.8%**	**39.6%**
AREA I	2.6%	481	95.8%	4.2%	48.9%
Troop B	4.0%	178	95.5%	4.5%	41.6%
Troop C	1.4%	80	96.3%	3.8%	62.5%
Troop D	3.7%	164	96.3%	3.7%	49.4%
Troop E	1.6%	59	94.9%	5.1%	50.8%
AREA II	1.7%	458	91.5%	8.5%	41.9%
Troop A	1.7%	53	94.3%	5.7%	26.4%
Troop G	2.0%	112	93.8%	6.3%	46.4%
Troop H	2.8%	273	90.8%	9.2%	43.2%
Troop T	0.2%	20	80.0%	20.0%	40.0%
AREA III	2.8%	548	96.5%	3.5%	45.6%
Troop F	1.8%	106	95.3%	4.7%	43.4%
Troop N	3.3%	224	96.4%	3.6%	46.4%
Troop P	2.3%	86	95.3%	4.7%	44.2%
Troop R	4.3%	132	98.5%	1.5%	47.0%
AREA IV	4.7%	1,030	93.7%	6.3%	34.3%
Troop J	4.8%	360	92.5%	7.5%	45.3%
Troop K	5.1%	300	93.3%	6.7%	20.7%
Troop L	4.2%	153	97.4%	2.6%	40.5%
Troop M	4.4%	217	93.5%	6.5%	30.4%
Specialized Units					
SHIELD	13.2%	156	92.9%	7.1%	22.4%
Canine	10.7%	39	94.9%	5.1%	17.9%

Table 4.4 provides more detailed information on the reasons for searches at the Department, Area, and Troop levels. The department-wide results are graphically displayed in Figure 4.3. Troopers are instructed to report all reasons for a search – therefore, the categories for search reason reported below are not mutually exclusive. As shown, the majority of searches conducted department-wide secured motorists' verbal consent 63.5%, while nearly 20% were based on written consent. Combined, 76% of PSP searches during traffic stops had verbal consent, written consent, or both. Other prevalent reasons for search include incident to arrest (24.8% of searches) and inventory (10.5%). Less than 10% of searches were based on the following reasons: plain view (8.8%), officer safety (7.5%), search warrant (5.5%), and probable cause/exigent circumstances (1.3%).

As this report was being finalized, PSP made the research team aware of an issue discovered on September 5, 2022 with the "incident to arrest" response option for the "reason for search" data field. As described in the *2021 Pennsylvania State Police Traffic Stop Study,* the values for categories of search reasons changed mid-year in 2021, with some reasons eliminated, others

added, and the numeric codes for all categories differing from the previous CDR form to the updated form.[30] Previously "0" indicated that search reason was "not applicable" and "incident to arrest" was "1". The "not applicable" option, however, was eliminated on the updated form because search reason does not open as a field for completion if no search is initiated and "incident to arrest" was subsequently assigned the value "0". When the update was made, however, it appears that an old validation rule inadvertently was not removed; specifically, if search initiated is yes, search reason cannot be "not applicable." This issue was discovered when a member tried to select "0" for "incident to arrest" as a search reason and the system warned them it was not a valid response when search initiated is yes. Although some Quarter 1 searches still indicated incident to arrest as the reason for search, this issue likely undercounted this particular reason for search and possibly searches overall. For example, as noted in Table 4.1, 3.4% of drivers were arrested (n=2,974), but as reported in Figure 4.3 and Table 4.4, only 24.8% of searches were reported to be based on incident to arrest (n=672). This includes 109 searches that were only based on incident to arrest (note that reason for search is a select all that apply). It is unknown how frequently this issue may have occurred prior to it being reported and there is no method for either PSP or the research team to determine how other members would have proceeded in similar circumstances. The PSP Bureau of Communications and Information Services began a pilot test of a rule change to correct this issue on September 22, 2022 and it went into effect department-wide on September 30, 2022. The research team will evaluate this issue and its implications for search and seizure analyses in the 2022 Annual Report once a full year of data is available and the correction has been implemented.

Figure 4.3: Department-Wide Reasons for Search, Q1 2022

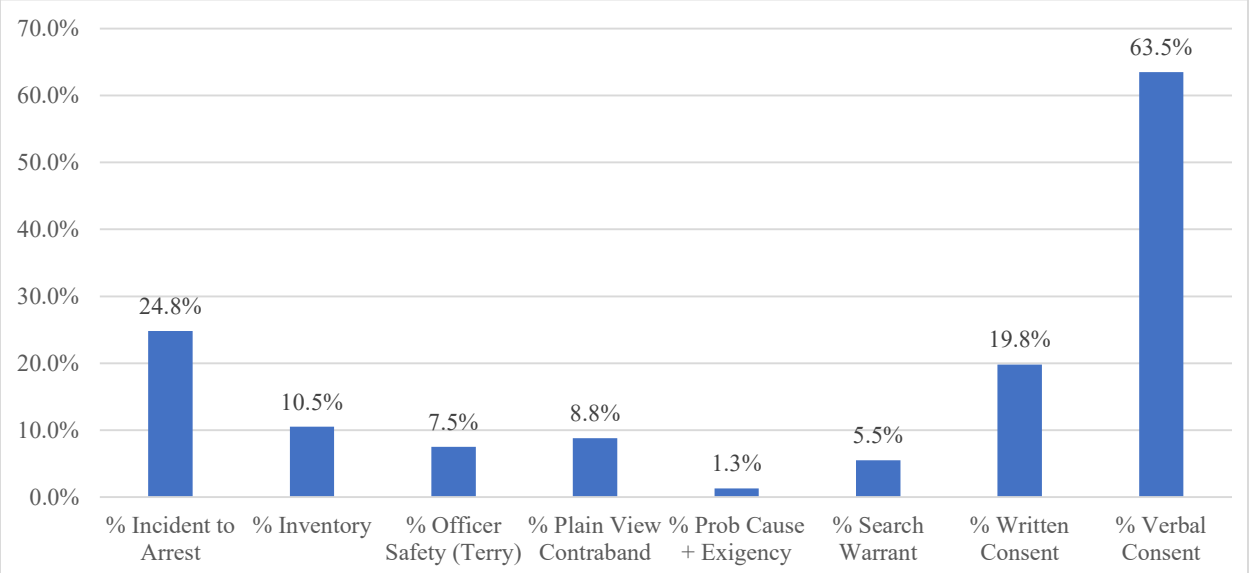


Table 4.4 also illustrates the different search reasons across Areas, Troops, and the specialized SHIELD and Canine units. As shown, the reasons for search differ across Areas and Troops. For example, 79.8% of searches conducted in Area I included verbal consent, compared to just 47% in Area IV. In Area I, written consent accounted for just 7.3% of searches, while it accounted for

[30] Engel & Cherkauskas, 2022, p.17-18.

24.1% of stops in Area IV. Area IV also demonstrated much higher percentages of searches incident to arrest (33.9%) and inventory (22.5%) compared to the department-wide averages of 24.8% and 10.5%, respectively.

Notable differences exist in the ways that motorists consent to searches at the Troop level as well. For instance, only 2.5% of searches by Troop D involve written consent, while 82.9% involve verbal consent. Conversely, 40.6% of searches by Troop J involve written consent, while only 30.8% involve verbal consent. Finally, the overwhelming majority of searches by the SHIELD and Canine units involved written or verbal consent from motorists. These specialized units were much less likely to report conducting searches based on incident to arrest and inventory compared to the departmental averages.

Table 4.4: Search Reasons by Department, Area & Troop, Q1 2022

	Total # of Searches	Incident to Arrest	Inventory	Officer Safety (Terry)	Plain View Contraband	Probable Cause + Exigency	Search Warrant	Written Consent	Verbal Consent
PSP Dept.	**2,713**	**24.8%**	**10.5%**	**7.5%**	**8.8%**	**1.3%**	**5.5%**	**19.8%**	**63.5%**
AREA I	481	23.1%	1.0%	9.6%	13.3%	2.5%	4.0%	7.3%	79.8%
Troop B	178	20.8%	1.7%	9.0%	9.6%	3.9%	4.5%	4.5%	82.0%
Troop C	80	18.8%	0.0%	12.5%	16.3%	1.3%	3.8%	15.0%	75.0%
Troop D	164	24.4%	1.2%	10.4%	17.1%	1.8%	3.0%	2.4%	82.9%
Troop E	59	32.2%	0.0%	5.1%	10.2%	1.7%	5.1%	18.6%	71.2%
AREA II	458	17.2%	1.7%	5.7%	6.1%	1.7%	7.9%	13.3%	72.7%
Troop A	53	9.4%	0.0%	1.9%	3.8%	0.0%	5.7%	11.3%	83.0%
Troop G	112	12.5%	0.0%	4.5%	8.0%	5.4%	6.3%	25.9%	70.5%
Troop H	273	19.4%	2.2%	5.9%	5.1%	0.7%	7.7%	9.2%	73.6%
Troop T	20	35.0%	10.0%	20.0%	15.0%	0.0%	25.0%	5.0%	45.0%
AREA III	548	23.4%	6.8%	4.4%	9.7%	1.8%	3.5%	15.0%	71.4%
Troop F	106	23.6%	3.8%	6.6%	9.4%	0.0%	4.7%	11.3%	73.6%
Troop N	224	32.1%	12.5%	2.7%	9.4%	3.6%	3.1%	6.3%	67.9%
Troop P	86	18.6%	3.5%	9.3%	10.5%	0.0%	4.7%	38.4%	66.3%
Troop R	132	11.4%	1.5%	2.3%	9.8%	1.5%	2.3%	17.4%	78.8%
AREA IV	1,030	33.9%	22.5%	9.8%	8.1%	0.6%	6.2%	24.1%	47.0%
Troop J	360	43.9%	26.7%	8.9%	9.4%	0.0%	7.5%	40.6%	30.8%
Troop K	300	29.0%	26.0%	17.0%	8.7%	0.7%	5.7%	7.0%	53.7%
Troop L	153	23.5%	3.9%	3.9%	6.5%	0.7%	3.9%	21.6%	64.1%
Troop M	217	31.3%	24.0%	5.5%	6.0%	1.4%	6.5%	22.1%	52.5%
Specialized Units									
SHIELD	156	2.6%	1.3%	1.9%	3.2%	0.0%	6.4%	61.5%	61.5%
Canine	39	2.6%	0.0%	5.1%	10.3%	0.0%	2.6%	33.3%	87.2%

Summary

Post-stop outcomes varied considerably by PSP Area, Troop, and Station, but across the department, traffic stop outcomes can be summarized by the following characteristics:

- 58.4% of stops resulted in a warning issued to the driver
  - 13.5% were verbal warnings
  - 44.8% were written warnings
- 59.1% of stops resulted in a citation issued to the driver
- 3.4% of stops resulted in the arrest of the driver

During this quarter, 2,713 searches were conducted department-wide (3% of all stops).

- The prevalence of searches conducted varied across Areas and Troops
- The search rate was higher for stops made by the SHIELD unit (13.7%) and the Canine unit (10.7%)
- The overwhelming majority of searches, both department-wide and across Areas and Troops, were conducted roadside as compared to searches conducted after towing
- The percentage of searches resulting in the seizures of evidence and/or contraband was 39.6%, but again, it varied by organizational unit

V. SUMMARY AND RECOMMENDATIONS

The PSP proactively initiated one of the country's most comprehensive traffic stop data collection efforts with the guidance of the UC research team. Furthermore, the electronic data capture, auto-population of information, and data validation integrated into the TraCS software combined to produce a traffic stop database that is reliable and valid. This report represents the first of three quarterly reports to be provided by the UC team based on 2022 CDR data. These reports are designed to update PSP administrators on the data collection progress and to provide initial descriptive analyses of the data collected each quarter. Given the limited number of traffic stops, all of the descriptive information reported in this document should be considered preliminary and subject to change based on additional months of data collection. In addition, none of the results reported in this document statistically control for alternative explanations for findings, which will be included in the annual report based on a full year of data and released in spring 2023.

This concluding section briefly summarizes the preliminary analyses of the first quarter of 2022 data, previews the more rigorous statistical analyses that will be employed in the 2022 annual report, and offers some recommendations for data collection improvement that can be implemented in the interim.

The Initial Traffic Stop

From January 1, 2022 to March 31, 2022, PSP Troopers initiated 88,534 traffic stops with members of the public. Across the department, the majority of traffic stops occurred on a state highway (52.7%) or interstate (34.4%), involved a vehicle registered in Pennsylvania (80.2%), and lasted between 1-15 minutes. The most frequent reason for traffic stops was speeding (41.2%), with an average amount over the posted speed limit of 21.6 miles per hour. The other most common reasons for a stop included other moving violations (24.1%) and equipment/inspection violations (20.9%). As expected, differences across organizational units were evident for many of these variables.

Of the drivers stopped, two-thirds were male. Approximately 78% of the drivers were White while 14.5% were Black; 8.3% were of Hispanic ethnicity. The rate of stops for different racial and ethnic groups varied dramatically across Areas, Troops, and Stations. Some variation is expected given residential patterns related to race and travel patterns along interstate and state highways. However, the overwhelming majority of drivers across all organizational units were civil to the Troopers who stopped them; disrespectful, non-compliant, or resistant behavior was rare.

Post Stop Outcomes

Post-stop outcomes varied considerably by PSP Area, Troop, and Station, but on average, over half of the stops (58.4%) resulted in a warning for the driver, most of which were written as opposed to verbal. A similar percentage of stops (59.1%) resulted in the driver being cited. Only 3.4% of traffic stops resulted in the arrest of the driver. Similarly, approximately 3% of all stops

resulted in a search of the driver, vehicle, and/or passenger. During the first quarter of 2022, 2,713 searches were conducted department wide. The search rate varied across PSP Areas and Troops. The average percentage of searches that were successful in the seizure of contraband was 39.6%, but the search success rate varied by organizational unit.

Recommendations

In the process of preparing this report, the research team communicated some of the preliminary findings to the PSP team to allow them to make necessary adjustments. Based on the Quarter 1 data audit, the UC team recommended that PSP revise data validation rules to ensure data consistency as detailed in Section 2. These minor adjustments will continue to enhance the PSP's already strong data collection protocol.

The research team also discussed with the PSP team the large variation in the percent of unknown responses for the driver race and ethnicity fields. The reasons for the variation cannot be determined by the UC research team. It is possible some Troopers may be concerned about the collection of driver race/ethnicity, or that Troopers may be reluctant to guess when they are uncertain of drivers' characteristics based on fears of being inaccurate, even though the collection of this information is supposed to be based on their perceptions. It is also important to note that there is no response option for more than one or mixed race; it is possible Troopers may select unknown when they encounter someone they perceive to be biracial. It is important for PSP officials to monitor the differences in unknown race and ethnicity across organizational units to ensure that Troopers are not attempting to circumvent the data collection effort, with particular attention to Troops and Stations that exceed 10% unknown race and/or ethnicity. PSP officials should also reinforce with Troopers that drivers' racial/ethnic characteristics are to be based on *their perceptions* and provide guidance for how to classify individuals they perceive to be bi-racial.

In response to this issue, on August 12, 2022, the Director of the Bureau of Communication and Information Services released a PSP Postmaster communication. This directive indicated reiterated that when completing the race and ethnicity fields "members are reminded that they **shall** report their perceptions of occupants' race/ethnicity." Further guidance indicated:

> "Unknown" should only be used in the rare circumstance that a member is unable to perceive the race and/or ethnicity. For the purposes of the CDR form, the occupant's actual race/ethnicity is irrelevant as the information we are collecting is based on the members' perception. For the same reason, members shall not ask occupants to identify their actual race/ethnicity.

The directive also noted that because there is no response option for more than one race, "Members may select 'unknown' when they encounter someone they perceive to be biracial. To the extent that is the case, please select the race/ethnicity that most closely aligns to your perception whenever possible." The CDR online training was updated in accordance with the additional guidance. The impact of this directive on the percent of unknown race and ethnicity will be examined in the 2022 3rd Quarter report to see if any additional action is needed.

The research team also recommends that PSP Area, Troop, and Station commanders review the initial data trends described in this report.

Future Analyses

These preliminary findings document the progress of PSP's traffic stop data collection in 2022 and provide descriptive information regarding the first quarter of stops. As described in the introduction of this report, the 2022 annual report will include more in-depth statistical analyses of 12 months of traffic stop data (January 1, 2022 – December 31, 2022), including the use of appropriate benchmark comparisons for traffic stops, multivariate statistical analyses of stop outcomes that account for multiple explanatory factors, and outcome test analyses of searches and seizures. Future annual reports will allow for the examination of patterns and trends in traffic stops and post-stop outcomes over time to determine if changes in policies and training to reduce possible racial/ethnic disparities have the desired impact on officer behavior.

APPENDIX

CDR Form – Page 1 of 2

Contact Data Reporting

9.00.00, Form 12/22/2021, Rule 12/21/2021

CDR Number	Related Document Number
CBWVTTGTS22	
CAD/Case Number	RMS location

STOP LOCATION

Location			
County Name		Municipality Code	Municipality Name
Stop Time HRS	Stop Date	Roadway Type	Registration State

GPS

Latitude:	Degrees	Minutes	Seconds	Decimal	Longitude:	Degrees -	Minutes	Seconds	Decimal

Prior Posted Speed Limit	Driver Speed MPH	Amount Over Limit MPH	
Special Traffic Enforcement	Dedicated Enforcement Team	Assigned Enforcement Team	

DRIVER

Zip Code	Gender	Date of Birth	Race	Ethnicity
LEP?	LEP Language Access?			

STOP RESULT

Stop Duration minutes	MCSAP Related?	Number of Passengers	K-9 Utilized ?

DRIVER

Driver's Behavior	Driver Arrested?	Number of Citations	Warning Type	Number of Warnings

CDR Form – Page 2 of 2

PASSENGER

Asked for Passenger Identification?	Passenger Identification Type?	Passenger Identification Justification?
Passenger Race	Passenger Ethnicity	
LEP?	LEP Language Access?	
Number of Warnings	Number of Citations	Passenger Arrested?

ADD PASSENGER GROUP

SEARCH

Search Initiated?	Searched? (Mark all the apply)
Search Reason(s) "Mark all that apply"	
Property Seized "Mark all that apply"	

EMPLOYEE INFORMATION

Location Code	Employee Number
Z99	00111222