Project on Police-Citizen Contacts: Final Report, 2006

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Colonel Jeffrey Miller, Commissioner of the Pennsylvania State Police

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

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EXECUTIVE SUMMARY

OVERVIEW

This report documents the findings from statistical analyses of data collected during all member-initiated traffic stops by the Pennsylvania State Police (PSP) from January 1, 2006 – December 31, 2006. These data represent the fifth year of data collection for the Project on Police-Citizen Contacts. This executive summary provides highlights of the following substantive portions of the *Year 5 Final Report*: 1) summary of the *Years 3 & 4 Final Report*, 2) description of the 2006 traffic stop data, 3) trends in traffic stop data from 2002-2006, 4) analyses of post-stop outcomes in 2006, 5) trends in post-stop outcomes from 2002-2006, 6) focused examination of search and seizure activity, and 7) recommendations to PSP officials.

SUMMARY OF *YEARS 3 & 4 FINAL REPORT*

Initially drafted in February 2007 and released by PSP after internal review in January 2008, the *Years 3 & 4 Final Report* included the standard traffic stop data analyses presented in previous years' reports, as well as the results of a separate but related project focused on "best practices" in search and seizure activity. The report first summarized the results of this best practices research that was initiated in response to recommendations in the *Year 2 Final Report*. The goal of this research, which involved nine focus group interviews, was to identify: 1) the reasons why PSP Troopers conduct searches, 2) what verbal, non-verbal, and behavioral cues are perceived by Troopers as the most effective in predicting criminal behavior, 3) effective and ineffective investigative techniques used by Troopers, 4) the reasons for lower minority search success rates compared to Caucasians, 5) participants' perceptions of their peers' search rates and search success rates, and practices of their peers that they consider counter-productive, and 6) how Troopers were trained in criminal interdiction, and their perceptions regarding the usefulness and accuracy of the training they received.

In addition to the wealth of information provided on the topics above, the participants also described important inconsistencies in the ongoing traffic stop data collection project. Specifically, it was noted that some Troopers were not completing the Contact Data Reports during all member-initiated stops, as required by departmental policy. In particular, Troopers were underreporting the most serious traffic stops, those resulting in arrests and/or searches that resulted in the discovery of contraband. This form of underreporting produced data that indicated PSP Troopers were *less* productive and accurate during searches than they actually were; therefore, it is extremely unlikely that the underreporting was a systematic attempt by PSP officials to circumvent or otherwise disrupt the data collection effort.

As a result of the data concerns, the research team, in consultation with PSP administrators and legal counsel, suspended the reporting of data findings until the sources of the invalid reporting were identified and changes were made to rectify the reporting discrepancies. Several steps were quickly initiated to resolve the problem, including: 1) conducting an internal data audit to determine the extent of the underreporting, 2) reinforcing proper data collection procedures to PSP personnel by reissuing the formal policy mandating data collection, 3) issuing monthly reports to PSP officials that allowed supervisors to confirm

that all traffic stops were accounted for, and 4) developing and implementing an alternative for electronic data collection (described more fully below).

The results of the data audit revealed that the data collected until September 2005 likely underreported the total number of traffic stops, the number of traffic stops that resulted in an arrest, the number of traffic stops that resulted in a search, and the number of traffic stops that resulted in a seizure of contraband. Based on these conclusions, the UC research team recommended to PSP administrators and legal counsel that analyses of Year 3 data were reported simultaneously as analyses of Year 4 data. These would allow for direct comparisons across the both years and could determine the likely extent of the underreporting of traffic stops involving the most serious outcomes (i.e., arrests and seizures). Analyses completed for the *Years 3 & 4 Final Report* confirmed significant increases in search and arrest rates in data collected after September 1, 2005, when steps were taken to increase the accurate reporting of traffic stops on the CDR.

As noted above, the majority of the *Years 3 & 4 Final Report* focused on the findings from traffic stop data collected during the third and fourth years of data collection, from January 1, 2004 through December 31, 2005. These findings included an overview of traffic stops in 2004 and 2005, an analysis of trends in traffic stops and traffic stop outcomes between 2002 and 2005, a limited examination of post-stop outcomes[1], and a series of recommendations. Each of these components is briefly summarized below.

During 2004 and 2005, 300,683 and 272,670 member-initiated traffic stops were recorded on the CDR forms, respectively. In 2004, less than 2% of the CDR forms contained any type of missing data, while in 2005 the rate of missing data department-wide was 2.9%. The majority of traffic stop and citizen characteristics were extremely consistent between 2004 and 2005, as roughly two-thirds of drivers stopped were male and the majority of drivers were Caucasian.

Due to the methodological limitations of benchmarks and the availability of four years of traffic stop data, the *Years 3 & 4 Final Report* utilized trend analyses in lieu of external benchmark comparisons to compare percentages of racial/ethnic groups stopped, warned, and cited by PSP Troopers over the course of four years of data collection. Binomial analyses of the rates of stops for different racial/ethnic groups indicated that, in comparison to previous years, 11 PSP stations had elevated rates of traffic stops involving Black drivers in 2005, while 14 stations had elevated rates of traffic stops involving Hispanic drivers. Further, the findings of the trend analysis of stop outcomes indicated that across all four years, Caucasians were consistently the least likely to be cited and Hispanics the most likely to be cited, although that gap has slowly narrowed over time. Such patterns in traffic stops and stop outcomes, however, could be explained by legitimate factors and definitive conclusions regarding these racial/ethnic disparities cannot be made.

[1] Due to the known inaccuracies in the data collected prior to September 2005, some statistical analyses conducted for previous reports (e.g., detailed examinations of racial/ethnic disparities in arrests, searches, and seizures) were not included within the *Years 3 & 4 Final Report*.

The hierarchical multivariate statistical analyses of post-stop outcomes (e.g., citations) demonstrated that, holding other variables constant, Black and Hispanic drivers in 2004 were not significantly more or les likely to be issued citations compared to Caucasian drivers. In 2005, however, Black drivers were found to be 1.2 times significantly *less* likely than Caucasians to be issued traffic citations during stops that did not involve arrests. In both 2004 and 2005, Native American, Asian, and Middle Eastern drivers collectively were 1.4 and 1.2 times *more* likely than Caucasians to be issued citations in similar situations. Again, however, the racial/ethnic differences in citation rates may be explained by legitimate factors unmeasured by these data or officer bias toward specific minority groups; the reasons for racial/ethnic disparities cannot be determined with these data.

Based on these findings, the *Years 3 & 4 Final Report* offered a series of training and policy recommendations to PSP officials. The majority of the training recommendations focused on improving criminal interdiction training through more interactive and hands-on experiences, as well as better information regarding cultural differences in behavior. The following is a brief summary of those recommendations, followed by an update of the steps taken by the PSP to address these issues.

- Recommendations:
  - PSP interdiction training should attempt to better educate Troopers regarding the complexities of interactions with members of different racial/ethnic groups, and include a stronger discussion of racial profiling.
  - Criminal interdiction training should include cultural differences in behaviors that may not be valid indicators of suspicion.
  - Criminal interdiction training should continually reinforce that "gut instincts" and "sixth sense" alone are unproductive indicators of suspicion.
  - Troopers suggested that both criminal interdiction training and basic academy training include more components regarding successful roadside interview tactics.
  - Troopers also recommended that criminal interdiction training be more interactive, advanced, and provide better training on criminal indicators.
  - In addition to adjustments in training for Troopers, it is recommended that some modifications in the training for supervisors be provided as well.
  - The current use and deployment of the canine handlers should be reexamined.
  - It remains critical to routinely conduct data audits (similar to those conducted by the Systems and Process Review Division [SPR] in September 2005).
  - PSP administrators should examine the specific stations identified in this report that demonstrate statistically significant increases in the percentages of Black and Hispanic drivers stopped in their jurisdictions across the four-year time period.
  - PSP administrators should examine the racial/ethnic disparities reported in citation rates across areas, troops, and stations to begin to better understand where and why these disparities exist.
  - Continued monitoring of racial/ethnic disparities in traffic stops, warnings, citations, arrests, searches, and seizures rates remains necessary.

- PSP Response:

- Training modules, within the Cadet Basic training and the Basic Supervision curricula, were developed and redesigned to emphasize the following:
    - The importance of identifying and articulating all non-race based indicators of suspicion associated with accurate search and seizure behavior.
    - Cultural diversity in behavior as it may relate to identifying indicators of suspicion. The modules specifically present examples about cultural differences, why they may occur, and how they may be interpreted.
    - Multiple indicators of suspicion must be identified prior to pursuing search and seizure activity. The training emphasizes the totality of the circumstances, while reliance on only "gut instincts" is repeatedly described as inhibiting effective interdiction and successful prosecution.
    - The importance of officer safety. Training emphasizes that this concern trumps all other considerations during a traffic stop and at times may require a response to an indicator of suspicion to ensure officer safety.
- Currently, basic training does include a component of basic interviewing techniques for officers. This training is directed towards emphasizing the prohibition of using race/ethnicity as a factor in enforcement activity, and not directly concerned with developing interviewing skills necessary for criminal interdiction work. More advanced training on interdiction training is offered for this purpose.
- Current SHIELD (**S**afe **H**ighways **I**nitiative thru **E**ffective **L**aw Enforcement and **D**etection) training includes some scenario-based exercises. More instruction of this nature, however, is included in an advanced SHIELD training course currently under development and awaiting budgetary approval.
- The current supervisory training curriculum does not deal directly with specific interdiction issues; however, the PSP is actively developing a supervisory training module based on the International Association of Chiefs of Police (IACP) curriculum regarding leadership. This module will address the recommendation for greater supervisory knowledge in criminal interdiction activities.
- PSP has incorporated a more efficient system to capture information during traffic stops. Labeled the "CDR X-press," the electronic capture of information previously recorded on scannable Contact Data Reports was pilot tested in February 2006. Troopers were trained on the use of the software from February – May 2006, and the system was operational in the majority of stations by May 2006. The date for the mandatory usage of the software listed in Special Order 2006-5 was May 12, 2006.
- The electronic capture of these data offers the following improvements over the use of scannable forms:
    - The data are likely to be more accurate, as the risk of human error associated with scannable forms is minimized.
    - Troopers are more likely to record this information because it is less time consuming and an easier method for capturing data.
    - Supervisory oversight of the electronic data is much easier and more efficient.
    - The software is more cost-effective than the scan forms as it eliminates the cost of printing CDR Scantron forms as well as the costs and effort associated with collecting and mailing the forms to the UC research team.

TRAFFIC STOP DATA: 2006

During 2006, there were 283,827 member-initiated traffic stops either recorded on scannable CDR forms or electronically entered via the CDR X-press system and entered into the database for analysis.[2] The CDR X-press system captures traffic stop information as entered into a computer by the Trooper and electronically transmitted to UC for analysis. Originally pilot tested in February 2006, Troopers were trained on the use of the software from February – May 2006, and the system was operational in the majority of stations by May 2006. The electronic capture of these data presents a dramatic improvement over the use of scannable forms in terms of accuracy and efficiency. As of December 2006, a large majority of stations were using the CDR X-press system. Of the 283,827 CDR and CDR X-press forms included in the final data set, only 2.5% had one or more items missing or invalid, which is significantly below the recommended 5% threshold.

Basic descriptive analyses of the 283,827 officer-initiated traffic stops reveal that the majority of traffic stops had the following characteristics:

- Stop Characteristics:
  - Occurred on a weekday (71.4%)
  - Occurred during the daytime (70.4%)
  - Occurred on a state highway (48.2%) or an interstate (47.6%)
  - Involved a vehicle registered in Pennsylvania (76.0%)
  - Involved vehicles with an average of 0.6 passengers
  - Lasted between 1-15 minutes (89.0%)
  - Most frequent violations observed prior to traffic stops were speeding (69.8%), moving violations (17.2%) and equipment inspections (8.8%)
  - Average speed over the limit was 19.1 mph
- Drivers' Characteristics:
  - Average age of 35.1 years
  - 68.8% male
  - White (84.2%), Black (8.5%), White Hispanic (3.1%), Black Hispanic (0.4%), Middle Eastern (1.9%), Asian/Pacific Islander (1.6%), unknown race/ethnicity or missing data (0.5%)
  - Non-resident of municipality in which they were stopped (95.5%)
  - Non-resident of county in which they were stopped (64.4%)
  - Non-Pennsylvania resident (24.9%)
- Traffic Stop Outcomes:
  - 25.7% of stops resulted in driver warnings
  - 87.2% of stops resulted in driver citations
  - 1.5% of stops resulted in driver arrests
  - 1.2% of stops resulted in driver, occupant and/or vehicle searches

[2] Member-initiated traffic stops include only traffic stops that began based on the officers' discretion. Contact Data Reports are not completed for traffic stops that were citizen initiated (e.g., motorist assists), dispatch initiated (e.g., accidents), or supervisory initiated (e.g., DUI or license/registration checkpoints).

TRAFFIC STOP DATA TRENDS: 2002-2006

Due to the dated nature of the observation data (used in the *Year 1 Final Report* and *Year 2 Final Report*) and the current availability of five years of traffic stop data, trends in the percentages of racial/ethnic groups stopped by PSP Troopers between 2002 and 2006 are provided. Descriptive and bivariate statistical significance testing of the rates of stops for Black and Hispanic drivers across this time period demonstrate:

- The number of traffic stops increased 4.1% in 2006 to 283,827 stops compared to 2005.

- Between 2002 and 2006, the racial/ethnic characteristics of drivers stopped were consistent. Specifically, Caucasian drivers made up roughly 85% of all traffic stops, Black drivers accounted for approximately 8%, and Hispanic drivers represented roughly 3% of all traffic stops, with only slight variation in percentages from year to year.

- The results of the binomial analyses highlighted ten stations (Belfast, Carlisle, Clarion, Harrisburg, Mercer, Montoursville, Skippack, Swiftwater, Trevose, and York) that had statistically significant elevated rates of stops of Black drivers in at least three comparisons between their 2006 rate and the rates in previous years.

- Similar analyses of Hispanic drivers stopped revealed that six stations (Bethlehem, Fogelsville, Lancaster, Skippack, Trevose, and Tunkhannock) had statistically significant elevated rates of stops of Hispanic drivers in at least three comparisons between their 2006 rate and the rates in previous years.

- Analyses at the county level indicated that Lehigh, Lycoming, Mercer, Monroe, Montgomery, Northampton, and York had elevated levels of traffic stops of Black drivers in at least three comparisons between their 2006 rate and the rates in previous years.

- Identical analyses for Hispanic drivers indicated that the following counties had elevated rates: Butler, Lancaster, Lehigh, Luzerne, Schuylkill, and Warren.

It is important to note that the results of the trend analysis of stops between 2002 and 2006 are descriptive in nature and, even when based on statistical testing, cannot be used to determine the causes of the trends reported. The reasons for the elevated rates of Black and Hispanic drivers stopped cannot be determined with these data, as these analyses examine only one factor (drivers' race/ethnicity). It is possible that several factors were working independently or in conjunction to produce the trend displayed across time. For example, these data do not account for changes in the traffic population within jurisdictions, modifications to CDR reporting procedures, or changes in police stopping behavior, deployment patterns, manpower allocation, etc., any of which factors could have an impact on these trends. Therefore, while it is the conclusion of this report that between 2002 and 2006 several counties and stations display elevated rates of minority stops compared to

previous years, it cannot be determined if these elevated rates are based on legitimate factors or officer bias. Rather, these findings indicate that identified stations should be monitored as potential areas of concern, but should not be used to conclude any particular organizational unit or officers are engaging in racially biased traffic stop behavior.

POST-STOP OUTCOMES: 2006

In addition to the analyses of the initial stops, post-stop outcomes in 2006 were also examined in detail. Unlike the *Years 3 & 4 Final Report,* which examined only warnings and citations due to the data inconsistencies described above, this report examines all post-stop outcomes (e.g., warnings, citations, arrests, and searches). This process involved both bivariate analyses and multivariate analyses of the 2006 data. Bivariate analyses consider the relationship between only two factors, such as the race/ethnicity or gender of the driver and the outcome of the stop (i.e., warning, citation, arrest, or search). Multivariate statistical models take many different factors into account when attempting to explain a particular behavior. Unlike a bivariate model, they do not simply assess the relationship between two variables. Rather, multivariate models examine many factors (e.g., driver, vehicle, stop, Trooper, and community characteristics) simultaneously, and therefore provide a more thorough and accurate interpretation of the data.

Using bivariate chi-square analyses, at the department level in 2006, Hispanic drivers were the most likely to be given a citation (89.4% of all stops) compared to Black (88.2%) and Caucasian (86.7%) drivers. Hispanic drivers were also the most likely to be arrested (2.2% of stops) compared to Caucasian (1.6%) and Black (1.5%) drivers. Additionally, Hispanic drivers were more likely to be searched (3.7% of stops) compared to Black (3.1%) and Caucasian (0.9%) drivers. At the department level, male drivers were more likely to be cited (87.3% of stops), arrested (1.8%), and searched (1.5%) compared to female drivers (86.8% cited, 0.9% arrested, and 0.5% searched). These patterns and trends varied somewhat at the area level and more noticeably at the troop and station levels. Findings reported at specific jurisdictional levels are included within the report for review by PSP supervisors to better understand the patterns of racial/ethnic disparities in citations within their jurisdictions.

Based on the multivariate analysis of warnings, Hispanic and "other" drivers were significantly *less* likely than Caucasian drivers to be issued warnings. Specifically, Hispanic drivers were 1.4 times *less* likely than Caucasian drivers to receive warnings during traffic stops not involving arrests. Likewise, Asian, Native American, and Middle Eastern drivers were 1.5 times *less* likely than Caucasians drivers to receive warnings. The multivariate analysis of citations revealed that Black and Hispanic drivers were *not* significantly more or less likely to be issued citations compared to Caucasian drivers; however, Native American, Asian, and Middle Eastern ("other") drivers collectively were 1.3 times *more* likely to be issued citations compared to Caucasians.

Similar to the results for citations, the multivariate analysis of arrests showed that Black and Hispanic drivers were *not* significantly more or less likely to be arrested compared to Caucasian drivers. Native American, Asian, and Middle Eastern drivers collectively, however, were 2.1 times *less* likely than Caucasians to be arrested in similar situations.

Racial/ethnic disparities were significant for Black and Hispanic drivers in regard to searches. Specifically, Black and Hispanic drivers were 2.8 and 2.4 times *more* likely to be searched than Caucasian drivers in similar situations. There was no significant relationship between Native American, Asian, and Middle Eastern drivers collectively and the likelihood of a search. Various other driver, vehicle, stop, and Trooper characteristics were associated with the likelihood of receiving specific post-stop outcomes in 2006, and are more fully described within this report.

Caution must be used when interpreting these findings, as not all factors that might influence officer decision-making have been included in the statistical models. It is possible that some unmeasured legal and extralegal factors might account for some of the racial/ethnic disparities reported in traffic stop outcomes. Moreover, such differences in outcomes may be explained by legitimate factors that are unmeasured by these data (e.g., the severity of the traffic offense, drivers' compliance with officers' requests, etc.) or by officer bias toward specific minority groups. Regardless, the reasons for the racial/ethnic disparities in outcomes reported above cannot be determined with these data.

POST-STOP OUTCOMES TRENDS: 2002-2006

The results of the bivariate and multivariate analyses do not definitively provide evidence of racial bias, but do demonstrate disparity for particular racial/ethnic groups for specific traffic stop outcomes, particularly searches. These post-stop outcomes were also assessed across multiple years of data collection (i.e., 2002-2006).

Changes in trends do appear in post-stop outcomes across the department between 2002 and 2006. Specifically, the rate of warnings for all drivers declined across the first four years of data collection (from 27.0% in 2002 to 24.6% in 2005), prior to rising to 25.7% of stops in 2006. Demonstrating an inverse relationship to warnings, the citation rate increased during the same time period, from a low of 82.8% in 2002 to 88.1% in 2005, before a small decline to 87.2% in 2006.

During the same time period, arrests, searches, and the discovery of contraband all demonstrated increases in 2006. The 2006 arrest rate (1.5%) nearly doubled from 2005 (0.8%), and tripled from 2002 (0.6%). The 2006 search rate (1.2%) only increased slightly from 2005 (1.1%), but has risen from 0.8% in 2002. Finally, the seizure rate has steadily increased since 2004 to a high of 30.9% in 2006, after an initial dip from 2002 to 2004. It is important to remember, however, that the research team believes the data reported for these more serious outcomes were being systematically underreported before corrections to the data collection effort were made by PSP administrators in September 2005.

It is also important to examine trends in traffic stop outcomes across racial/ethnic groups. First, the rate of warnings for Caucasian drivers steadily declined between 2002 (28.0%) and 2005 (24.8%), prior to an increase in 2006 (26.0%). The rate of Black drivers receiving a warning reached a high in 2006 of 25.7% from a low in 2002 of 23.3%. For Hispanic drivers, the trend has been steadily increasing since 2003 (23.1%) and peaked in the last two years at 26.1% and 26.0%, respectively. It is important to note, however, that initial

differences in the rate of warnings for each racial/ethnic group have greatly diminished as the rate of warnings in 2006 was nearly equivalent for Caucasians, Blacks, and Hispanics.

Second, across all four years, Caucasians were consistently the least cited racial/ethnic group, although that gap, particularly between Caucasians and Blacks, narrowed considerably in 2005 (87.8% and 88.0%, respectively) before widening again in 2006 (86.7% and 88.2%). Hispanics, on the other hand, were consistently the most cited racial/ethnic group (89.4% in 2006).

Third, Hispanic drivers also consistently had the highest proportion of arrests compared to Caucasians and Blacks. Specifically, in 2006, the gap between Caucasian and Hispanic drivers arrested increased, while the proportion of Black drivers arrested fell below the proportion of Caucasian drivers arrested. Furthermore, due to the corrections in data collection for arrests, searches, and seizures previously mentioned, the rate of arrest for all racial ethnic groups increased dramatically from 2005 to 2006 (e.g., 0.8% to 1.6% for Caucasians, 1.0% to 1.5% for Blacks, and 1.2% to 2.2% for Hispanics).

Finally, between 2002 and 2006, Hispanic drivers had the highest rates of searches compared to other racial/ethnic groups. Increases in the rate of searches for all racial/ethnic groups are evident between 2002 and 2006. The trends in seizure rates, however, indicate that searches of Caucasian drivers consistently produce the highest rate of success compared to Black and Hispanic drivers. Between 2002 and 2006, Black drivers had between 5-10% lower hit rates and Hispanic drivers had between 15-20% lower hit rates compared to Caucasian drivers.

There are a number of possible explanations (legitimate and illegitimate) for these racial/ethnic disparities in post-stop outcome trends. The comparisons of rates across years are simply descriptive and do not take into account other factors that may contribute to these racial/ethnic differences. As a result, any interpretation of these findings must be made with caution.

SEARCH & SEIZURE

Given the considerable racial/ethnic disparity in searches and seizures described above, further analyses were conducted on 2006 search and seizure activity. In 2006, PSP Troopers conducted 3,364 searches, which represents 1.2% of all stops. These searches were categorized into three types. The first search category (Type I) includes searches that are required by PSP policy and are therefore mandatory for officers to perform. Type I searches include searches incident to arrest, searches based on a pre-existing warrant, and inventory searches. The second search category (Type II) includes searches that are not mandatory but, rather, are based on suspicion and officer discretion. Specifically, Type II searches include plain view searches, canine alert searches, drug odor searches, reasonable suspicion, probable cause, and "other" unspecified reasons. The third search category (Type III) includes searches that are based solely on consent.[3] If a search was based on multiple reasons, it was

[3] Type II and III categories have been slightly changed from previous reports. In the current report, only searches based solely on consent are captured as Type III searches.

assigned to the search category with the least officer discretion (e.g., if a search is based on a canine alert [Type II] and consent [Type III], it was defined as a Type II search).

- In 2006, most searches (68.5%) were conducted based on drivers' consent. In addition, 41.8% of searched drivers were searched based *only* on consent. The next most common reasons for a search included odor of drugs (17.5%), incident to arrest (13.7%), inventory (13.5%), plain view (9.2%), and reasonable suspicion and/or probable cause (8.9% of searches).

- Black and Hispanic drivers, males, and drivers 25 and younger were significantly more likely to be searched compared to Caucasian drivers, females, and drivers over 25.

- Racial/ethnic differences in the types of searches (i.e., mandatory, probable cause/reasonable suspicion, and consent) conducted by PSP Troopers were not statistically significant.

- Of the 3,364 searches, 1,040 seizures of contraband were recorded (30.9% search success rate).

- A majority of the contraband seized included drugs (74.2%), alcohol (13.3%), or cash (7.7%).

- Type III searches (i.e., searches based on drivers' consent only) were the least productive in recovering contraband. The search success rate of Type III (consent) searches is 21.6%, compared to 27.3% for Type I (mandatory) searches and 48.9% for Type II (probable cause/reasonable suspicion) searches.

- Probable cause/reasonable suspicion (Type II) searches of Black and Hispanic drivers were less successful in recovering contraband compared to searches of Caucasian drivers. Specifically, 56.2% of searches of Caucasian drivers department-wide resulted in the seizure of contraband, compared to 43.5% of searches of Black drivers, and only 20.0% of searches of Hispanic drivers.

- Of the 283,827 traffic stops initiated by PSP Troopers in 2006, 2,798 drivers (1.0%) were asked for consent to search.

    - Of these 2,798 requests, an overwhelming majority (82.3%) resulted in consent searches conducted.
    - Of the 2,304 consent searches that were conducted, 696 resulted in the discovery of contraband (i.e., 30.2% search success rate).
    - Of the 2,304 consent searches that were conducted, 41.8% (1,475 searches) were based *solely* on consent. Of these, 308 resulted in the discovery of contraband (i.e., 20.9% search success rate).
    - Of the 494 consent search requests that did not result in a consent search, 48.5% resulted in a search based on some other reason (240 searches). In these cases, the search success rate was considerably higher than in the cases of searches

based on consent. Specifically, 50.0% of these 240 searches resulted in the discovery of contraband.

- Black (2.6%) and Hispanic (3.1%) drivers were significantly more likely than Caucasian (0.7%) drivers to be asked for consent to search.

- Additionally, certain racial/ethnic groups were significantly more likely to give consent to search when asked. Specifically, 80.8% of Caucasians gave their consent to be searched, compared to 82.7% of Blacks and 87.3% of Hispanics.

- Caucasian drivers who were searched based on solely consent and any consent (i.e., searches based on consent and another reason) were significantly more likely to be found in possession of contraband compared to searched Black and Hispanic drivers.[4]

    - Specifically, 27.4% of searches of Caucasians that were based solely on consent were successful, compared to 13.9% of searches of Black drivers, and only 7.5% of searches of Hispanic drivers.

    - The search success rates were somewhat higher for searches based on any consent. Searches of Caucasians, however, were still significantly more likely to result in the discovery of contraband (36.7%), compared to searches of Blacks (24.2%) and Hispanics (11.5%).

Note that the findings regarding search success rates do not take into account other extralegal and legal factors that might explain the racial/ethnic disparities reported. In addition, the information presented above cannot determine the legality of and/or the presence of discrimination in individual searches conducted by PSP Troopers.

RECOMMENDATIONS

Based on these findings, the UC research team makes the following recommendations to PSP officials:

Recommendations:

- During 2006, PSP began the transition from collecting all information regarding traffic stops on paper forms (i.e., CDR) to a system in which the information was electronically gathered (i.e., the CDR X-press system). Based on data collected in December 2007, 91.3% of the data was supplied by the CDR X-press system. Four stations, however, utilized the CDR X-press infrequently: Gibson, Lamar, Tunkhannock, & Washington. PSP administrators need to prioritize the full

[4] The comparison of hit rates across racial/ethnic groups for consent searches violates one of the underlying assumptions of the "outcome test" the searches examined in this manner are completely discretionary (Engel, 2008). These analyses are provided for internal PSP consideration and cannot be used to determine officer bias. To reiterate, *no definitive conclusions about racial bias can be drawn from these comparisons.*

implementation of the CDR X-press system in these four stations and continue to monitor the electronic data collection in the remaining stations.

- PSP administrators should examine the specific stations identified in Section 4 of this report, which demonstrate statistically significant increases in the percentages of Black and Hispanic drivers compared to previous years. There are a number of reasons that might account for these differences. It is recommended that PSP managers explore to the best of their abilities the reasons that might account for these differences.

- PSP administrators should examine the racial/ethnic disparities reported in search and seizure rates across areas, troops, and stations to begin to better understand where and why these disparities exist. Again, there are several possible explanations for these elevated rates that can only be determined based on local knowledge of the area and additional information that included in the Contact Data Reports.

- Continued monitoring of racial/ethnic disparities in traffic stop outcomes, particularly searches and seizures, remains necessary. One method to further inform this issue would be to conduct additional focus groups with PSP Troopers, with the primary goal to more specifically discuss reasons why there are consistent disparities in Hispanic (and to some extent Black) search success rates compared to Whites. The initial focus groups with Troopers conducted in 2005 provided valuable information that would be supplemented with follow-up discussions.

- As communities develop, their racial/ethnic composition often changes. It is important to ensure that minority groups are proportionately represented within the PSP. Although recruiting minorities can be challenging at times, PSP administrators should examine this issue to ensure that all possible efforts are being made to maintain proportionate racial/ethnic representation within its personnel.

- Finally, it is recommended that the PSP continue to collect and analyze traffic stop data. By comparing multiple years of traffic stop data, it is possible to determine the relative effectiveness of any new policies and training on the rates of searches and seizures of minority drivers. Further, continual monitoring of traffic stops provides valuable information to the organization, while simultaneously institutionalizing a culture within the organization that inspires fair and equitable policing.

As demonstrated by their ongoing data collection (through 2009) and their responsiveness to the UC research team's recommendations from previous final reports, PSP officials remain committed to both the data collection effort and the larger goals of reducing racial/ethnic disparities in traffic stops and post-stop outcomes, as well as providing legitimate and unbiased policing services to citizens of the Commonwealth of Pennsylvania. Updates to this report, based on the statistical analyses of data collected in 2007 and 2008, respectively, will be delivered in 2008 and 2009.

1. INTRODUCTION

OVERVIEW

This report documents the findings from statistical analyses of data collected during all member-initiated traffic stops by the Pennsylvania State Police (PSP) from January 1, 2006 – December 31, 2006. These data represent the fifth year of data collection for the Project on Police-Citizen Contacts. As with the *Years 3 & 4 Final Report*, the data reported within this document are based on the calendar year. This differs from the reports previously issued for Years 1 and 2, which reflected time periods based on the original starting point of the project (May 1, 2002 – April 30, 2003, and May 1, 2003 – April 30, 2004, respectively). The change in the reporting time period does not affect any of the content of this report; however, it is important to note that reference is made throughout this report to Year 1, Year 2, Year 3, or Year 4 data, which now represent the calendar years of 2002 – 2005 (i.e., January 1 – December 31). The only exception is Year 1 data, which refers to member-initiated traffic stops collected over an eight month time frame (i.e., May 1, 2002 through December 31, 2002). In addition, this report differs from the *Years 3 & 4 Final Report* in that all post-stop outcomes (e.g., warnings, citations, arrests, searches and seizures) are examined. This is due to improvements in the data quality as a result of changes instituted by PSP, which are described in detail below.

SUMMARY OF THE YEAR 3 & 4 REPORT

Prepared February 2007 and released in February 2008, the *Years 3 & 4 Final Report* summarized the data collected during the third and fourth years of data collection, from January 1, 2004 through December 31, 2005. This report reviewed a host of analyses including:

- A thorough description of a separate, yet related project focusing on "best practices" in search and seizure activity
    - Data deficiencies uncovered during the focus groups
    - Implications of these data concerns
- A review of traffic stops in 2004 and 2005
- An overview of traffic stop and traffic stop outcome trends
- A limited examination of post-stop outcomes
- A series of recommendations

Each of these components are briefly summarized below.

"Best Practices" Focus Groups

In response to a recommendation in the *Year 2 Final Report,* PSP initiated a separate but related project with the UC research team to further identify the "best practices" of PSP Troopers who engage in search and seizure practices. In August 2005, 95 Troopers, Corporals, and Sergeants were involved in nine separate focus groups designed to identify the reasons why PSP Troopers conduct searches and what verbal, non-verbal, and behavioral cues are perceived by Troopers as the most effective in predicting criminal behavior. In addition, these focus groups explored how Troopers were trained, and their perceptions regarding the usefulness and accuracy of the training they received. Troop Commanders

were asked to select troopers for participation based on their productivity, accuracy, and professionalism in police-citizen encounters resulting in searches. After all focus groups were completed, the information was qualitatively analyzed to identify common themes discussed during the focus groups. The specific findings are reported in the *Years 3 & 4 Final Report*.

During the focus groups, it was discovered that there were some problems associated with the ongoing data collection project. Specifically, it became apparent that not all Troopers were completing the Contact Data Reports (the basis for the data reported within this document) during all member-initiated stops as required by departmental policy. Specifically, Troopers were underreporting traffic stops resulting in arrests and/or searches that resulted in the discovery of contraband. That is, the most serious traffic stops were not being consistently captured in the CDR database across all Troopers. This form of underreporting produced data that indicated PSP Troopers were *less* productive and accurate than they actually were; therefore, it is unlikely that the underreporting was a systematic attempt by PSP officials to circumvent or otherwise disrupt the data collection effort. Rather, it is believed that some PSP Troopers and supervisors were simply unaware of the proper reporting procedures.

Responses to the Data Inconsistencies

As a result of the data concerns, the research team, in consultation with PSP administrators and legal counsel, suspended the reporting of data findings until the sources of the invalid reporting were identified and changes were made to rectify the reporting discrepancies. Several steps were quickly initiated to resolve the problem.

- An internal audit of the data was conducted to determine the extent of underreporting of traffic stops resulting in the most serious outcomes.
- Proper data collection procedures were reinforced to PSP personnel in September 2005 by reissuing the formal policy mandating data collection.
- The UC research team began issuing monthly reports to PSP officials detailing the number of arrests, searches, and seizures for every station so supervisors would be able to confirm that all traffic stops resulting in arrests and seizures were accounted for every month.
- Finally, alternatives for electronic data collection were developed and implemented, which culminated with the department-wide introduction of the CDR X-press electronic data collection system in May 2006.

The results of the data audit revealed that the data collected from 2002 through September of 2005 likely underreported the total number of traffic stops, the number of traffic stops that resulted in an arrest, the number of traffic stops that resulted in a search, and the number of traffic stops that resulted in a seizure of contraband. Importantly, there is little reason to believe that these data shortcomings substantively influenced the statistical analyses examining the race/ethnic disparities in traffic stops, warnings, and citations.

Based on these conclusions, the UC research team recommended to PSP administrators and legal counsel that the Year 3 Final Report be suspended to allow time for PSP and the UC

research team to formulate a clear response to the problems outlined above. Further, it was recommended that rather than issue a Year 3 Final Report based on data with known inconsistencies, these data should be reported together with data that were reliably gathered after the inconsistencies were corrected. It was reasoned that a comparison between these two databases could demonstrate the likely extent of the underreporting of traffic stops involving the most serious outcomes (i.e., arrests and seizures). Therefore, the *Years 3 & 4 Final Report* provided findings for data collected in 2004 and the first eight months of 2005 (January – August) in comparison to data collected after September 1, 2005 (after steps were taken to increase the accurate reporting of traffic stops on the CDR). Analyses comparing the search and arrest rates between September 2004 to August 2005 and September to December 2005 demonstrated that the rates for both searches and arrests significantly increased (the search rate increased from 1.0% to 1.4%, and the arrest rate increased from 0.5% to 1.5%, respectively) after the data collection procedures were reissued. This result validated the merging of the two years of data into one report.

Trends in Traffic Stops, 2004 - 2005

During 2004, Troopers recorded 300,683 member-initiated traffic stops on the CDR forms which were entered into the database for analysis. Less than 2% of the CDR forms contained any type of missing data. In 2005, 272,670 member-initiated traffic stops were reported, and the rate of missing data was 2.9% across the department. The number of member-initiated traffic stops reported in 2005 represents a decrease of over 14% since 2003. The majority of traffic stop and citizen characteristics were extremely consistent between 2004 and 2005, as roughly two-thirds of drivers stopped were male and the majority of drivers were Caucasian.

As described at length in both the *Year 1 Final Report* and *Year 2 Final Report*, the crux of traffic stop data interpretation is dependent upon comparing a group's representation in traffic stops to the same group's "expected" representation in traffic stops, based on alternative data. Unfortunately, current benchmarks (e.g., Census data and observations) have limitations that restrict the level of confidence in the results. Instead, trends in the percentages of racial/ethnic groups stopped, warned, and cited by PSP Troopers over the course of four years of data collection were reported and produced several trends:

- Between 2003 and 2005, there was over a 14% department-wide reduction in the number of reported traffic stops initiated by PSP personnel.
- Caucasian drivers made up roughly 85% of all traffic stops, Black drivers accounted for approximately 8%, and Hispanic drivers represented roughly 3% of all traffic stops.
- Rates of drivers warned slightly declined from 27.0% in 2002 to 24.6% in 2005.
- Rates of drivers issued citations increased from 82.9% in 2002 to 88.1% in 2005.
- During the same time period, arrests, searches, and the discovery of contraband all demonstrated a slight decline in 2003 and 2004 before rebounding in 2005.
- Warnings and citations became the focus of more detailed analyses for Black and Hispanic drivers:
    - Across all four years, Caucasians are consistently the least cited racial/ethnic group, although that gap has slowly closed over time.

- Hispanic drivers were more likely to receive a citation compared to their Caucasian counterparts.

Further, binomial analyses were conducted at the county and station level between 2002 and 2005, and 2003 and 2005, to statistically test for differences in the rates of stops. These analyses identified:

- Two counties and 11 stations that had elevated rates of traffic stops involving Black drivers in 2005 compared to previous years.
- Nine counties and 14 stations with elevated rates of traffic stops involving Hispanic drivers in 2005 compared to previous years.

It is possible that these significant increases in the percentages of Black and Hispanic drivers stopped are the result of a multitude of factors, including changes in the driving population in those jurisdictions, changes in PSP manpower allocation and deployment to address criminal activity and calls for service, adjustments in the data collection procedures in these stations, and/or increases in Trooper bias towards minority drivers.

Trends in Post-Stop Outcomes, 2004 - 2005

Due to the known inaccuracies in the data collected prior to September 2005, some statistical analyses conducted for previous reports (e.g., detailed examinations of racial/ethnic disparities in arrests, searches, and seizures) were not included within the *Years 3 & 4 Final Report*. Therefore, only traffic stops that resulted in citations in 2004 and 2005 were examined.[5] Various analytical tests were conducted on these data.

Initially, bivariate chi-square analyses revealed that across the department in both 2004 and 2005:

- Caucasian drivers were the *least* likely to be issued a citation compared to Black, Hispanic, and other minority drivers.

Multivariate analyses showed that, holding other variables constant:

- Black and Hispanic drivers in 2004 were not significantly more likely to be issued citations compared to Caucasian drivers.
- Native American, Asian, and Middle Eastern drivers collectively were 1.4 times *more* likely than Caucasians to be issued citations in similar situations.
- In 2005, Black drivers were found to be 1.2 times significantly *less* likely than Caucasians to be issued traffic citations during stops that did not involve arrests.
- Native American, Asian, and/or Middle Eastern drivers were altogether 1.2 times significantly *more* likely to be issued traffic citations during stops that did not involve arrests compared to Caucasians.

The racial/ethnic differences in citation rates may be explained by legitimate factors unmeasured by these data (e.g., the severity of the traffic offense, drivers' compliance with

[5] Traffic stops that resulted in a warning were not considered in these analyses as the focus of this report was centered on the most coercive outcome (i.e., citation) for which accurate data was available.

officers' requests, etc.) or officer bias toward specific minority groups; the reasons for racial/ethnic disparities could not be determined with the data available.

Recommendations

Based on these findings, the *Years 3 & 4 Final Report* offered a series of training and policy recommendations to PSP officials:

Training recommendations:

- PSP interdiction training should attempt to better educate Troopers regarding the complexities of interactions with members of different racial/ethnic groups and include a stronger discussion of racial profiling.
- Criminal interdiction training should include cultural differences in behaviors that may not be valid indicators of suspicion.
- Criminal interdiction training should continually reinforce that "gut instincts" and "sixth sense" alone are unproductive indicators of suspicion.
- Troopers suggested that both criminal interdiction training and basic academy training include more components regarding successful roadside interview tactics.
- Troopers also recommended that criminal interdiction training be more interactive, advanced, and provide better training on criminal indicators.
- In addition to adjustments in training for Troopers, it is recommended that some modifications in the training for supervisors be provided as well.

Other recommendations:

- The current use and deployment of the canine handlers should be reexamined.
- Based on information gathered during focus groups, the CDR data collection effort needs to be reexamined and perhaps redesigned.
- It remains critical to routinely conduct data audits (similar to that conducted by the Systems and Process Review Division [SPR] in September 2005).
- PSP administrators should examine the specific stations identified in this report that demonstrate statistically significant increases in the percentages of Black and Hispanic drivers stopped in their jurisdictions across the four-year time period.
- PSP administrators should examine the racial/ethnic disparities reported in citation rates across areas, troops, and stations to better understand where and why these disparities exist.
- Continued monitoring of racial/ethnic disparities in traffic stops, warnings, citations, arrests, searches, and seizures rates remains necessary.

PSP Response to *Years 3 & 4 Final Report* Recommendations

Implementation of many of these recommendations has already occurred:

- The PSP has increased its emphasis on criminal interdiction within basic and supervisory training. For example, training modules were developed and redesigned to emphasize the importance of identifying and articulating all non-race based indicators of suspicion associated with accurate search and seizure behavior. These

modules also expose officers to cultural diversity in behavior. Throughout the training sessions, it is emphasized that multiple indicators of suspicion must be identified prior to pursuing search and seizure activity. Moreover, the training modules also highlight the importance of understanding these indicators of suspicion in relation to cultural differences that may be present during the traffic stop. Finally, officer safety is emphasized and at times may require a response to an indicator of suspicion to ensure officer safety.

- Currently, basic training includes a component of basic interviewing techniques for officers. This training is directed towards emphasizing the prohibition of using race/ethnicity as a factor in enforcement activity, and not directly concerned with developing interviewing skills necessary for criminal interdiction work. PSP administrators note that upon completion of basic training, officers should first master basic law enforcement and investigative skills prior to in-depth interdiction training. Opportunities for more advanced interviewing skills and interdiction training are offered to more experienced officers.
- The current SHIELD (**S**afe **H**ighway **I**nterdiction thru **E**ffective **L**aw Enforcement and **D**etection) training curriculum does include some scenario-based exercises; more instruction of this nature is included in an advanced SHIELD training course under development and awaiting budgetary approval.
- The current supervisory training curriculum does not deal directly with specific interdiction issues; however, the PSP is actively developing a supervisory training module based on the International Association of Chiefs of Police (IACP) curriculum regarding leadership. It is believed that this module will address the recommendation for greater supervisory knowledge in criminal interdiction activities.
- PSP has incorporated a more efficient system to capture information during traffic stops. Labeled the "CDR X-press," the electronic capture of information previously recorded on scannable Contact Data Reports was pilot tested in February 2006. Troopers were trained on the use of the software from February – May 2006, and the system was operational in the majority of stations by May 2006. The date for the mandatory usage of the software listed in Special Order 2006-5 was May 12, 2006.
- The electronic capture of these data offers the following improvements over the use of scannable forms:
    - The data are likely to be more accurate, as the risk of human error associated with scannable forms is minimized.
    - Troopers are more likely to record this information because it is less time consuming and an easier method for capturing data.
    - Supervisory oversight of the electronic data is much easier and more efficient.
    - The software is more cost-effective than the scan forms as it eliminates the cost of printing CDR Scantron forms as well as the costs and effort associated with collecting and mailing the forms to the UC research team.

As demonstrated by their ongoing data collection (through 2009) and their responsiveness to the UC research team's recommendations, PSP officials remain committed to both the data collection effort. They also have demonstrated their commitment to the larger goals of reducing racial/ethnic disparities in traffic stops and post-stop outcomes, as well as providing legitimate and unbiased policing services to citizens of the Commonwealth of Pennsylvania.

YEAR 5 REPORT OUTLINE

This report for data collected from January 1, 2006 through December 31, 2006 is divided into eight sections: 1) introduction, 2) traffic stop data collection methodology, 3) description of traffic stop data, 4) trend analyses of stops from 2002 through 2006, 5) description and analyses of post-stop outcomes, 6) trend analyses of stop outcomes from 2002 through 2006, 7) searches and seizures, and 8) conclusions and policy recommendations. The general content of Sections 2 - 8 are described below.

Section 2

Section 2 includes a description of the study's methodology, which focuses on the details regarding the collection of traffic stop data by the Pennsylvania State Police and briefly describes the final police stop dataset that includes 283,827 member-initiated traffic stops in 2006.

Section 3

Section 3 provides descriptive statistics for the traffic stop data collected for the time period from January 1, 2006 – December 31, 2006. This description of data includes the number of stops, characteristics of the stops (e.g., time, day, month, roadway type, vehicle registration, number of passengers, length of the stop), the reason for the stop (e.g., speeding, moving violation, equipment or inspection violation, etc.), the characteristics of the drivers (e.g., gender, race, age, residency), and the percent of traffic stops resulting in various post-stop outcomes including warnings, citations, arrests, searches, and seizures. The averages for this information are reported in tables at the department, area, and troop levels and, where appropriate, the station level.

Section 4

Section 4 examines data collected over the five years of the research project (i.e., May 2002 – December 2006). Analyses of traffic stop patterns at the department, area, troop, and station levels are conducted by racial/ethnic group to describe the stopping trends of the PSP. Additional analyses include statistical significance testing to identify trends in stopping behavior at the station and county level.

Section 5

The post-stop outcomes (e.g., warning, citation, arrest, and search) are documented in Section 5. Driver differences, based on race/ethnicity and gender, are examined for all post-stop outcomes. Following this, several hierarchical multivariate analyses that isolate factors associated with officer decision-making regarding traffic stop outcomes (e.g., warnings, citations, arrests, and searches) are presented. Specifically, Section 5 documents whether these outcomes differ significantly based on a multitude of factors, including: driver

characteristics, vehicle characteristics, stop characteristics, legal variables, Trooper characteristics, and community characteristics.

Section 6

Section 6 examines data collected throughout the five years of the research project (i.e., May 2002 – December 2006) by focusing on post-stop outcomes (i.e., warnings, citations, arrests, searches, and seizures) at the department, area, troop, and station levels.

Section 7

Section 7 focuses specifically on search and seizure activity of the PSP. This focus is conducted due in part to findings from the Year 1 and Year 2 Reports highlighting the fact that the largest racial/ethnic disparities in outcomes occur as the result of searches. Section 7 documents the search rates for minority drivers compared to Caucasians, and further describes the racial/ethnic disparities in searches and seizures at multiple organization levels. Comparisons of probable cause/reasonable suspicion search success rates are made, followed by analyses specifically of consent searches.

Section 8

Section 8 summarizes the information presented and provides policy recommendations based on interpretations of collected data. Note that the findings reported in this document must be interpreted cautiously. The data collected and presented in this report cannot be used to determine whether or not PSP Troopers have individually or collectively engaged in "racial profiling." In addition, the legality of prior or future individual traffic stops cannot be assessed with these data. This report is designed to give feedback to PSP administrators regarding the status of the data collection process, along with exploring trends and patterns in the data that may be utilized for training purposes.

2. TRAFFIC STOP DATA COLLECTION METHODOLOGY

OVERVIEW

This section documents the methodology utilized for the data collection effort, including a brief description of the Contact Data Form (CDR), an introduction to the CDR X-press electronic form, and a comprehensive overview of the bi-weekly reports for Year 5 of the Project on Police Citizen Contacts. Figure 2.1 displays the CDR form currently used by PSP personnel for all member-initiated traffic stops. Table 2.1 provides a summary of the Year 5 CDR and CDR X-press forms submitted, respectively.

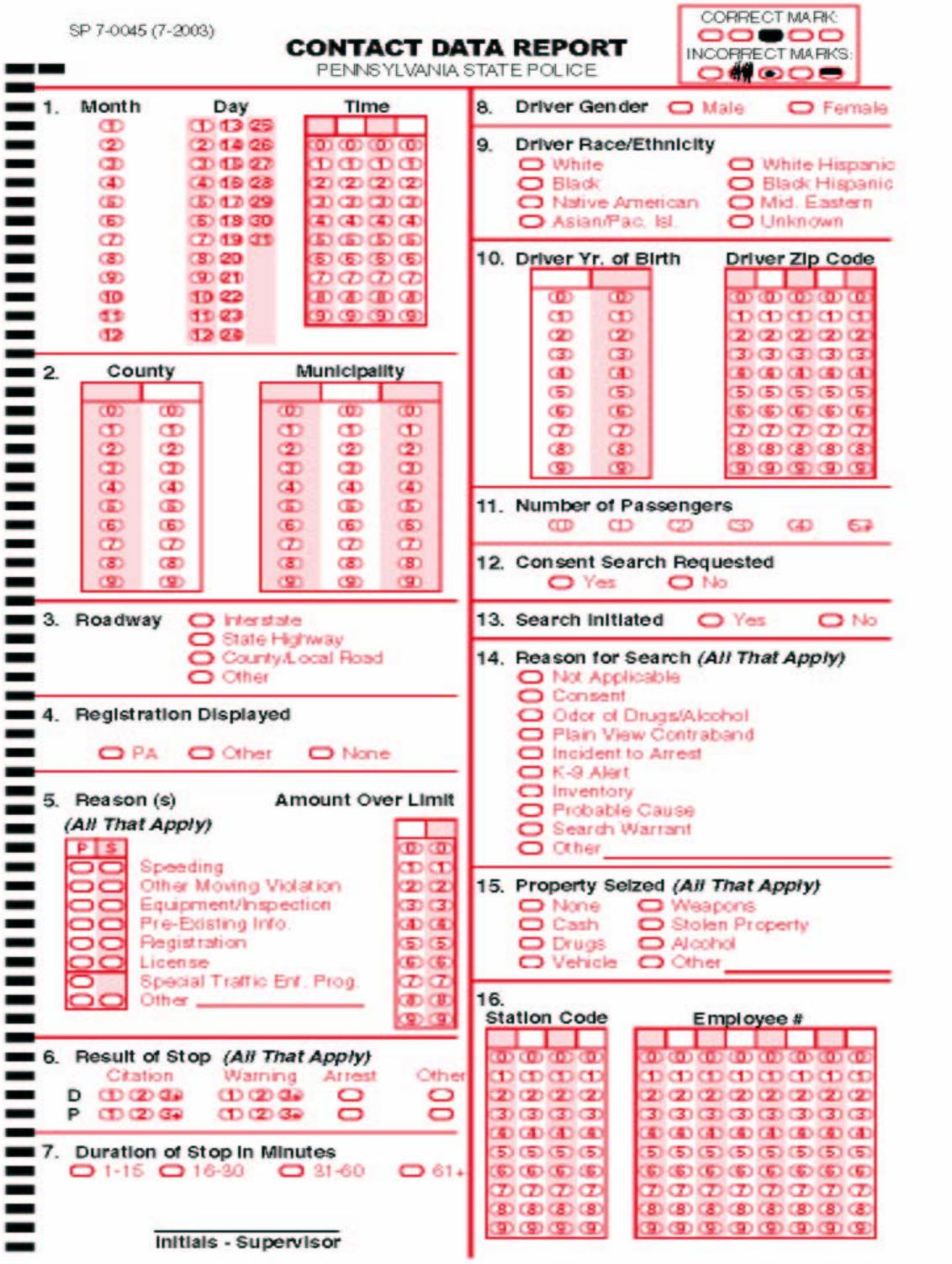
During 2006, information was collected on all member-initiated traffic stops by using both the CDR and the CDR X-press systems. As described in greater detail below, the CDR form (Scantron form) was gradually replaced by the CDR X-press system that electronically captured data through the Mobile Data Terminals (MDTs) and computers within the stations. The CDR X-press system was pilot tested in March 2007, and implemented on a rolling basis across stations beginning in May 2006. During this time, the availability of the original CDR scan forms was continued; however, for each traffic stop only one record is included in the data analyzed in this report. That is, the information for every member-initiated traffic stop included in the data for 2006 was received from either the CDR or the CDR X-press system, but not both.

DATA COLLECTION

Between January 1, 2006 and December 31, 2006, information was gathered regarding: 1) the stop (e.g., date/time, location of the stop – county and municipality, type of roadway, reasons for the stop, and the duration of the stop); 2) the driver (e.g., gender, age, race/ethnicity, zip code of residency); 3) the vehicle (e.g., state of registration, number of passengers); 4) the outcome of the stop (e.g., citation, written warning, arrest, search, property seized during the search); and 5) identification information (e.g., the trooper's station and employee identification). The Contact Data Report form is displayed in Figure 2.1 below. Similar information was gathered using the electronic CDR X-press system. Therefore, although the method of data capture varies, the content of the information is matched exactly.

The CDR X-press system is an electronic version of this form and allows PSP Troopers to immediately catalogue information following the completion of the traffic stop by entering it into their MDT. This information is then electronically submitted each week to the UC research team for analysis. The CDR X-press data is merged with the CDR scan form data to create a complete record of all member-initiated traffic stops in 2006. The primary advantage to the CDR X-press system is a reduction in missing data and scanning errors. The CDR X-press data entry screen in the MDT consists of drop-down boxes and all information must be completed in order for the CDR X-press form to be submitted. The replacement of the scan CDR forms also removes the necessity of using a scanner to transfer the information into electronic form for analysis, and the supervisory oversight associated with checking each form prior to submission. This has considerably lessened the error rate associated with scanning.

Figure 2.1: Pennsylvania State Police Contact Data Report, Jan. 1, 2006 – Dec. 31, 2006.


SP 7-0045 (7-2003)

CONTACT DATA REPORT

PENNSYLVANIA STATE POLICE

CORRECT MARK:

INCORRECT MARKS:

1. Month / Day / Time

2. County / Municipality

3. Roadway
- Interstate
- State Highway
- County/Local Road
- Other

4. Registration Displayed
- PA
- Other
- None

5. Reason (s) *(All That Apply)* — Amount Over Limit
- Speeding
- Other Moving Violation
- Equipment/Inspection
- Pre-Existing Info.
- Registration
- License
- Special Traffic Enf. Prog.
- Other

6. Result of Stop *(All That Apply)*

	Citation	Warning	Arrest	Other
D	1 2 3+	1 2 3+		
P	1 2 3+	1 2 3+		

7. Duration of Stop In Minutes
- 1-15
- 16-30
- 31-60
- 61+

Initials - Supervisor

8. Driver Gender
- Male
- Female

9. Driver Race/Ethnicity
- White
- Black
- Native American
- Asian/Pac. Isl.
- White Hispanic
- Black Hispanic
- Mid. Eastern
- Unknown

10. Driver Yr. of Birth / Driver Zip Code

11. Number of Passengers
0 1 2 3 4 5+

12. Consent Search Requested
- Yes
- No

13. Search Initiated
- Yes
- No

14. Reason for Search *(All That Apply)*
- Not Applicable
- Consent
- Odor of Drugs/Alcohol
- Plain View Contraband
- Incident to Arrest
- K-9 Alert
- Inventory
- Probable Cause
- Search Warrant
- Other

15. Property Seized *(All That Apply)*
- None
- Cash
- Drugs
- Vehicle
- Weapons
- Stolen Property
- Alcohol
- Other

16. Station Code / Employee #

With the introduction of the CDR X-press system, bi-weekly data status reports were suspended. In the past, bi-weekly data status reports were supplied to PSP administrators that documented (by department, area, troop, and station) missing data rates and other potential problems with the data collected. This feedback provided an opportunity to address and correct data collection errors without directly identifying troopers. This process is no longer necessary as the majority of the data is now collected on the MDT with the CDR X-press. In its place are detailed monthly reports that describe the percentage of data received from both systems, errors rates, and summaries of traffic stop dispositions (e.g., percent of traffic stops that result in citations, arrests, searches, and seizures).

Table 2.1 documents the percentage of overall forms that were captured using the CDR X-press system each month. The final two columns show the percent of PSP stations using CDR X-press for at least 50% and at least 90% of their stops, respectively. As shown, the majority of PSP stations quickly changed to the CDR X-press system after its introduction in May 2006. The percent of data captured using the CDR X-press system increased from 27.2% in May to 91.3% in December. By December, 64% of all PSP stations were using the CDR X-press system for at least 90% of their stops.

Table 2.1: 2006 Departmental Usage of the CDR X-press

Time Period	Total # of Stops	% CDR X-press	% of Stations with at Least 50% CDR X-press	% of Stations with at Least 90% CDR X-press
January	25,365	2.0	0.1	0.0
February	24,458	9.6	11.2	11.2
March	19,266	10.7	10.1	10.1
April	27,063	8.4	11.2	11.2
May	24,692	27.2	22.4	5.6
June	15,711	54.2	64.0	31.5
July	25,384	73.7	78.7	42.7
August	24,644	78.4	80.9	49.4
September	28,164	86.1	92.1	59.5
October	22,792	88.8	96.7	64.0
November	24,183	87.3	96.7	60.7
December	22,105	91.3	97.8	64.0

Table 2.2 presents a synopsis of the CDR and CDR X-press forms received from January 1, 2006 to December 31, 2006. In the table, the first column identifies the organization level and the second column reports the total number of stops per organizational unit. Columns three and four report the total number of stops by CDR and CDR X-press for each organizational level, respectively. Column five reports the percentage of missing data that is a product of an internal authentication process in which all the data is checked for valid entries and logical consistencies.

Maintaining data quality is essential for traffic stop data collection efforts. The Police Executive Research Forum (PERF) has devised a set of guidelines to aid police departments in the collection of traffic and pedestrian stop data **(**for details, see Fridell, Lunney, Diamond,

& Kubu, 2001). PERF recommends a missing data rate of less than 10%. Our research team recommended a more stringent standard of less than 5% missing data, which was met department-wide by PSP Troopers for data collected in 2006. As shown in Table 2.2, of the 283,827 CDR and CDR X-press forms included in the final data set, only 2.5% had one or more items missing or invalid (i.e., percent with errors). At the station level, there was some variation in the error rates. Specifically, Blooming Grove (6.2%), Tunkhannock (7.1%), and Gibson (8.5%) stations had the highest errors rates across the department.

Table 2.2: CDR Scan Form Report - 2006 (p. 1 of 3)

	Total # in Dataset	% CDR	% CDR Express	% Errors
PSP Dept.*	283,827	48.5	51.5	2.5
AREA I	107,297	42.1	57.9	2.3
Troop H	26,925	30.0	70.0	2.1
Carlisle	6,480	88.4	11.6	1.8
Chambersburg	5,230	31.5	68.5	2.3
Gettysburg	2,530	41.5	58.5	3.1
Harrisburg	3,594	22.4	77.6	1.9
Lykens	1,121	10.6	89.4	1.2
Newport	2,600	58.7	41.3	1.8
York	5,370	40.8	59.2	2.6
Troop J	11,210	33.8	66.2	2.1
Avondale	3,142	42.7	57.3	4.8
Embreeville	3,354	45.6	54.4	1.0
Ephrata	1,160	14.2	85.8	0.4
Lancaster	3,554	21.2	78.8	1.1
Troop L	8,933	32.7	67.3	2.0
Frackville	1,592	36.9	63.1	2.8
Hamburg	1,709	19.2	80.8	1.2
Jonestown	2,583	37.1	62.9	2.1
Reading	1,543	10.6	89.4	1.0
Schuylkill Haven	1,506	58.4	41.6	2.9
Troop T	60,229	50.3	49.7	2.5
Bowmansville	6,377	55.6	44.4	3.0
Everett	10,029	39.4	60.6	0.9
Gibsonia	7,062	73.9	26.1	3.1
Highspire	24	66.7	33.3	0.0
King of Prussia	6,601	60.0	40.0	3.6
New Stanton	9,538	38.0	62.0	2.3
Newville	7,457	41.7	58.3	1.9
Pocono	5,338	56.7	43.3	1.6
Somerset (T)	7,786	49.5	50.5	4.1

* The total number of stops included in the data set for the whole department is larger than the sum of the forms for each area, troop, or station as some forms were used for special projects and others had invalid station codes.

Table 2.2: CDR Scan Form Report - 2006 (p. 2 of 3)

	Total # in Dataset	Total CDR	Total CDR Express	% Missing Any Data
AREA II	30,527	58.6	41.4	3.0
Troop F	14,128	45.8	54.2	1.8
Coudersport	2,025	32.0	68.0	0.9
Emporium	819	30.3	69.7	2.0
Lamar	1,663	76.8	23.2	2.3
Mansfield	1,321	53.4	46.6	2.0
Milton	2,669	39.2	60.8	2.0
Montoursville	1,720	50.6	49.4	1.5
Selinsgrove	2,462	43.0	57.0	2.1
Stonington	1,449	42.0	58.0	1.4
Troop P	7,868	66.5	33.5	3.0
Laporte	1,213	47.3	52.7	3.1
Shickshinny	1,085	22.9	77.1	0.7
Towanda	2,607	75.0	25.0	2.8
Tunkhannock	955	88.2	11.8	7.1
Wyoming	2,008	80.4	19.6	2.6
Troop R	8,531	72.7	27.3	5.1
Blooming Grove	2,036	77.0	23.0	6.2
Dunmore	2,998	56.5	43.5	3.2
Gibson	1,713	93.6	6.4	8.5
Honesdale	1,784	75.2	24.8	3.7
AREA III	59,072	58.7	41.3	2.5
Troop A	18,694	57.8	42.2	2.0
Ebensburg	4,429	69.2	30.8	2.1
Greensburg	5,518	57.9	42.1	2.8
Indiana	4,327	50.7	49.3	1.3
Kiski Valley	2,344	39.4	60.6	1.9
Somerset (A)	2,076	68.4	31.6	1.4
Troop B	17,446	72.9	27.1	3.0
Belle Vernon	1,727	52.1	47.9	2.4
Findlay	4,663	76.2	23.8	2.6
Uniontown	4,732	79.1	20.9	3.1
Washington	4,354	83.5	16.5	4.0
Waynesburg	1,970	45.1	54.9	1.6
Troop G	22,932	48.7	51.3	2.6
Bedford	3,161	55.1	44.9	3.7
Hollidaysburg	3,016	57.7	42.3	5.5
Huntingdon	1,591	49.5	50.5	1.4
Lewistown	3,852	39.6	60.4	1.6
McConnellsburg	3,174	30.7	69.3	2.9
Philipsburg	2,443	63.9	36.1	3.0
Rockview	5,695	49.9	50.1	1.1

Table 2.2: CDR Scan Form Report - 2006 (p. 3 of 3)

	Total # in Dataset	Total CDR	Total CDR Express	% Missing Any Data
AREA IV	45,487	45.4	54.6	2.3
Troop C	17,479	44.7	55.3	1.9
Clarion	3,876	39.1	60.9	2.2
Clearfield	4,088	38.8	61.2	1.3
Dubois	2,119	38.9	61.1	1.5
Kane	1,495	60.7	39.3	3.2
Punxsutawney	1,692	63.5	36.5	2.4
Ridgway	2,507	43.8	56.2	1.8
Tionesta	1,702	46.9	53.1	1.7
Troop D	13,644	43.4	56.6	2.3
Beaver	2,385	42.4	57.6	2.1
Butler	3,749	49.1	50.9	1.9
Kittanning	3,375	36.4	63.6	2.4
Mercer	2,356	37.2	62.8	2.4
New Castle	1,779	54.5	45.5	3.0
Troop E	14,364	48.1	51.9	2.9
Corry	934	59.1	40.9	2.0
Erie	3,091	51.8	48.2	2.6
Franklin	2,165	34.9	65.1	3.2
Girard	2,329	43.3	56.7	2.1
Meadville	4,662	47.9	52.1	4.1
Warren	1,183	63.8	36.2	0.8
AREA V	41,235	46.2	53.8	2.3
Troop K	12,851	27.8	72.2	1.5
Media	4,084	58.1	41.9	1.9
Philadelphia	5,792	12.7	87.3	1.2
Skippack	2,975	15.5	84.5	1.6
Troop M	14,652	44.8	55.2	1.9
Belfast	2,378	45.8	54.2	2.6
Bethlehem	2,300	36.9	63.1	2.8
Dublin	2,845	54.2	45.8	1.6
Fogelsville	5,125	45.4	54.6	1.3
Trevose	2,004	37.8	62.2	2.4
Troop N	13,732	65.1	34.9	3.4
Bloomsburg	2,436	32.4	67.6	1.1
Fern Ridge	1,546	73.6	26.4	3.2
Hazleton	3,570	82.0	18.0	4.8
Lehighton	1,987	36.9	63.1	2.2
Swiftwater	4,193	79.8	20.2	4.1

SECTION SUMMARY

Between January 1, 2006 and December 31, 2006, information was gathered on all officer-initiated traffic stops regarding:

- The stop (e.g., date/time, location of the stop – county and municipality, type of roadway, reasons for the stop, and the duration of the stop)
- The driver (e.g., gender, age, race/ethnicity, zip code of residency)
- The vehicle (e.g., state of registration, number of passengers)
- The outcome of the stop (e.g., citation, written warning, arrest, search, property seized during the search)
- Identification information (e.g., the trooper's station and employee identification)

Information was collected on either the Contact Data Form or by CDR X-press and collated into one dataset for analysis. The CDR X-press system was pilot tested in early 2006 prior to its rollout in May 2006. As of December 2006, a large majority of stations were using the CDR X-press system. Of the 283,827 CDR and CDR X-press forms included in the final data set, only 2.5% had one or more items missing or invalid, which is below the recommended 5% threshold.

3. DESCRIPTION OF TRAFFIC STOP DATA

OVERVIEW

Section 3 describes the findings based on traffic stop data collected from January 1, 2006 through December 31, 2006 from the CDR and the CDR X-press systems. This section is divided into three parts that report the characteristics of traffic stops, drivers, and stop outcomes. The information reported in this section is strictly descriptive in nature. This summary does not include analyses that examine causal influences, and any data presented at aggregate levels are for the purpose of comparison across PSP units and data collection years.

The first section includes Tables 3.1 & 3.2, which report the characteristics of traffic stops for 2006 across the department, area, troop, and station levels.[6] These tables report the total number of stops, the percentage of stops by weekday, daytime hours, work shift, roadway type, Pennsylvania registration, passengers, and duration of the stop. Table 3.3 provides a monthly breakdown of traffic stops across all organizational levels. Tables 3.4 & 3.5 report the reasons for the stop at the area, troop, and station level. The second section reports the characteristics of drivers (e.g., age, gender, race/ethnicity, and residency) across the department, area, troop, and station level in Tables 3.6 & 3.7. The final section, consisting of Tables 3.8 – 3.10, documents the percent of traffic stops that resulted in warnings, citations, arrests, searches, and seizures at all organizational levels.

TRAFFIC STOP CHARACTERISTICS

Tables 3.1 & 3.2 document the specific details of the traffic stops, including: total number of stops; percent of stops occurring on weekdays; percent of stops occurring during daytime hours; percent of stops by shift; percent of stops by roadway type; percent of Pennsylvania registered vehicles; average number of passengers per vehicle; and duration of the stops. This information is reported at all organizational levels.

Traffic Stop Descriptives

As shown in Table 3.1, PSP Troopers initiated 283,827 traffic stops in 2006, representing a 4.0% increase in overall traffic stops reported for 2005 (see Section 4 for further discussion of changes over time in traffic stops). Area I had the largest number of stops with 107,297, Area II had the least number of stops with 30,527, and the other three areas stopped between 40,000 and 60,000 vehicles each. The majority of traffic stops across the department were initiated on a weekday (71.4%) and occurred during the daytime (70.4%). Approximately 96% of stops occurred on an Interstate (47.6%) or state highway (48.2%). Local and other county roadways accounted for 4.2% of stops. The majority of vehicles stopped (76.0%) were registered in Pennsylvania and had no passengers. Eighty-nine percent of stops lasted between 1-15 minutes, while nearly 99% of stops were completed within 30 minutes. See Table 3.1 for specific variation across areas and troops, and Table 3.2 for variation across stations.

[6] Results for Highspire station must be interpreted with caution due to the instability associated with reporting small numbers of traffic stops.

Table 3.1: 2006 Traffic Stop Descriptives by Department, Area & Troop

	Total # of Stops	% Weekday	Time of Stop % Daytime	Shift			Roadway Type				Regist. % PA	Passengers Avg/vehicle	Duration of Stop (minutes)			
				% 7-3	% 3-11	% 11-7	% Inter	% State	% Local	% Other			% 1-15	% 16-30	% 31-60	% 61+
PSP Dept.	283,827	71.4	70.4	48.2	41.9	9.9	47.6	48.2	1.7	2.5	76.0	0.6	89.0	9.8	0.9	0.3
AREA I	107,297	70.7	72.7	49.4	41.2	9.3	68.9	27.0	1.1	2.9	68.9	0.7	89.0	9.8	0.9	0.3
Troop H	26,925	70.6	67.4	47.5	41.9	10.6	45.5	45.2	2.4	6.8	78.8	0.6	86.9	11.5	1.1	0.5
Troop J	11,210	74.2	65.3	46.4	36.4	17.2	1.2	90.0	3.2	5.6	90.5	0.5	78.3	18.5	2.6	0.7
Troop L	8,933	74.0	69.6	46.0	44.1	10.0	39.2	55.1	2.1	3.6	81.5	0.7	81.0	17.0	1.2	0.8
Troop T	60,229	69.6	77.0	51.4	41.4	7.3	96.4	3.0	0.0	0.6	62.4	0.8	93.1	6.4	0.4	0.1
AREA II	30,527	71.3	73.6	49.4	43.1	7.5	30.9	66.5	1.6	1.0	74.3	0.6	83.1	15.6	1.0	0.3
Troop F	14,128	68.9	72.2	49.5	42.2	8.3	19.0	78.5	1.1	1.3	77.5	0.7	89.8	9.2	0.7	0.3
Troop P	7,868	72.2	71.2	47.0	44.3	8.7	15.9	81.1	2.1	0.8	87.3	0.6	87.2	11.9	0.8	0.2
Troop R	8,531	74.4	77.9	51.4	43.6	5.0	64.2	33.3	1.9	0.6	60.0	0.7	68.2	29.8	1.7	0.3
AREA III	59,072	73.3	70.5	49.6	42.1	8.3	25.7	70.0	2.4	1.8	85.4	0.6	91.8	6.9	0.7	0.6
Troop A	18,694	72.2	72.4	48.8	43.7	7.5	1.1	93.4	2.7	2.7	93.9	0.5	92.3	6.1	0.9	0.7
Troop B	17,446	75.3	72.5	52.4	37.8	9.8	49.1	45.7	3.7	1.5	83.5	0.5	91.3	7.4	0.7	0.5
Troop G	22,932	72.6	67.4	48.1	44.1	7.8	28.0	69.4	1.2	1.3	79.2	0.7	91.8	7.0	0.6	0.5
AREA IV	45,487	68.8	67.7	45.7	43.9	10.3	39.0	57.0	1.8	2.3	76.3	0.7	88.1	9.6	1.2	1.1
Troop C	17,479	67.4	68.0	43.8	46.5	9.7	44.9	53.6	0.6	0.9	67.7	0.8	87.9	10.5	0.9	0.7
Troop D	13,644	70.2	66.9	47.1	41.5	11.4	22.0	72.0	2.6	3.4	86.5	0.6	87.3	9.3	1.8	1.6
Troop E	14,364	69.3	68.2	46.8	43.0	10.2	47.8	46.7	2.4	3.0	77.1	0.7	89.3	8.7	0.9	1.2
AREA V	41,235	73.2	64.8	44.6	40.2	15.1	45.5	48.6	2.3	3.6	77.2	0.6	83.2	14.8	1.5	0.4
Troop K	12,851	73.3	59.6	43.1	35.6	21.2	40.6	52.2	1.7	5.6	84.6	0.5	83.7	13.5	2.3	0.6
Troop M	14,652	74.0	64.9	43.9	42.0	14.1	40.1	53.3	2.7	3.9	83.1	0.6	79.6	18.1	1.8	0.5
Troop N	13,732	72.1	69.3	46.9	42.7	10.4	55.7	40.3	2.4	1.6	69.9	0.7	86.6	12.6	0.6	0.2

Table 3.2: 2006 Traffic Stop Descriptives by Station (p. 1 of 4)

	Total # of Stops	% Weekday	Time of Stop % Daytime	Shift % 7-3	Shift % 3-11	Shift % 11-7	Roadway Type % Inter.	Roadway Type % State	Roadway Type % Local	Roadway Type % Other	Regist. % PA	Passengers Avg/vehicle	Duration of Stop (minutes) % 1-15	Duration of Stop (minutes) % 16-30	Duration of Stop (minutes) % 31-60	Duration of Stop (minutes) % 61+
AREA I																
Troop H																
Carlisle	6,480	67.2	66.8	47.9	41.6	10.5	66.7	24.8	1.6	6.9	71.8	0.7	77.6	20.1	1.8	0.5
Chambersburg	5,230	67.1	67.0	45.2	45.9	8.9	29.0	44.1	7.1	19.8	80.4	0.6	91.5	7.7	0.5	0.2
Gettysburg	2,530	71.9	69.1	51.1	40.2	8.7	1.9	94.2	1.0	2.9	73.9	0.6	81.7	13.1	3.0	2.2
Harrisburg	3,594	78.1	72.8	49.4	40.6	9.9	59.6	37.1	0.8	2.6	72.7	0.5	88.8	10.1	0.8	0.3
Lykens	1,121	74.9	68.9	45.7	39.0	15.3	1.6	94.2	0.6	3.6	98.3	0.4	88.9	10.0	0.4	0.6
Newport	2,600	67.6	68.7	47.1	43.6	9.3	0.3	97.7	1.4	0.6	89.8	0.6	90.7	8.7	0.5	0.1
York	5,370	72.7	63.0	47.0	39.8	13.1	78.2	17.7	1.5	2.6	75.8	0.5	92.6	6.5	0.6	0.3
Troop J																
Avondale	3,142	73.9	68.8	47.7	36.4	15.8	2.0	88.3	4.0	5.7	85.2	0.5	71.0	26.8	1.6	0.7
Embreeville	3,354	77.0	66.1	45.7	36.9	17.4	0.6	91.8	4.9	2.7	92.7	0.5	84.5	13.4	1.5	0.6
Ephrata	1,160	65.8	65.3	47.0	41.0	12.0	0.0	83.3	1.3	15.4	96.4	0.5	89.7	9.1	0.9	0.3
Lancaster	3,554	74.7	61.3	45.5	34.5	20.0	1.5	92.2	1.4	4.9	94.3	0.6	75.2	18.9	5.0	0.9
Troop L																
Frackville	1,592	76.3	69.3	47.4	38.8	13.9	62.4	34.6	1.1	2.0	73.3	0.7	89.2	9.9	0.8	0.1
Hamburg	1,709	74.6	69.3	48.5	45.8	5.7	63.8	31.0	0.7	4.5	71.7	0.7	81.4	15.9	1.9	0.8
Jonestown	2,583	69.5	64.2	41.8	44.9	13.3	51.6	38.5	4.1	5.8	73.3	0.7	68.0	29.0	1.5	1.6
Reading	1,543	80.2	71.0	50.2	42.4	7.5	4.5	91.4	0.8	3.2	98.2	0.5	84.4	13.7	1.4	0.6
Schuylkill Haven	1,506	72.5	78.1	44.5	47.9	7.5	1.5	95.4	2.3	0.8	96.5	0.5	90.8	8.7	0.3	0.1
Troop T																
Bowmansville	6,377	69.0	78.0	53.3	42.2	4.4	99.8	0.1	0.0	0.1	75.9	0.7	97.2	2.5	0.2	0.1
Everett	10,029	69.4	72.0	46.9	42.6	10.5	99.7	0.2	0.0	0.1	51.8	0.9	95.7	3.8	0.3	0.1
Gibsonia	7,062	70.9	85.0	57.5	37.6	4.8	91.8	7.9	0.1	0.2	57.0	0.7	79.5	19.5	0.7	0.2
Highspire	24	37.5	87.5	70.8	25.0	4.2	79.2	16.7	0.0	4.2	87.5	0.6	100.0	0.0	0.0	0.0
King of Prussia	6,601	69.7	74.9	54.2	34.5	11.3	95.5	3.4	0.2	1.0	78.2	0.5	94.2	5.4	0.3	0.1
New Stanton	9,538	70.3	78.1	54.7	41.7	3.6	88.7	9.4	0.0	1.9	69.5	0.7	96.8	3.0	0.2	0.1
Newville	7,457	66.8	74.6	47.7	45.7	6.6	99.2	0.2	0.0	0.5	62.0	0.8	90.5	8.8	0.7	0.1
Pocono	5,338	68.3	81.4	53.8	40.7	5.5	99.6	0.3	0.0	0.1	73.7	0.8	98.6	1.2	0.1	0.1
Somerset (T)	7,786	71.8	75.1	45.3	44.2	10.5	98.9	1.0	0.0	0.1	36.3	0.8	91.9	7.5	0.5	0.1

Table 3.2: 2006 Traffic Stop Descriptives by Station (p. 2 of 4)

	Total # of Stops	% Weekday	Time of Stop % Daytime	Shift % 7-3	Shift % 3-11	Shift % 11-7	Roadway Type % Inter.	Roadway Type % State	Roadway Type % Local	Roadway Type % Other	Regist. % PA	Passengers Avg/vehicle	Duration of Stop (minutes) % 1-15	Duration of Stop (minutes) % 16-30	Duration of Stop (minutes) % 31-60	Duration of Stop (minutes) % 61+
AREA II																
Troop F																
Coudersport	2,025	71.4	73.7	42.4	47.6	10.0	0.2	98.4	0.4	1.0	84.3	0.7	94.2	5.2	0.3	0.2
Emporium	819	65.6	78.1	51.6	43.5	4.9	0.6	92.8	1.6	5.0	94.4	0.6	94.4	4.8	0.9	0.0
Lamar	1,663	65.5	70.7	48.6	46.3	5.1	81.6	17.7	0.7	0.1	50.4	0.8	93.7	5.5	0.6	0.1
Mansfield	1,321	69.9	70.7	42.2	55.5	2.3	0.5	99.0	0.2	0.3	64.6	0.7	97.2	2.3	0.5	0.0
Milton	2,669	75.8	79.5	58.7	35.7	5.5	39.8	59.3	0.2	0.7	75.6	0.7	93.9	5.5	0.5	0.1
Montoursville	1,720	64.9	71.3	52.0	40.3	7.7	13.4	77.6	5.5	3.5	93.4	0.7	77.4	20.7	1.5	0.4
Selinsgrove	2,462	63.6	71.1	53.0	33.8	13.2	0.8	97.9	0.4	0.9	87.3	0.5	93.7	4.5	0.6	1.2
Stonington	1,449	71.6	59.7	40.3	45.5	14.1	0.3	97.2	0.9	1.6	98.4	0.6	70.1	28.8	0.8	0.3
Troop P																
Laporte	1,213	73.8	72.1	46.9	47.9	5.2	0.7	99.1	0.2	0.1	86.7	0.7	91.0	8.3	0.7	0.0
Shickshinny	1,085	70.9	74.6	52.3	33.0	14.7	0.3	96.8	0.8	2.1	96.4	0.5	90.6	8.6	0.6	0.2
Towanda	2,607	74.9	62.4	41.1	51.8	7.1	0.0	97.2	2.2	0.6	88.6	0.6	90.8	8.5	0.5	0.2
Tunkhannock	955	63.5	71.6	42.6	49.8	7.4	0.7	93.1	6.1	0.1	92.3	0.5	84.9	13.7	1.3	0.1
Wyoming	2,008	72.5	80.1	54.0	35.8	10.3	61.5	35.2	2.0	1.2	82.0	0.5	79.4	19.4	0.9	0.2
Troop R																
Blooming Grove	2,036	74.9	77.5	48.0	46.9	5.1	71.2	26.3	2.0	0.4	52.0	0.7	52.8	44.9	1.9	0.4
Dunmore	2,998	77.8	80.1	54.7	41.7	3.6	70.2	27.7	1.5	0.6	73.1	0.6	62.7	34.8	2.1	0.4
Gibson	1,713	74.5	72.2	46.1	46.6	7.3	68.3	28.3	2.9	0.6	47.4	0.8	77.1	20.6	2.0	0.3
Honesdale	1,784	67.9	80.2	54.8	40.1	5.0	42.5	55.5	1.4	0.6	67.6	0.6	86.4	12.9	0.7	0.1
AREA III																
Troop A																
Ebensburg	4,429	69.7	75.8	53.0	41.5	5.5	0.1	98.2	1.4	0.3	94.3	0.5	94.9	3.5	0.4	1.2
Greensburg	5,518	75.0	72.1	52.8	40.3	6.9	1.4	92.5	3.6	2.5	97.2	0.3	92.8	5.3	1.0	0.8
Indiana	4,327	71.9	71.6	44.3	48.5	7.2	0.5	92.3	3.4	3.9	91.4	0.5	93.1	5.7	0.9	0.3
Kiski Valley	2,344	68.8	71.7	46.0	43.8	10.2	0.2	90.4	2.5	6.9	93.4	0.5	85.6	13.7	0.5	0.3
Somerset (A)	2,076	74.8	68.9	41.8	47.4	10.7	4.7	91.4	2.3	1.6	90.1	0.6	91.0	6.3	1.7	1.0

Table 3.2: 2006 Traffic Stop Descriptives by Station (p. 3 of 4)

	Total # of Stops	% Weekday	Time of Stop % Daytime	Shift % 7-3	Shift % 3-11	Shift % 11-7	Roadway Type % Inter.	Roadway Type % State	Roadway Type % Local	Roadway Type % Other	Regist. % PA	Passengers Avg/vehicle	Duration of Stop (minutes) % 1-15	Duration of Stop (minutes) % 16-30	Duration of Stop (minutes) % 31-60	Duration of Stop (minutes) % 61+
AREA III (cont.)																
Troop B																
Belle Vernon	1,727	77.8	80.9	61.2	29.7	9.1	55.2	40.6	2.1	2.0	79.6	0.5	93.5	5.2	0.5	0.8
Findlay	4,663	70.3	72.0	51.1	39.7	9.3	71.8	25.3	1.8	1.2	83.9	0.5	92.7	6.4	0.4	0.5
Uniontown	4,732	81.5	73.8	57.0	32.1	10.8	0.5	92.9	4.0	2.6	94.5	0.5	92.3	6.5	0.6	0.6
Washington	4,354	71.3	69.4	48.2	42.1	9.6	74.8	17.3	7.3	0.6	76.1	0.5	93.9	5.3	0.5	0.2
Waynesburg	1,970	79.2	69.9	45.8	44.5	9.7	49.7	47.4	1.3	1.6	69.3	0.6	77.7	18.9	2.6	0.8
Troop G																
Bedford	3,161	69.1	66.7	47.8	45.9	6.3	33.2	63.4	1.4	2.0	75.5	0.6	93.1	5.9	0.9	0.1
Hollidaysburg	3,016	72.9	66.8	45.6	47.5	6.9	52.3	42.5	2.6	2.7	85.0	0.6	76.4	21.4	1.8	0.4
Huntingdon	1,591	73.3	62.1	48.6	41.6	9.7	0.1	95.8	1.6	2.6	95.5	0.6	81.7	17.2	0.9	0.3
Lewistown	3,852	75.9	66.9	51.9	38.3	9.7	0.1	98.6	0.3	1.0	91.7	0.7	95.2	3.9	0.5	0.4
McConnellsburg	3,174	75.8	71.3	49.9	43.0	7.1	74.4	23.8	0.7	1.2	50.6	0.8	97.7	2.0	0.1	0.2
Philipsburg	2,443	72.1	63.4	43.3	43.7	13.0	12.3	84.6	2.5	0.6	83.2	0.6	92.1	6.1	0.3	1.5
Rockview	5,695	70.3	69.5	47.7	46.7	5.6	20.0	78.8	0.6	0.6	74.6	0.7	96.5	2.4	0.2	0.9
AREA IV																
Troop C																
Clarion	3,876	64.1	63.7	43.3	41.8	14.8	76.6	22.1	0.4	0.9	44.5	1.0	84.7	13.4	1.1	0.7
Clearfield	4,088	68.3	70.7	46.1	48.2	5.6	72.5	26.8	0.2	0.5	51.7	0.9	94.0	5.0	0.5	0.5
Dubois	2,119	65.0	74.0	43.6	50.3	6.1	77.3	21.4	0.3	1.1	49.0	0.8	94.7	3.9	0.9	0.5
Kane	1,495	69.2	66.2	43.9	49.3	6.8	3.1	92.4	2.2	2.3	81.9	0.7	75.1	24.0	0.8	0.1
Punxsutawney	1,692	68.6	66.2	40.7	46.5	12.8	9.6	88.5	1.2	0.7	90.7	0.6	89.3	9.6	0.7	0.5
Ridgway	2,507	67.5	66.2	42.1	45.8	12.1	2.0	96.6	0.6	0.8	85.5	0.6	84.2	13.1	1.4	1.3
Tionesta	1,702	72.9	69.6	45.1	47.0	7.9	1.1	97.9	0.5	0.5	91.7	0.6	86.9	10.6	1.5	0.9
Troop D																
Beaver	2,385	70.6	70.1	54.0	34.0	11.9	0.3	97.6	0.7	1.4	87.0	0.5	88.1	10.3	1.3	0.4
Butler	3,749	72.0	72.1	47.5	43.0	9.5	33.3	58.9	4.4	3.4	89.7	0.6	89.4	9.0	1.1	0.6
Kittanning	3,375	66.9	59.3	40.9	49.7	9.5	3.3	94.8	0.6	1.3	97.0	0.6	84.0	9.8	3.6	2.7
Mercer	2,356	66.7	66.9	48.9	35.4	15.7	68.6	24.8	1.4	5.3	60.8	0.9	85.8	8.7	1.7	3.8
New Castle	1,779	76.3	66.4	46.4	41.0	12.6	1.2	84.8	6.9	7.1	89.9	0.6	90.3	8.8	0.6	0.3

Table 3.2: 2006 Traffic Stop Descriptives by Station (p. 4 of 4)

	Total # of Stops	% Weekday	Time of Stop % Daytime	Shift % 7-3	Shift % 3-11	Shift % 11-7	Roadway Type % Inter.	Roadway Type % State	Roadway Type % Local	Roadway Type % Other	Regist. % PA	Passengers Avg/vehicle	Duration of Stop (minutes) % 1-15	Duration of Stop (minutes) % 16-30	Duration of Stop (minutes) % 31-60	Duration of Stop (minutes) % 61+
AREA IV (cont.)																
Troop E																
Corry	934	76.3	69.8	47.1	43.3	9.6	3.3	92.4	2.5	1.8	91.8	0.6	86.6	10.5	2.0	0.9
Erie	3,091	71.5	67.9	46.0	46.8	7.2	52.5	41.3	3.1	3.1	64.6	0.7	85.3	12.2	1.4	1.1
Franklin	2,165	71.8	65.3	45.9	47.3	6.8	20.7	68.4	3.0	7.9	85.4	0.7	90.1	8.8	0.5	0.6
Girard	2,329	67.4	64.6	46.6	36.3	17.0	51.7	42.8	2.4	3.2	79.5	0.7	88.3	8.5	1.0	2.2
Meadville	4,662	65.0	73.2	50.4	40.2	9.4	76.3	20.9	1.6	1.3	73.5	0.9	92.3	6.1	0.5	1.1
Warren	1,183	74.1	60.7	35.9	49.7	14.4	1.2	94.8	2.5	1.5	92.2	0.6	90.2	8.3	0.5	1.0
AREA V																
Troop K																
Media	4,084	72.4	52.5	35.4	40.9	23.7	31.8	61.2	2.5	4.5	80.9	0.5	83.8	14.6	1.2	0.5
Philadelphia	5,792	74.4	62.5	45.8	34.0	20.2	66.3	31.8	0.4	1.4	89.0	0.5	83.9	12.5	3.2	0.5
Skippack	2,975	72.4	63.8	48.6	31.6	19.8	2.6	79.3	2.9	15.2	96.3	0.5	83.2	14.0	2.1	0.8
Troop M																
Belfast	2,378	76.8	72.2	49.3	42.3	8.4	44.7	49.8	2.7	2.8	77.6	0.6	72.6	25.1	1.8	0.4
Bethlehem	2,300	69.6	53.7	35.6	42.3	22.0	2.4	92.6	1.5	3.4	93.9	0.5	83.9	14.2	1.4	0.5
Dublin	2,845	76.8	73.1	48.5	41.8	9.7	0.3	87.4	5.3	7.0	96.6	0.4	82.4	15.6	1.6	0.4
Fogelsville	5,125	73.9	62.8	40.8	45.5	13.7	58.7	35.1	2.8	3.4	74.5	0.6	78.3	18.7	2.3	0.7
Trevose	2,004	72.4	63.0	48.4	32.3	19.3	87.3	9.9	0.5	2.3	78.2	0.5	82.3	16.3	0.9	0.5
Troop N																
Bloomsburg	2,436	68.0	69.6	47.3	40.8	11.9	77.6	19.3	0.7	2.3	63.2	0.9	87.7	11.4	0.7	0.2
Fern Ridge	1,546	74.8	64.5	40.6	49.9	9.5	54.5	41.2	3.4	1.0	68.5	0.7	78.3	20.2	1.3	0.2
Hazleton	3,570	71.6	75.2	49.9	40.1	10.0	69.5	27.1	2.6	0.8	68.2	0.8	87.8	11.8	0.4	0.0
Lehighton	1,987	70.8	74.4	52.0	42.1	5.9	0.4	93.1	2.4	4.1	96.3	0.5	83.5	15.8	0.4	0.4
Swiftwater	4,193	74.6	63.7	44.0	43.7	12.3	57.9	38.6	2.8	0.8	67.8	0.7	89.5	9.5	0.6	0.4

Traffic Stops By Month

Table 3.3 provides the temporal breakdown of traffic stops by month for 2006. The month of September accounted for the greatest percentage of stops at the department level: 9.9% across the department, followed by April (9.5%), January (8.9%), and July (8.9%). The lowest percentage of traffic stop activity at the department level was reported during the months of December (7.8%) and March (6.8%).

Table 3.3: 2006 Monthly Breakdown of Traffic Stops By Department, Area, Troop, & Station (p. 1 of 3)

	Total # of Stops	% Jan.	% Feb.	% Mar.	% Apr.	% May	% June	% July	% Aug.	% Sept.	% Oct.	% Nov.	% Dec.
PSP Dept.	283,827	8.9	8.6	6.8	9.5	8.7	5.5	8.9	8.7	9.9	8.0	8.5	7.8
AREA I	107,297	9.6	9.3	6.5	9.2	7.4	5.2	9.4	8.9	9.7	8.7	7.5	8.5
Troop H	26,925	8.5	7.9	6.7	7.4	7.4	4.9	10.1	8.8	10.2	9.3	8.4	10.3
Carlisle	6,480	6.0	7.4	7.5	5.0	5.1	4.2	10.3	8.3	10.6	11.0	10.1	14.4
Chambersburg	5,230	7.9	4.1	4.7	7.4	7.2	3.5	8.4	9.3	13.9	12.3	8.4	13.0
Gettysburg	2,530	11.6	9.8	6.0	8.6	8.1	5.7	11.3	7.6	6.0	7.3	10.8	7.2
Harrisburg	3,594	9.5	11.5	9.1	8.4	7.8	7.8	12.5	7.9	7.2	6.0	7.7	4.7
Lykens	1,121	13.9	11.2	7.5	7.3	4.3	3.5	10.7	10.7	9.5	4.8	7.4	9.2
Newport	2,600	10.0	7.8	5.4	7.3	7.2	5.0	9.3	8.2	11.7	8.4	8.5	11.2
York	5,370	8.2	8.5	7.1	9.0	10.5	4.8	9.6	10.1	9.6	9.1	5.7	7.7
Troop J	11,210	9.6	7.8	7.5	8.1	6.6	5.6	11.9	9.2	9.3	7.5	8.8	8.1
Avondale	3,142	10.2	6.7	4.4	6.6	6.0	3.9	9.8	14.6	8.8	8.4	10.5	10.0
Embreeville	3,354	7.3	7.2	7.1	11.7	9.1	7.3	14.3	6.4	8.5	5.4	9.4	6.3
Ephrata	1,160	11.6	6.8	6.6	5.8	4.6	3.4	6.6	8.7	12.6	11.2	8.3	13.8
Lancaster	3,554	10.7	9.5	10.7	6.9	5.5	6.2	13.2	7.1	9.6	7.4	6.9	6.2
Troop L	8,933	7.8	8.8	6.5	9.3	9.7	6.3	11.5	8.2	13.1	5.9	7.6	5.2
Frackville	1,592	6.9	8.7	4.2	7.3	7.5	4.5	10.8	12.2	15.9	6.2	11.6	4.1
Hamburg	1,709	8.4	11.0	8.3	14.4	11.3	6.4	9.8	4.4	11.4	5.5	6.2	2.9
Jonestown	2,583	8.6	6.0	6.7	10.0	13.3	4.9	8.8	9.7	12.0	6.4	7.6	6.0
Reading	1,543	9.7	15.0	8.2	6.0	3.4	5.9	12.6	7.7	13.0	4.3	4.4	9.9
Schuylkill Haven	1,506	4.9	4.8	5.0	7.7	10.5	10.9	17.6	6.1	14.3	6.8	8.3	3.0
Troop T	60,229	10.3	10.2	6.2	10.2	7.3	5.1	8.4	9.0	9.1	9.1	6.8	8.3
Bowmansville	6,377	11.9	9.8	6.0	9.1	9.5	5.3	7.4	8.1	8.2	8.7	6.6	9.5
Everett	10,029	11.0	9.4	5.8	10.4	6.8	4.3	8.5	8.2	8.9	10.1	6.5	10.1
Gibsonia	7,062	9.2	10.5	6.7	9.6	7.7	6.3	7.3	9.8	9.1	7.3	8.0	8.3
Highspire	24	0.0	4.2	54.2	4.2	4.2	20.8	4.2	4.2	0.0	4.2	0.0	0.0
King of Prussia	6,601	9.1	12.4	6.1	11.2	7.2	5.0	7.1	10.8	10.7	8.7	6.9	4.9
New Stanton	9,538	9.4	10.3	5.4	10.0	4.8	4.9	11.1	9.5	9.0	9.5	8.1	7.8
Newville	7,457	11.3	8.9	4.9	9.9	6.6	4.2	6.8	8.2	9.3	11.0	8.2	10.7
Pocono	5,338	10.2	12.2	7.3	10.4	9.9	7.9	8.4	9.4	7.2	7.7	3.7	5.7
Somerset (T)	7,786	10.4	9.4	8.0	11.0	7.6	4.4	9.0	8.4	9.6	8.5	5.6	8.1

Table 3.3: 2006 Monthly Breakdown of Traffic Stops by Department, Area, Troop, & Station (p. 2 of 3)

	Total # Of Stops	% Jan.	% Feb.	% Mar.	% Apr.	% May	% June	% July	% Aug.	% Sept.	% Oct.	% Nov.	% Dec.
AREA II	30,527	8.4	7.5	6.9	9.9	12.0	5.9	9.1	7.7	9.8	6.1	9.5	7.2
Troop F	14,128	9.5	9.0	7.0	10.5	9.8	5.2	9.3	7.4	9.7	6.2	9.2	7.1
Coudersport	2,025	7.0	6.3	4.4	9.8	11.0	5.0	12.4	9.0	12.0	9.1	7.9	6.1
Emporium	819	4.2	7.3	2.7	11.7	11.5	9.0	11.0	11.7	9.9	4.0	12.6	4.4
Lamar	1,663	11.4	15.1	9.0	12.3	14.1	2.6	2.6	1.9	6.3	2.9	12.6	9.2
Mansfield	1,321	11.0	8.9	8.6	8.3	6.1	8.1	11.0	12.0	10.1	5.5	6.9	3.5
Milton	2,669	10.3	8.4	9.2	8.6	6.9	4.9	10.2	7.9	9.3	7.0	10.0	7.3
Montoursville	1,720	5.9	8.0	7.6	11.9	17.2	6.3	14.4	3.3	6.3	3.5	11.1	4.4
Selinsgrove	2,462	13.9	8.6	4.1	12.4	7.1	5.0	6.4	7.5	12.2	6.4	7.3	9.2
Stonington	1,449	7.8	9.8	9.5	9.7	7.4	3.1	7.7	8.2	10.4	9.4	6.8	10.2
Troop P	7,868	7.4	5.8	5.3	8.0	12.8	6.9	10.1	9.0	8.7	7.3	10.5	8.1
Laporte	1,213	6.2	6.4	7.6	10.6	9.9	4.5	10.1	13.9	7.5	6.2	11.9	5.4
Shickshinny	1,085	4.8	4.2	4.3	4.1	10.8	3.2	10.7	10.4	12.7	8.8	15.3	10.7
Towanda	2,607	7.8	5.2	6.3	7.4	11.2	8.9	8.1	9.3	6.4	10.0	9.0	10.3
Tunkhannock	955	2.7	5.0	4.3	5.8	14.8	6.4	11.4	6.3	13.2	7.2	19.8	3.1
Wyoming	2,008	11.3	7.4	3.7	10.6	16.9	7.9	11.7	6.2	7.9	3.9	4.5	8.0
Troop R	8,531	7.4	6.6	8.2	10.5	14.6	6.3	7.9	6.9	11.0	4.9	9.1	6.6
Blooming Grove	2,036	7.3	6.8	7.7	10.7	15.1	4.8	10.4	10.3	9.3	4.0	5.0	8.4
Dunmore	2,998	9.3	5.4	6.6	6.4	11.7	6.6	11.1	7.3	13.1	6.0	9.5	6.8
Gibson	1,713	6.1	9.4	5.9	12.7	16.9	8.1	3.9	5.3	11.3	4.7	11.0	4.8
Honesdale	1,784	5.3	5.4	13.6	15.4	16.8	5.9	3.3	4.0	9.2	4.1	11.3	5.7
AREA III	59,072	9.0	8.6	7.4	9.5	8.7	5.8	8.1	8.7	9.6	8.5	9.1	7.1
Troop A	18,694	10.2	9.1	7.3	10.3	8.4	6.5	8.0	8.4	9.6	7.8	7.7	6.8
Ebensburg	4,429	8.8	10.2	7.5	9.9	9.2	8.4	8.7	8.0	9.5	6.1	6.1	7.5
Greensburg	5,518	13.5	9.6	9.2	10.8	10.6	5.1	7.1	7.7	7.4	7.6	6.5	4.7
Indiana	4,327	10.7	8.0	4.6	7.8	5.9	6.0	8.4	10.1	11.1	8.8	9.7	9.1
Kiski Valley	2,344	8.3	7.8	7.3	12.1	6.2	5.3	7.8	8.2	9.9	11.1	9.2	6.7
Somerset (A)	2,076	6.0	9.2	7.0	13.0	8.8	8.9	8.1	7.3	11.7	5.7	8.1	6.2
Troop B	17,446	7.9	7.4	7.8	9.8	10.1	6.3	6.3	9.5	8.6	7.6	11.6	7.0
Belle Vernon	1,727	7.1	6.7	8.2	8.0	11.4	8.9	4.9	9.7	10.9	5.3	14.6	4.3
Findlay	4,663	5.1	4.8	8.7	13.6	13.5	7.8	8.7	7.2	9.1	8.1	9.1	4.4
Uniontown	4,732	12.7	11.2	9.5	7.6	5.1	2.9	3.3	10.1	7.5	10.3	12.0	7.8
Washington	4,354	6.5	6.7	5.8	9.9	11.2	7.2	7.6	7.8	9.0	6.1	12.5	9.7
Waynesburg	1,970	7.1	6.8	6.3	7.5	10.1	7.0	5.9	17.5	7.3	5.6	11.6	7.5
Troop G	22,932	8.8	8.9	7.1	8.6	7.8	4.8	9.6	8.3	10.4	9.7	8.4	7.4
Bedford	3,161	6.5	11.7	9.1	9.2	10.0	4.5	6.3	6.1	8.5	10.8	10.1	7.2
Hollidaysburg	3,016	10.9	10.9	7.8	8.5	7.1	3.6	9.4	9.5	10.4	8.0	5.9	7.9
Huntingdon	1,591	13.0	10.5	14.8	7.7	5.0	4.8	7.7	10.1	9.4	5.8	5.0	6.2
Lewistown	3,852	7.8	9.7	5.8	6.7	7.8	4.5	8.1	8.5	11.9	9.8	8.8	10.4
McConnellsburg	3,174	7.5	5.2	4.3	8.6	7.3	2.4	12.5	11.2	11.8	12.9	10.2	6.0
Philipsburg	2,443	7.3	8.1	4.3	5.3	10.0	5.5	9.5	8.6	10.4	11.4	11.2	8.3
Rockview	5,695	10.0	7.9	7.3	11.3	6.9	7.0	11.5	6.6	9.9	8.7	7.2	5.9

Table 3.3: 2006 Monthly Breakdown of Traffic Stops by Department, Area, Troop, & Station (p. 3 of 3)

	Total # of Stops	% Jan.	% Feb.	% Mar.	% Apr.	% May	% June	% July	% Aug.	% Sept.	% Oct.	% Nov.	% Dec.
AREA IV	45,487	7.6	8.0	7.2	11.2	9.3	5.4	8.8	8.5	9.7	7.4	9.4	7.6
Troop C	17,479	7.4	8.4	6.8	12.1	9.1	5.1	8.8	9.0	9.4	6.7	9.6	7.5
Clarion	3,876	6.9	7.5	6.9	13.3	8.7	5.1	9.4	13.3	9.6	5.1	9.5	4.6
Clearfield	4,088	8.1	8.9	5.5	10.7	9.6	5.0	8.1	6.9	9.8	6.5	10.1	10.8
Dubois	2,119	8.5	8.9	6.3	10.9	8.4	5.0	9.3	6.0	10.8	6.3	10.9	8.7
Kane	1,495	9.0	8.4	6.2	12.6	10.2	4.9	12.8	6.8	6.2	7.9	9.2	6.0
Punxsutawney	1,692	5.0	5.3	12.1	13.2	10.3	5.0	7.7	9.8	9.7	7.8	9.2	4.9
Ridgway	2,507	5.6	7.5	5.9	11.0	8.3	5.3	8.0	9.3	10.8	7.5	11.1	9.7
Tionesta	1,702	8.7	13.3	6.9	14.9	8.8	5.3	7.3	8.7	6.9	7.7	6.0	5.5
Troop D	13,644	8.0	8.6	6.9	10.1	9.2	5.0	9.0	9.3	9.5	8.1	8.0	8.2
Beaver	2,385	7.0	10.4	4.9	9.1	7.6	5.6	10.2	10.4	9.2	8.5	10.0	7.1
Butler	3,749	10.5	9.7	7.7	15.3	11.3	3.4	8.2	8.6	7.4	5.5	7.0	5.4
Kittanning	3,375	7.1	9.0	6.8	8.6	8.5	4.9	8.3	8.9	12.1	9.3	6.8	9.7
Mercer	2,356	9.0	5.7	5.6	8.7	9.5	6.8	11.2	9.2	10.0	9.3	7.1	8.0
New Castle	1,779	4.0	7.2	9.6	5.4	8.0	5.3	7.4	10.1	8.8	9.6	11.2	13.3
Troop E	14,364	7.5	7.0	7.9	11.1	9.7	6.1	8.5	7.0	10.2	7.4	10.4	7.1
Corry	934	5.2	4.1	15.3	13.6	10.4	8.5	11.7	7.5	9.7	5.1	6.9	2.0
Erie	3,091	8.2	4.6	8.8	8.6	9.3	6.6	9.0	7.1	9.7	8.9	12.0	7.2
Franklin	2,165	5.4	5.9	6.3	11.2	8.2	6.0	9.1	7.4	10.8	10.4	12.1	7.2
Girard	2,329	8.6	7.7	8.8	12.5	11.8	5.6	7.3	4.6	8.5	4.7	9.7	10.3
Meadville	4,662	7.7	9.2	6.4	10.4	9.2	4.9	8.3	8.0	11.2	7.2	10.7	6.9
Warren	1,183	9.0	7.5	6.9	15.4	11.1	8.9	6.8	6.3	9.8	6.3	6.4	5.4
AREA V	41,235	9.0	8.4	6.1	8.4	8.9	5.8	8.9	9.1	11.3	7.8	8.7	7.5
Troop K	12,851	9.3	8.3	5.7	7.7	7.5	5.9	9.7	9.2	10.8	9.4	8.6	7.8
Media	4,084	9.5	8.3	5.9	8.9	10.7	6.6	9.1	8.5	9.1	7.0	8.3	7.9
Philadelphia	5,792	9.8	8.2	6.5	8.5	5.8	5.4	10.3	10.0	10.1	9.8	7.5	8.1
Skippack	2,975	8.0	8.4	4.0	4.3	6.3	6.1	9.5	8.5	14.6	11.8	11.2	7.3
Troop M	14,652	9.8	8.4	5.4	6.9	9.0	6.4	9.1	10.0	11.7	6.8	8.0	8.5
Belfast	2,378	7.9	7.6	8.3	8.1	10.4	4.1	6.8	10.3	12.8	8.2	7.8	7.8
Bethlehem	2,300	8.5	8.0	5.7	6.0	8.1	5.7	11.7	7.4	14.3	7.0	8.1	9.3
Dublin	2,845	9.2	9.1	3.0	7.5	10.4	9.8	6.6	10.1	12.5	7.0	6.3	8.4
Fogelsville	5,125	11.2	7.8	4.1	7.7	8.6	6.3	10.4	10.0	10.8	6.3	8.3	8.5
Trevose	2,004	10.4	10.3	8.8	3.4	7.0	5.6	8.9	12.7	8.4	6.2	9.3	8.7
Troop N	13,732	7.9	8.7	7.3	10.6	10.2	5.1	8.0	8.0	11.2	7.3	9.7	6.2
Bloomsburg	2,436	6.0	7.1	7.2	8.9	7.3	2.6	8.4	14.2	11.3	6.8	13.1	6.9
Fern Ridge	1,546	8.2	10.3	7.5	14.0	9.1	3.2	7.6	5.8	11.5	6.5	11.3	5.0
Hazleton	3,570	9.4	11.0	7.2	11.4	11.7	6.8	9.1	5.9	7.7	5.5	8.6	5.7
Lehighton	1,987	7.7	9.8	8.5	8.0	5.7	3.6	8.0	7.5	12.0	10.0	12.0	7.2
Swiftwater	4,193	7.6	6.4	6.6	10.9	13.0	6.4	7.1	7.3	13.6	8.2	6.8	6.1

Reason for the Stop

Tables 3.4 & 3.5 report the reasons for the stop both prior to and subsequent to the stop initiated by PSP Troopers. Reasons for member-initiated traffic stops included: 1) speeding, 2) other moving violations, 3) equipment violations, 4) pre-existing information, 5) registration violations, 6) license violations, 7) special traffic enforcement programs, and 8) "other" reasons not previously indicated. These tables also report the average speed over the limit observed for traffic stops involving speeding violations. The percentage of stops for each of these reasons is displayed at the department, area, and troop levels in Table 3.4, and at the station level in Table 3.5.

Across the department, speeding was the most frequent violation observed prior to the stop (69.8% of reported traffic stops). Area I reported the largest percentage of stops for speeding (76.5%) compared to the lowest percentage in Area V (55.3%). The troops varied in their percentage of traffic stops for speeding from a high of 83.8% (Troop T) to a low of 49.6% (Troop K). Stations ranged from 95.9% of traffic stops for speeding in Everett station, compared to only 38.3% of stops in Media station.

Across the department, the average speed over the limit was 19.1 mph. At the area level, the average speed over the limit for stopped drivers ranged from a high of 22.6 mph in Area V to a low of 18.0 mph in Area IV. At the troop level, there was a somewhat larger range among average speeds over the limit, with an average of 25.4 mph over the limit in Troop K, compared to an average speed of 17.0 mph in Troop C. The differences were even greater at the station level. The average speed over the limit ranged from highs of 26.7 (Philadelphia), 25.1 (Media), and 23.3 (Fogelsville) mph, to lows of 13.6 (Emporium), 15.2 (Tionesta), and 15.5 (Ridgway) mph.

While Area V had the lowest percentage of stops for speeding (55.3%), it also had the highest recorded average amount over the speed limit (22.6 mph). This was also true at the troop level: Troop K had the lowest percentage of speeding as the reason for the stop (49.6%) but reported the highest average speed over the limit (25.4 mph).

Other moving violations were the next most common reason preceding the traffic stop across the department at 17.2%. The areas varied in the percentage of stops based on moving violations, from a high of 23.1% in Area V to a low of 11.8% in Area IV. Similarly, there was variation across the troops, from 27.3% of stops in Troops R and B to 11.5% of stops in Troops C and E. See Table 3.4 for specific variation across areas and troops, and Table 3.5 for the variation across stations.

Table 3.4: Reason for Stop by Department, Area, & Troop - 2006

	Total # of Stops	% Speeding*		Amt. over Limit (MPH)	% Mov. Viol.*		% Equip./ Inspect.*		% Preexist. Info.*		% Regist.*		% License*		% Spec. Traf. Enf.*	% Other*	
		P	S		P	S	P	S	P	S	P	S	P	S	P	P	S
PSP Dept	283,827	69.8	0.2	19.1	17.2	1.1	8.8	2.7	0.1	0.2	3.2	3.0	0.6	4.1	0.8	1.0	3.2
AREA I	107,297	76.5	0.1	18.6	15.3	1.0	5.3	1.9	0.1	0.1	2.3	2.3	0.5	3.1	0.4	0.9	2.6
Troop H	26,925	69.3	0.1	19.6	20.0	0.5	6.7	1.9	0.1	0.1	3.1	1.7	0.5	3.0	0.4	1.1	3.4
Troop J	11,210	62.3	0.2	22.1	15.2	0.5	13.1	2.4	0.1	0.0	7.0	3.1	1.6	6.5	0.4	1.3	2.4
Troop L	8,933	66.5	0.4	20.0	19.7	0.8	8.9	3.9	0.1	0.6	4.0	3.5	0.7	6.3	2.8	1.6	3.9
Troop T	60,229	83.8	0.1	17.6	12.5	1.4	2.7	1.6	0.0	0.1	0.8	2.2	0.3	2.1	0.1	0.6	2.0
AREA II	30,527	66.9	0.2	18.8	19.3	0.9	9.7	3.2	0.0	0.2	2.1	3.4	0.6	4.3	1.1	0.9	3.6
Troop F	14,128	73.4	0.0	18.0	15.5	0.8	7.9	3.7	0.0	0.2	2.1	2.5	0.7	3.5	1.5	0.8	4.1
Troop P	7,868	65.6	0.3	19.9	17.6	1.3	12.2	3.2	0.1	0.2	2.5	5.8	0.4	6.6	0.8	0.5	5.1
Troop R	8,531	57.5	0.3	19.5	27.3	0.8	10.4	2.2	0.0	0.0	1.8	2.6	0.6	3.3	0.7	1.5	1.3
AREA III	59,072	66.0	0.1	19.4	19.6	1.4	9.4	3.5	0.1	0.5	3.6	3.5	0.5	4.8	0.8	0.8	3.2
Troop A	18,694	64.4	0.1	20.0	17.6	0.9	11.4	3.8	0.2	0.8	4.8	3.6	0.6	5.0	0.6	1.1	3.8
Troop B	17,446	57.3	0.2	21.0	27.3	2.1	9.6	2.7	0.1	0.6	4.1	3.3	0.7	5.7	0.5	0.6	2.4
Troop G	22,932	74.1	0.1	18.0	15.5	1.3	7.7	3.9	0.1	0.3	2.3	3.6	0.4	3.9	1.3	0.8	3.2
AREA IV	45,487	74.1	0.2	18.0	11.8	1.1	10.7	3.5	0.2	0.2	2.9	3.7	0.5	4.8	0.6	1.0	5.1
Troop C	17,479	79.3	0.2	17.0	11.5	1.3	7.9	3.0	0.3	0.3	1.5	3.0	0.5	3.9	0.7	0.9	4.5
Troop D	13,644	66.8	0.3	19.4	12.6	0.9	16.3	4.7	0.2	0.2	4.2	4.4	0.5	6.5	0.7	0.8	4.7
Troop E	14,364	74.8	0.2	17.9	11.5	1.1	8.8	2.9	0.2	0.2	3.2	3.7	0.5	4.4	0.5	1.2	6.1
AREA V	41,235	55.3	0.2	22.6	23.1	0.7	13.9	2.6	0.1	0.2	6.2	3.1	0.8	5.0	1.5	1.4	2.8
Troop K	12,851	49.6	0.1	25.4	26.7	0.3	12.1	2.2	0.1	0.2	10.1	3.2	1.1	5.7	1.6	1.4	3.5
Troop M	14,652	54.1	0.1	23.1	20.3	0.7	18.4	2.7	0.1	0.1	5.9	3.4	0.7	5.2	2.3	1.5	2.8
Troop N	13,732	61.9	0.2	20.0	22.8	1.0	10.8	2.8	0.2	0.4	2.8	2.6	0.8	4.0	0.6	1.4	2.0

* P=prior to stop, S=subsequent to stop

Table 3.5: Reason for Stop by Station – 2006 (p. 1 of 4)

	Total # of Stops	% Speeding*		Amt. over limit (MPH)	% Mov. Viol.*		% Equip./ Inspect.*		% Preexist. Info.*		% Regist.*		% License*		% Spec. Traf. Enf.*	% Other*	
		P	S		P	S	P	S	P	S	P	S	P	S	P	P	S
AREA I																	
Troop H																	
Carlisle	6,480	77.8	0.1	19.5	9.6	0.2	7.9	2.1	0.1	0.0	4.2	1.7	0.6	3.2	0.1	1.0	5.2
Chambersburg	5,230	65.2	0.1	17.9	22.9	0.3	7.1	2.0	0.1	0.1	3.5	2.0	0.7	3.3	0.3	1.4	2.1
Gettysburg	2,530	65.3	0.2	18.5	17.8	1.1	12.8	1.9	0.3	0.0	3.2	2.1	0.3	4.7	0.3	1.1	3.9
Harrisburg	3,594	73.2	0.1	21.5	22.5	0.7	2.6	2.8	0.1	0.1	2.0	1.3	0.3	2.1	0.8	1.1	3.1
Lykens	1,121	55.8	0.0	17.8	24.4	0.7	8.1	1.8	0.2	0.2	4.9	5.0	1.2	4.9	1.0	2.6	3.5
Newport	2,600	72.3	0.2	19.3	21.4	1.1	3.6	1.3	0.0	0.0	1.8	1.7	0.5	2.5	0.2	0.8	2.6
York	5,370	63.6	0.1	20.8	27.2	0.3	5.9	1.1	0.0	0.1	2.4	1.1	0.4	1.9	0.7	1.0	3.1
Troop J																	
Avondale	3,142	50.0	0.4	23.1	20.5	0.7	16.5	3.1	0.1	0.1	6.6	4.2	1.6	7.0	0.4	2.2	2.5
Embreeville	3,354	71.7	0.0	22.6	12.6	0.4	8.8	2.4	0.1	0.0	5.7	3.3	1.2	6.9	0.2	0.8	2.1
Ephrata	1,160	86.3	0.1	21.4	7.9	0.4	4.0	1.6	0.1	0.0	2.6	2.8	0.3	6.0	1.1	0.5	1.0
Lancaster	3,554	56.4	0.2	21.2	15.4	0.5	17.0	2.0	0.2	0.0	10.0	2.2	2.3	5.9	0.4	1.4	3.0
Troop L																	
Frackville	1,592	62.4	1.1	18.6	20.8	0.5	9.8	4.1	0.1	0.1	4.9	3.6	1.3	8.3	3.3	2.3	2.8
Hamburg	1,709	71.0	0.4	21.5	13.1	0.5	7.9	5.6	0.0	2.5	5.5	2.2	0.2	3.5	2.5	2.5	5.6
Jonestown	2,583	69.4	0.2	19.7	18.4	0.7	9.1	3.4	0.0	0.2	3.4	3.9	0.6	5.8	1.5	1.4	4.1
Reading	1,543	66.7	0.1	20.3	21.1	0.2	10.0	1.6	0.0	0.0	3.2	4.4	0.5	7.9	2.0	0.8	1.9
Schuylkill Haven	1,506	60.4	0.4	19.5	26.8	2.1	7.4	4.6	0.1	0.1	2.9	3.4	0.9	6.3	5.7	0.9	4.5
Troop T																	
Bowmansville	6,377	74.3	0.2	16.4	22.3	0.8	2.4	0.5	0.0	0.0	0.7	0.9	0.3	1.6	0.1	0.5	0.8
Everett	10,029	95.9	0.0	17.0	2.8	0.2	2.4	1.6	0.0	0.1	0.5	1.4	0.3	1.9	0.0	0.3	0.9
Gibsonia	7,062	89.5	0.1	16.4	4.9	1.6	3.6	2.3	0.0	0.0	1.4	4.0	0.2	2.9	0.1	1.0	3.2
Highspire	24	70.8	0.0	17.6	25.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	4.2	0.0	0.0	0.0
King of Prussia	6,601	77.7	0.2	18.8	17.3	2.7	3.1	1.0	0.1	0.1	1.0	1.2	0.1	2.0	0.1	0.9	0.7
New Stanton	9,538	80.3	0.2	17.6	15.8	0.4	2.5	2.6	0.0	0.2	1.0	2.5	0.3	2.9	0.0	0.5	2.3
Newville	7,457	85.2	0.1	18.8	8.1	3.0	3.5	2.4	0.1	0.1	1.2	5.8	0.4	3.1	0.1	1.4	5.3
Pocono	5,338	89.4	0.1	18.2	8.5	2.9	1.2	1.0	0.0	0.2	0.4	1.1	0.2	1.2	0.0	0.3	0.9
Somerset (T)	7,786	75.0	0.0	18.2	23.1	0.4	2.4	1.0	0.0	0.0	0.3	0.6	0.3	0.7	0.1	0.4	1.7

* P=prior to stop, S=subsequent to stop

Table 3.5: Reason for Stop by Station - 2006 (p. 2 of 4)

	Total # of Stops	% Speeding*		Amt. over limit (MPH)	% Mov. Viol.*		% Equip./ Inspect.*		% Preexist. Info.*		% Regist.*		% License*		% Spec. Traf. Enf.*	% Other*	
		P	S		P	S	P	S	P	S	P	S	P	S	P	P	S
AREA II																	
Troop F																	
Coudersport	2,025	73.1	0.0	16.0	10.8	0.7	12.1	1.9	0.0	0.1	2.5	1.7	0.9	2.4	0.0	1.1	2.1
Emporium	819	40.4	0.0	13.6	40.5	1.0	15.3	1.8	0.0	0.5	1.3	3.5	1.8	3.9	0.4	0.2	2.1
Lamar	1,663	80.8	0.0	17.8	15.3	1.2	2.0	2.2	0.1	1.0	1.3	1.6	0.5	1.3	0.4	1.0	1.7
Mansfield	1,321	79.6	0.1	17.3	9.8	1.7	8.9	2.6	0.0	0.1	1.3	3.5	0.1	3.3	0.1	0.8	8.6
Milton	2,669	69.8	0.0	19.7	24.7	0.3	4.2	3.4	0.0	0.0	1.5	1.1	0.6	2.7	0.0	0.1	0.9
Montoursville	1,720	75.2	0.0	17.7	14.4	0.0	6.3	3.1	0.1	0.0	3.1	2.4	0.5	4.7	11.8	1.7	12.6
Selinsgrove	2,462	82.6	0.0	19.5	7.0	0.4	6.5	6.1	0.1	0.0	2.2	1.2	1.1	1.7	0.2	1.2	3.1
Stonington	1,449	66.8	0.0	17.9	11.9	2.4	15.2	6.8	0.1	0.3	3.5	8.4	0.4	10.9	0.0	0.4	4.6
Troop P																	
Laporte	1,213	61.8	0.6	18.6	26.1	0.2	8.9	3.7	0.0	0.0	1.8	5.2	0.6	5.4	0.0	0.5	9.0
Shickshinny	1,085	62.0	0.1	19.7	23.8	0.7	10.2	1.9	0.3	0.2	1.5	2.9	0.7	4.1	0.5	0.5	4.5
Towanda	2,607	62.7	0.3	17.5	13.5	1.1	18.8	3.5	0.0	0.3	2.8	8.3	0.2	8.3	1.9	0.7	7.2
Tunkhannock	955	65.8	0.1	19.5	17.3	4.1	10.3	4.8	0.0	0.4	3.5	9.4	0.2	10.8	0.0	0.3	2.3
Wyoming	2,008	73.5	0.1	23.6	14.7	1.2	7.7	2.5	0.1	0.0	2.5	2.7	0.5	4.7	0.5	0.5	1.8
Troop R																	
Blooming Grove	2,036	63.1	0.3	19.4	19.5	0.8	13.1	2.5	0.0	0.0	1.3	3.0	0.7	2.5	1.4	1.1	2.5
Dunmore	2,998	53.4	0.1	21.1	36.3	0.5	6.7	2.4	0.0	0.0	1.7	2.4	0.5	3.5	0.6	1.1	0.6
Gibson	1,713	57.0	0.1	19.0	21.1	1.2	17.3	1.6	0.1	0.1	2.0	2.3	0.5	3.2	0.2	0.6	0.5
Honesdale	1,784	58.3	0.7	17.4	27.0	0.6	6.8	2.3	0.0	0.1	2.4	2.6	0.8	4.2	0.7	3.5	1.7
AREA III																	
Troop A																	
Ebensburg	4,429	75.5	0.1	19.4	12.9	0.5	7.5	6.5	0.0	1.4	2.8	3.8	0.2	4.2	0.1	0.5	2.6
Greensburg	5,518	62.1	0.1	20.7	16.8	0.8	11.5	2.6	0.1	0.1	7.6	2.4	0.7	4.9	0.5	1.0	4.3
Indiana	4,327	60.1	0.1	20.2	17.6	0.2	14.5	2.1	0.4	0.0	4.6	2.4	0.8	3.0	0.1	2.4	0.9
Kiski Valley	2,344	62.4	0.0	21.4	25.0	2.2	9.2	5.1	0.4	2.8	2.6	5.7	0.7	7.1	1.9	1.1	3.3
Somerset (A)	2,076	57.7	0.1	17.7	20.9	1.8	15.6	3.9	0.2	1.0	5.1	6.3	0.4	8.1	1.0	0.4	11.8

* P=prior to stop, S=subsequent to stop

Table 3.5: Reason for Stop by Station - 2006 (p. 3 of 4)

	Total # Of Stops	% Speeding*		Amt. over limit (MPH)	% Mov. Viol.*		% Equip./ Inspect.*		% Preexist. Info.*		% Regist.*		% License*		% Spec. Traf. Enf.*	% Other*	
		P	S		P	S	P	S	P	S	P	S	P	S	P	P	S
AREA III (cont.)																	
Troop B																	
Belle Vernon	1,727	61.1	0.1	22.2	19.9	0.9	12.4	2.8	0.1	0.1	6.1	1.9	0.8	4.6	0.8	0.3	1.5
Findlay	4,663	61.2	0.6	21.8	26.7	5.7	7.4	4.1	0.2	1.8	2.7	3.5	0.6	5.2	0.9	0.6	1.2
Uniontown	4,732	61.9	0.0	19.4	24.3	0.4	6.7	2.5	0.0	0.0	5.3	2.0	1.1	4.8	0.1	0.8	4.7
Washington	4,354	43.6	0.1	22.1	38.2	1.0	12.6	2.1	0.2	0.3	3.4	5.7	0.7	9.4	0.0	0.5	2.0
Waynesburg	1,970	63.9	0.2	19.9	18.1	0.8	12.9	1.6	0.1	0.0	4.6	1.8	0.4	2.1	1.2	0.6	1.8
Troop G																	
Bedford	3,161	62.4	0.2	17.2	17.1	4.7	13.9	5.4	0.3	0.4	3.6	5.0	0.5	5.4	0.3	1.5	3.9
Hollidaysburg	3,016	55.9	0.3	18.1	21.0	1.5	17.8	4.6	0.1	0.1	4.6	4.0	0.4	5.7	0.4	1.7	2.3
Huntingdon	1,591	66.1	0.0	17.0	18.4	1.2	11.0	3.4	0.1	0.4	3.6	8.0	1.1	5.2	1.2	0.7	7.3
Lewistown	3,852	85.6	0.0	17.0	9.2	0.5	5.0	3.1	0.0	0.5	2.1	4.0	0.4	3.7	0.2	0.9	3.8
McConnellsburg	3,174	84.2	0.1	21.1	8.8	0.2	5.7	1.5	0.0	0.1	0.8	1.4	0.2	1.4	0.1	0.3	1.5
Philipsburg	2,443	84.4	0.3	16.4	10.2	1.5	3.6	10.6	0.1	0.6	0.7	4.3	0.2	6.2	6.3	0.4	3.3
Rockview	5,695	74.5	0.1	18.2	20.9	0.5	2.6	1.7	0.1	0.1	1.6	1.9	0.2	2.1	1.5	0.4	2.8
AREA IV																	
Troop C																	
Clarion	3,876	80.9	0.2	19.4	9.5	1.2	9.7	4.0	0.7	0.2	2.0	3.3	0.5	3.7	0.6	0.6	4.9
Clearfield	4,088	87.4	0.2	16.4	7.7	1.9	4.6	1.9	0.1	0.3	1.3	1.6	0.8	1.8	0.1	1.0	1.8
Dubois	2,119	82.5	0.0	17.2	11.0	0.7	5.1	1.9	0.1	0.2	0.9	1.4	0.1	1.9	1.6	1.1	2.9
Kane	1,495	64.0	0.9	17.4	16.8	0.5	14.5	1.7	0.2	0.1	2.8	4.2	0.6	7.1	0.3	1.3	6.3
Punxsutawney	1,692	76.1	0.2	17.0	11.8	1.7	9.7	3.0	0.1	0.1	1.9	3.5	0.3	5.2	0.1	0.5	6.3
Ridgway	2,507	69.5	0.0	15.5	19.7	1.8	8.4	2.4	0.2	0.8	1.3	3.4	0.4	4.1	1.4	1.3	5.7
Tionesta	1,702	83.3	0.1	15.2	8.3	1.0	6.9	6.8	0.1	0.5	0.6	6.2	0.5	7.0	0.9	1.0	6.9
Troop D																	
Beaver	2,385	57.3	0.1	20.3	10.4	0.6	24.8	8.1	0.1	0.0	6.8	4.5	0.4	5.8	0.5	0.8	2.0
Butler	3,749	77.2	0.2	19.7	9.2	0.9	9.3	2.8	0.2	0.2	3.3	2.9	0.4	3.9	0.3	0.6	1.8
Kittanning	3,375	62.2	0.1	20.9	17.5	0.5	19.6	3.3	0.2	0.1	4.4	3.5	0.5	7.3	0.9	1.1	6.2
Mercer	2,356	73.4	0.5	17.4	12.4	1.7	9.9	5.6	0.1	0.3	2.4	6.6	0.4	8.6	1.2	0.6	6.7
New Castle	1,779	57.6	1.0	18.0	13.8	1.0	21.7	5.5	0.3	0.3	4.8	5.8	0.8	8.9	0.2	0.8	9.0

* P=prior to stop, S=subsequent to stop

Table 3.5: Reason for Stop by Station - 2006 (p. 4 of 4)

	Total # of Stops	% Speeding*		Amt. over limit (MPH)	% Mov. Viol.*		% Equip./ Inspect.*		% Preexist. Info.*		% Regist.*		% License*		% Spec. Traf. Enf.*	% Other*	
		P	S		P	S	P	S	P	S	P	S	P	S	P	P	S
AREA IV (cont.)																	
Troop E																	
Corry	934	74.4	0.1	16.9	15.4	1.0	6.9	4.8	0.2	0.0	1.8	5.9	0.3	6.7	1.2	1.1	6.0
Erie	3,091	68.6	0.2	19.1	16.6	1.5	8.2	2.7	0.0	0.3	4.2	4.9	0.5	4.8	0.7	1.6	8.5
Franklin	2,165	56.1	0.3	16.6	16.9	1.1	19.7	2.7	0.3	0.0	5.5	5.2	0.5	5.8	0.2	0.7	3.2
Girard	2,329	81.1	0.2	18.0	9.1	0.6	4.3	2.2	0.3	0.5	3.1	2.9	0.7	5.2	0.6	1.5	4.6
Meadville	4,662	86.3	0.1	17.8	6.2	1.2	5.0	3.0	0.1	0.1	1.6	2.1	0.4	2.7	0.4	0.8	6.6
Warren	1,183	67.2	0.2	17.2	10.2	0.8	16.1	3.0	0.8	0.3	3.6	4.0	0.6	3.9	0.3	2.2	6.8
AREA V																	
Troop K																	
Media	4,084	38.3	0.1	25.1	41.6	0.5	9.4	2.1	0.1	0.0	10.3	1.8	0.7	4.5	0.2	1.1	2.1
Philadelphia	5,792	54.0	0.1	26.7	19.1	0.2	13.4	1.9	0.1	0.3	12.0	2.7	1.6	5.4	0.3	1.5	1.8
Skippack	2,975	56.7	0.2	23.2	21.1	0.2	13.5	2.9	0.1	0.4	6.4	6.2	0.5	8.0	6.1	1.9	8.6
Troop M																	
Belfast	2,378	57.8	0.1	20.3	18.9	1.1	17.3	2.6	0.0	0.0	4.9	3.3	1.1	5.9	0.2	0.9	3.1
Bethlehem	2,300	50.6	0.1	22.5	23.6	0.7	16.4	3.2	0.0	0.1	7.0	4.4	1.0	9.6	1.4	1.4	3.1
Dublin	2,845	46.9	0.1	22.6	11.4	0.7	31.3	2.7	0.0	0.1	7.6	5.3	1.0	6.2	6.0	1.8	4.0
Fogelsville	5,125	59.4	0.2	23.3	23.0	0.4	12.5	2.4	0.0	0.0	4.5	2.3	0.3	3.2	1.5	1.3	2.2
Trevose	2,004	50.1	0.1	27.7	24.1	0.6	18.6	3.0	0.2	0.0	6.8	2.4	0.6	3.2	2.7	2.4	2.1
Troop N																	
Bloomsburg	2,436	71.1	0.0	18.1	22.1	0.7	4.1	0.9	0.1	0.0	0.8	0.5	0.3	1.5	0.0	2.8	2.0
Fern Ridge	1,546	51.4	0.1	19.8	30.1	1.2	14.7	1.5	0.1	0.0	2.2	2.1	0.7	2.1	1.0	1.1	2.8
Hazleton	3,570	59.6	0.1	21.1	24.4	0.8	11.5	1.7	0.2	0.5	3.8	2.7	1.0	5.3	1.1	1.2	2.0
Lehighton	1,987	66.3	0.1	18.9	14.5	0.5	15.8	3.2	0.0	0.1	2.0	4.2	0.6	5.8	1.3	0.6	2.7
Swiftwater	4,193	60.2	0.5	21.0	23.0	1.6	10.3	5.3	0.4	0.8	3.6	3.2	1.0	4.2	0.2	1.1	1.5

* P=prior to stop, S=subsequent to stop

DRIVERS' CHARACTERISTICS

The characteristics of drivers stopped by PSP Troopers during 2006 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/ethnicity, and 3) drivers' residency.

Drivers' Age & Gender

The total number of stops, average age of the driver, and the percent of male drivers stopped in 2006 are reported at the department, area, and troop level in Table 3.6, and at the station level in Table 3.7. At the department level, the average age of drivers stopped was 35.1, 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. For instance, the average age of drivers stopped by Troopers in Tionesta was 40.5 years, compared to 32.0 years in Ephrata, excluding Highspire (see Table 3.7). At the department level, 68.8% of the stopped drivers were male; likewise, males were more likely than females to be stopped at all levels within the department. Excluding Highspire (which reported only twenty-four traffic stops), the highest percent of male drivers stopped occurred in Emporium station (77.7%), while the lowest percent of male drivers stopped occurred in Shickshinny (60.4%).

Drivers' Race & Ethnicity

In addition to age and gender, Troopers also recorded drivers' race/ethnicity. Troopers visually determined the racial and ethnic composition of the drivers based solely on their own perceptions. That is, no drivers were asked for their racial/ethnic group. The reliability and validity of citizens' race involves two related concerns for data collected by the police. First, police may be reluctant to indicate drivers' race or may simply report that information inaccurately. Second, Troopers may "disengage," or initiate fewer traffic stops overall. Both of these behaviors represent an effort by Troopers to protect themselves from criticism, departmental discipline, and potential litigation.

Unfortunately, the validity of data collected by police officers often cannot be directly assessed. There are strategies, however, to increase the validity and reliability of this type of data. For example, the current data collection effort contractually guarantees confidentiality to each Trooper. Although Troopers' employee numbers are initially reported on the data collection forms, the research team is required to remove this information from all data files after the Troopers' demographic information has been successfully merged with the CDR data. Through the procedures included in the contract and approved by the University of Cincinnati Institutional Review Board, PSP legal team, and PSP union officials, individual Troopers cannot be identified in data analyses. The purpose of this protection is to increase the reliability and validity of the data collected. All PSP Troopers were advised of this confidentiality agreement by the Principal Investigator in a training video. Other initiatives designed to increase compliance and data accuracy are fully described in the Year 1 Final Report (see Engel et al., 2004).

In Tables 3.6 & 3.7, missing data is collapsed with the category "unknown race." In the 2004 – 2005 report (Engel et al., 2008), it was noted that the percentages of unknown and missing drivers' race/ethnicity were extremely low, with only three stations reporting 3% or more missing/unknown. This remarkably low percentage of missing data was directly attributed to PSP administrators' continued emphasis on Trooper compliance with the data collection effort. In 2006, only one station (Somerset (T)) reported more than 3% of all stopped drivers' race/ethnicity as being missing or unknown. Only nine of ninety stations reported 1% or more of their traffic stops with missing or unknown drivers' race/ethnicity and, across the department, only 0.5% of all stopped drivers' race/ethnicity were coded as missing or unknown.

For 2006, the racial and ethnic descriptions of drivers stopped by Troopers are reported at the department, area, and troop levels in Table 3.6, and at the station level in Table 3.7. The racial composition of drivers stopped across the state is summarized below:

- White (84.2%)
- Black (8.5%)
- White Hispanic (3.1%)
- Black Hispanic (0.4%)
- Native American (0.0%)
- Middle Eastern (1.9%)
- Asian/Pacific Islander (1.6%)
- Unknown race/ethnicity or missing data (0.5%)

It should be noted that some variation in the racial and ethnic background of drivers stopped across areas, troops, and stations is to be expected due to differences in the demographic makeup of residents and travelers, as well as differences in traffic flow patterns in these locations.

As shown in Table 3.6, variations in the racial/ethnic background of drivers at the area level are evident. For example, Area III reported the highest number of Caucasian drivers stopped (91.7%), compared to only 73.8% of drivers stopped in Area V. Differences in the racial composition of drivers stopped across areas are also pronounced for Black drivers. For example, Black drivers accounted for 13.7% of drivers stopped in Area V, compared to 4.6% of drivers in Area II. This pattern is repeated across the other racial groups, although it is less noticeable in the White Hispanic, Middle Eastern, and Asian/Pacific Islander categories, where the percentages of drivers stopped were all extremely low.

At the troop level (see Table 3.6), there was more variation across organizational units for the racial/ethnic composition of stopped drivers. The percentage of Caucasian drivers stopped at the troop level varied from a high of 95.3% of drivers in Troop A, to a low of 69.2% in Troop K. Black drivers represented 20.7% of stops in Troop K, compared to only 2.2% of stops in Troop P. Similarly, White Hispanics varied from 9.6% of stops in Troop M, compared to only 0.3% of stops by Troopers in Troop A.

As expected, this pattern of racial/ethnic variation in the percentage of drivers stopped was even more pronounced at the station level (see Table 3.7). For example, Caucasian drivers ranged from 98.7% of stops in Emporium to only 63.0% of stops in Philadelphia. Troopers in Philadelphia stopped the highest percentage of Black drivers compared to all other stations (25.4%), while there were seven stations with less than 1% of stops of Black drivers. Please refer to Table 3.7 for the breakdown across the other racial categories. Again, it must be reiterated that some variation in the racial and ethnic background of drivers stopped across areas, troops, and stations 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.

Drivers' Residency

Tables 3.6 & 3.7 also report stopped drivers' residency based on reported residential zip codes. For every traffic stop, zip codes were recorded to determine the percentage of stops that occurred in locations where the drivers actually resided. Specifically, 95.5% of drivers stopped statewide in 2006 did not reside in the municipality where they were stopped, 64.4% did not reside in the county where they were stopped, and 24.9% did not reside in the state of Pennsylvania.

When examining the area, troop, and station levels in 2006, it becomes obvious that the percentages of out-of-state and out-of-county residents stopped by Troopers varied dramatically across organizational units (see Tables 3.6 & 3.7). For example, Troopers working in Area I stopped the highest percent of out-of-county (73.0%) and out-of-state drivers (30.8%). Conversely, Troopers working in Area III stopped the lowest percent of out-of-county (55.2%) and out-of-state drivers (16.9%).

At the troop and station levels, more dramatic differences in the percentages of non-residents stopped were reported. For example, the percentage of drivers who did not live in the municipality where they were stopped ranged from 99.6% of drivers stopped in Troop T to 92.8% of drivers stopped in Troops A and E. At the station level, Somerset (T), Bowmansville, Everett, and Newville stations (all part of Troop T) had a 99.9% stopping percentage for out-of-municipality drivers, compared to 80.5% of drivers stopped by Troopers assigned to the Fern Ridge station.

Likewise, drivers stopped in a county other than the one in which they reside ranged from 90.6% of drivers in Troop T to only 35.0% of drivers in Troop J. At the station level, 99.5% of drivers stopped by Troopers assigned to the Everett station were of out-of-county drivers, while Troopers assigned to the Reading station stopped the lowest percent of out-of-county drivers (25.4%).

Finally, the highest percentage of out-of-state drivers stopped at the troop level was in Troop T (38.9%), and the lowest percentage of out-of-state drivers stopped was in Troop A (6.9%). At the station level, the highest percentages of non-PA residents were stopped in Somerset (T) (61.1%), McConnellsburg (58.8%), and Clarion (56.6%) stations. In contrast, only 1.5%, 2.7%, and 3.2% of drivers stopped in Stonington, Reading, and Lykens stations, respectively, were non-PA residents.

Table 3.6: 2006 Characteristics of Drivers Stopped by Department, Area & Troop

	Total # of Stops	Average Age	% Male	% White	% Black	% White Hispanic	% Black Hispanic	% Native American	% Middle Eastern	% Asian	% Missing/ Unknown	% stopped out of municipality	% stopped out of county	% stopped out of state
PSP Dept.	283,827	35.1	68.8	84.2	8.5	3.1	0.4	0.0	1.9	1.6	0.5	95.5	64.4	24.9
AREA I	107,297	35.1	69.2	80.8	10.4	3.7	0.5	0.1	2.4	1.9	0.5	97.5	73.0	30.8
Troop H	26,925	35.0	66.8	85.4	8.1	3.3	0.3	0.0	1.3	1.2	0.3	94.9	55.9	24.7
Troop J	11,210	33.9	69.0	78.5	9.8	8.4	0.9	0.0	0.8	1.4	0.1	94.1	35.0	9.7
Troop L	8,933	35.1	69.0	85.0	6.0	5.6	0.8	0.0	1.5	1.0	0.1	95.7	53.8	20.3
Troop T	60,229	35.4	70.4	78.4	12.1	2.7	0.4	0.1	3.2	2.5	0.7	99.6	90.6	38.9
AREA II	30,527	35.7	68.5	90.1	4.6	1.9	0.2	0.0	1.3	1.2	0.7	94.8	62.0	24.6
Troop F	14,128	35.7	68.1	90.0	5.0	1.5	0.2	0.0	1.3	1.1	0.9	95.3	67.2	22.2
Troop P	7,868	35.9	67.4	95.1	2.2	1.4	0.2	0.0	0.6	0.4	0.1	94.6	48.0	13.5
Troop R	8,531	35.6	70.3	85.7	6.1	3.2	0.2	0.0	1.9	2.1	0.8	94.1	66.5	38.8
AREA III	59,072	35.2	67.5	91.7	5.1	0.8	0.1	0.0	1.2	1.0	0.2	94.2	55.2	16.9
Troop A	18,694	34.9	67.7	95.3	3.1	0.3	0.0	0.0	0.6	0.5	0.2	92.8	47.1	6.9
Troop B	17,446	35.1	67.2	90.8	6.7	0.5	0.0	0.0	1.0	0.7	0.3	93.6	48.1	18.4
Troop G	22,932	35.6	67.7	89.4	5.5	1.3	0.2	0.1	1.7	1.6	0.3	95.8	67.1	23.9
AREA IV	45,487	35.4	69.0	87.8	6.2	1.8	0.3	0.1	2.0	1.4	0.5	94.0	62.0	25.9
Troop C	17,479	36.7	71.3	85.7	6.4	2.5	0.6	0.1	2.6	1.6	0.5	95.1	73.2	36.6
Troop D	13,644	33.8	68.2	88.9	7.3	1.3	0.1	0.0	1.1	0.9	0.2	93.9	54.0	14.4
Troop E	14,364	35.4	67.0	89.5	4.7	1.4	0.1	0.1	2.1	1.5	0.7	92.8	55.8	23.8
AREA V	41,235	34.5	69.7	73.8	13.7	7.2	0.6	0.0	2.2	2.0	0.6	94.3	59.5	20.5
Troop K	12,851	35.1	69.3	69.2	20.7	4.5	0.4	0.0	1.9	3.0	0.3	94.4	56.2	12.3
Troop M	14,652	34.3	70.6	74.5	10.5	9.6	0.8	0.0	2.1	1.6	0.9	95.2	57.1	18.6
Troop N	13,732	34.0	69.3	77.3	10.5	7.0	0.7	0.0	2.4	1.6	0.7	93.1	65.1	30.2

Table 3.7: 2006 Characteristics of Drivers Stopped by Station (p. 1 of 4)

	Total # of Stops	Average Age	% Male	% White	% Black	% White Hispanic	% Black Hispanic	% Native American	% Middle Eastern	% Asian	% Missing/ Unknown	% stopped out of municipality	% stopped out of county	% stopped out of state
AREA I														
Troop H														
Carlisle	6,480	35.3	68.7	84.5	8.6	3.6	0.4	0.0	1.6	1.2	0.2	97.1	71.9	34.7
Chambersburg	5,230	35.0	61.5	89.3	5.7	3.1	0.2	0.0	0.7	0.7	0.3	91.8	31.0	17.7
Gettysburg	2,530	35.4	65.6	85.3	5.3	5.9	0.1	0.0	1.8	1.5	0.3	96.1	56.2	26.0
Harrisburg	3,594	35.4	74.2	82.2	9.4	4.5	0.4	0.1	1.7	1.2	0.5	96.0	71.6	27.9
Lykens	1,121	37.0	63.9	97.4	1.5	0.7	0.0	0.0	0.4	0.0	0.1	84.5	28.4	3.2
Newport	2,600	33.5	65.3	90.2	4.9	1.3	0.3	0.0	1.3	1.9	0.1	97.7	77.1	12.8
York	5,370	34.2	66.6	80.3	13.5	2.6	0.4	0.1	1.4	1.5	0.2	94.6	45.7	26.7
Troop J														
Avondale	3,142	34.3	67.9	73.6	11.5	12.6	0.6	0.0	0.7	1.0	0.0	95.4	34.9	15.6
Embreeville	3,354	34.1	66.5	77.3	13.2	5.3	0.7	0.1	1.3	2.1	0.2	95.6	39.1	8.1
Ephrata	1,160	32.0	69.5	85.1	4.8	6.3	1.3	0.0	0.4	2.0	0.1	96.8	37.1	5.5
Lancaster	3,554	33.9	72.1	82.0	6.7	8.4	1.2	0.0	0.6	0.9	0.2	90.7	30.6	7.3
Troop L														
Frackville	1,592	34.9	70.0	86.7	5.9	4.3	0.7	0.0	1.5	0.9	0.0	95.5	63.5	29.1
Hamburg	1,709	36.3	70.9	79.5	7.9	6.3	1.5	0.1	2.9	1.7	0.1	97.2	75.1	31.5
Jonestown	2,583	34.3	70.7	81.6	7.5	7.0	1.0	0.0	1.5	1.2	0.2	95.5	65.1	27.6
Reading	1,543	35.4	64.5	85.9	4.7	7.3	0.6	0.0	0.7	0.6	0.1	93.5	25.4	2.7
Schuylkill Haven	1,506	34.6	67.3	94.0	2.7	2.1	0.1	0.1	0.9	0.1	0.2	96.9	29.3	3.5
Troop T														
Bowmansville	6,377	33.9	68.3	76.8	12.4	4.7	0.4	0.1	2.5	2.6	0.6	99.9	92.0	26.2
Everett	10,029	35.5	69.8	73.6	15.4	3.1	0.2	0.0	4.1	3.5	0.1	99.9	99.5	48.9
Gibsonia	7,062	35.9	69.1	82.9	10.2	1.9	0.2	0.1	2.5	1.8	0.6	99.0	83.1	42.4
Highspire	24	29.5	54.2	79.2	12.5	4.2	0.0	0.0	0.0	4.2	0.0	95.8	83.3	16.7
King of Prussia	6,601	34.9	72.1	79.2	10.5	3.1	1.4	0.1	2.8	2.6	0.5	99.3	79.0	23.9
New Stanton	9,538	34.6	69.5	82.0	11.0	1.4	0.3	0.0	2.8	2.3	0.3	99.0	79.9	33.8
Newville	7,457	35.5	71.3	78.2	13.0	2.3	0.7	0.0	3.5	2.1	0.2	99.9	96.7	38.7
Pocono	5,338	34.5	69.3	85.6	7.6	2.4	0.4	0.2	2.2	1.6	0.1	99.8	95.3	26.8
Somerset (T)	7,786	37.8	73.5	72.4	14.3	2.8	0.1	0.0	4.7	2.8	3.1	99.9	98.7	61.1

Table 3.7: 2006 Characteristics of Drivers Stopped by Station (p. 2 of 4)

	Total # of Stops	Average Age	% Male	% White	% Black	% White Hispanic	% Black Hispanic	% Native American	% Middle Eastern	% Asian	% Missing/ Unknown	% stopped out of municipality	% stopped out of county	% stopped out of state
AREA II														
Troop F														
Coudersport	2,025	38.3	70.7	97.8	0.8	0.4	0.1	0.0	0.3	0.4	0.0	90.7	61.1	17.5
Emporium	819	37.8	77.7	98.7	0.4	0.6	0.0	0.0	0.2	0.1	0.0	92.3	68.1	6.6
Lamar	1,663	35.2	71.5	78.4	8.3	2.9	0.8	0.2	3.7	2.8	2.7	99.4	89.7	52.3
Mansfield	1,321	36.8	69.2	85.8	4.4	1.1	0.1	0.0	2.0	1.6	5.1	97.1	63.3	37.5
Milton	2,669	34.4	64.7	85.7	8.5	2.5	0.0	0.0	1.4	1.8	0.4	97.3	85.5	29.1
Montoursville	1,720	34.5	64.8	89.8	7.6	0.8	0.0	0.0	0.8	0.6	0.4	92.3	44.2	8.8
Selinsgrove	2,462	35.4	66.7	91.9	4.8	1.3	0.2	0.0	1.2	0.6	0.0	97.4	74.4	16.7
Stonington	1,449	34.5	66.7	96.1	1.4	1.4	0.2	0.0	0.3	0.3	0.1	93.4	33.9	1.5
Troop P														
Laporte	1,213	39.7	73.9	97.8	0.8	0.4	0.2	0.0	0.4	0.4	0.0	95.5	80.6	15.0
Shickshinny	1,085	33.7	60.4	95.9	2.2	0.7	0.4	0.0	0.3	0.4	0.2	91.7	29.5	3.3
Towanda	2,607	36.6	66.3	97.8	0.8	0.6	0.0	0.0	0.4	0.3	0.0	93.4	31.1	13.2
Tunkhannock	955	35.5	69.7	95.2	0.9	2.9	0.1	0.0	0.3	0.4	0.4	96.2	71.0	8.3
Wyoming	2,008	34.2	67.6	89.6	5.5	2.6	0.2	0.0	1.4	0.5	0.2	96.3	49.1	21.0
Troop R														
Blooming Grove	2,036	36.1	71.8	86.3	6.3	4.4	0.2	0.0	0.7	1.4	0.9	92.7	76.0	46.0
Dunmore	2,998	34.3	67.7	85.2	6.1	3.5	0.4	0.0	1.8	2.3	0.7	96.1	60.6	30.2
Gibson	1,713	35.4	75.7	79.0	8.5	2.6	0.0	0.1	4.7	4.0	1.3	95.0	71.6	52.9
Honesdale	1,784	37.6	67.5	92.6	3.4	1.9	0.2	0.0	0.7	0.8	0.6	91.6	60.7	31.7
AREA III														
Troop A														
Ebensburg	4,429	36.2	66.8	95.7	2.5	0.3	0.1	0.0	0.7	0.6	0.1	92.8	52.4	7.2
Greensburg	5,518	35.2	65.5	96.6	2.4	0.3	0.0	0.0	0.3	0.2	0.1	93.0	29.0	3.5
Indiana	4,327	32.9	69.0	93.6	4.1	0.4	0.0	0.0	0.9	0.7	0.2	92.4	55.4	9.7
Kiski Valley	2,344	34.6	69.9	92.1	5.7	0.5	0.0	0.0	0.7	0.7	0.3	96.3	69.9	6.4
Somerset (A)	2,076	35.6	69.9	97.8	1.3	0.2	0.0	0.0	0.2	0.3	0.1	89.4	41.3	10.4

Table 3.7: 2006 Characteristics of Drivers Stopped by Station (p. 3 of 4)

	Total # of Stops	Average Age	% Male	% White	% Black	% White Hispanic	% Black Hispanic	% Native American	% Middle Eastern	% Asian	% Missing/ Unknown	% stopped out of municipality	% stopped out of county	% stopped out of state
AREA III (cont.)														
Troop B														
Belle Vernon	1,727	34.9	70.7	90.4	6.5	1.0	0.2	0.0	1.3	0.6	0.0	94.0	55.7	18.1
Findlay	4,663	34.9	68.4	87.0	9.0	0.8	0.0	0.0	1.8	1.1	0.2	95.6	50.2	17.9
Uniontown	4,732	35.6	64.3	94.7	4.7	0.1	0.0	0.0	0.3	0.1	0.3	92.4	28.7	5.7
Washington	4,354	34.7	67.2	89.8	7.4	0.6	0.0	0.1	1.0	0.9	0.4	91.8	57.3	25.5
Waynesburg	1,970	35.8	68.0	92.6	4.6	0.5	0.2	0.1	0.9	1.0	0.3	95.2	62.7	34.4
Troop G														
Bedford	3,161	35.4	67.9	90.8	5.2	0.9	0.1	0.0	2.0	0.8	0.3	95.0	57.1	24.9
Hollidaysburg	3,016	33.1	69.4	91.1	5.6	1.0	0.1	0.1	0.9	1.0	0.3	92.1	53.9	15.2
Huntingdon	1,591	35.8	66.2	97.2	2.1	0.4	0.0	0.0	0.1	0.2	0.1	96.2	53.0	4.6
Lewistown	3,852	35.5	66.3	91.9	3.5	1.5	0.4	0.1	1.1	1.5	0.1	94.7	66.5	10.5
McConnellsburg	3,174	37.7	69.5	77.7	13.4	1.9	0.1	0.1	3.4	3.1	0.3	97.5	88.9	58.8
Philipsburg	2,443	36.6	65.7	93.0	3.6	1.0	0.0	0.1	1.3	0.9	0.1	95.7	66.8	15.4
Rockview	5,695	35.3	67.9	89.0	4.4	1.4	0.2	0.1	2.2	2.3	0.5	97.9	71.9	26.5
AREA IV														
Troop C														
Clarion	3,876	36.0	71.6	75.4	12.1	4.2	1.2	0.1	3.9	2.8	0.3	98.1	86.2	56.6
Clearfield	4,088	35.7	70.2	80.1	9.2	3.3	1.0	0.0	4.1	1.9	0.5	97.7	79.2	50.7
Dubois	2,119	35.8	71.5	78.9	8.8	4.9	0.5	0.0	3.6	2.0	1.3	97.6	83.7	49.9
Kane	1,495	38.0	73.1	93.2	1.4	0.7	0.1	0.9	1.3	0.9	1.5	93.0	55.8	23.9
Punxsutawney	1,692	36.5	72.3	96.6	1.6	0.4	0.2	0.1	0.5	0.6	0.1	94.6	59.5	9.5
Ridgway	2,507	37.0	71.0	96.4	0.9	0.6	0.0	0.0	0.8	1.1	0.2	86.8	49.8	15.5
Tionesta	1,702	40.5	71.3	97.6	1.2	0.4	0.2	0.0	0.4	0.1	0.0	93.1	79.3	9.5
Troop D														
Beaver	2,385	34.0	66.5	90.3	8.3	0.4	0.0	0.0	0.5	0.4	0.0	95.8	47.2	13.9
Butler	3,749	33.9	65.1	93.6	3.7	0.9	0.0	0.1	0.7	0.9	0.0	94.6	58.7	10.1
Kittanning	3,375	32.6	69.3	91.2	6.5	0.7	0.1	0.0	0.6	0.8	0.1	95.2	47.6	4.0
Mercer	2,356	34.2	73.9	75.1	13.2	4.4	0.6	0.0	3.8	2.2	0.7	96.1	73.4	40.4
New Castle	1,779	35.0	67.6	91.5	7.5	0.4	0.0	0.0	0.4	0.2	0.1	84.3	39.6	9.8

Table 3.7: 2006 Characteristics of Drivers Stopped by Station (p. 4 of 4)

	Total # of Stops	Average Age	% Male	% White	% Black	% White Hispanic	% Black Hispanic	% Native American	% Middle Eastern	% Asian	% Missing/ Unknown	% stopped out of municipality	% stopped out of county	% stopped out of state
AREA IV (cont.)														
Troop E														
Corry	934	35.8	69.3	98.2	1.0	0.3	0.2	0.0	0.1	0.2	0.1	93.9	41.6	8.4
Erie	3,091	35.0	67.2	88.0	5.5	1.5	0.2	0.1	2.1	2.3	0.3	93.1	47.3	34.6
Franklin	2,165	36.7	68.3	91.9	3.2	1.9	0.2	0.1	1.5	0.9	0.6	88.9	54.0	16.0
Girard	2,329	34.9	65.2	87.9	5.4	1.5	0.1	0.3	1.7	1.2	1.9	86.4	38.5	19.4
Meadville	4,662	34.8	65.7	86.2	6.4	1.4	0.1	0.0	3.3	2.1	0.6	97.8	78.4	29.3
Warren	1,183	37.4	71.3	98.0	0.8	0.4	0.0	0.3	0.3	0.2	0.1	91.3	37.9	8.8
AREA V														
Troop K														
Media	4,084	35.9	67.2	71.4	20.2	3.6	0.3	0.0	2.2	2.1	0.2	93.6	54.7	19.4
Philadelphia	5,792	34.5	72.0	63.0	25.4	4.7	0.5	0.0	2.1	3.9	0.4	95.6	66.9	11.2
Skippack	2,975	35.3	66.9	78.1	12.4	5.5	0.3	0.0	1.1	2.4	0.1	93.0	37.3	4.6
Troop M														
Belfast	2,378	33.3	71.5	72.4	12.6	10.6	0.9	0.0	2.0	1.2	0.3	97.9	66.0	23.4
Bethlehem	2,300	33.0	69.0	72.9	9.7	13.1	0.6	0.0	2.2	1.1	0.3	91.4	45.7	7.1
Dublin	2,845	35.1	69.9	87.9	3.7	5.1	0.2	0.1	1.2	0.9	0.9	94.2	53.7	5.0
Fogelsville	5,125	35.3	71.7	72.2	10.2	11.0	1.1	0.0	2.4	1.9	1.2	97.4	62.1	26.2
Trevose	2,004	33.3	69.4	66.0	19.1	7.2	0.6	0.0	2.9	3.1	1.0	92.4	52.0	25.6
Troop N														
Bloomsburg	2,436	33.7	68.6	80.1	9.5	4.6	0.4	0.0	3.2	2.0	0.2	98.7	83.3	38.1
Fern Ridge	1,546	33.7	70.9	76.8	10.7	8.3	0.6	0.1	1.6	1.7	0.3	80.5	61.9	32.1
Hazleton	3,570	33.3	68.3	74.6	9.0	10.1	1.0	0.0	2.3	1.9	1.1	96.8	71.6	36.0
Lehighton	1,987	34.9	65.1	92.1	3.5	3.0	0.2	0.0	0.5	0.3	0.6	87.9	46.7	4.7
Swiftwater	4,193	34.5	71.8	71.1	15.5	7.1	0.8	0.1	3.1	1.7	0.6	93.9	59.0	32.2

TRAFFIC STOP OUTCOMES

The disposition of traffic stops (e.g., warnings, citations, arrests, searches, and seizures of contraband) is reported at the department, area, and troop level in Table 3.8 and the station level in Table 3.9. These tables report: 1) the total number of stops; 2) the percentage of *drivers* warned, cited, and/or arrested; 3) the percentage of *passengers* warned, cited, and/or arrested; 4) the total number of searches conducted; 5) the percentage of occupants and/or vehicles searched; and 6) the percentage of searches resulting in contraband seizures (i.e., the "hit rate"). It is important to note that these percentages may exceed 100%, as drivers and passengers may experience one or more post-stop outcomes (i.e., a driver may be both warned and cited in the same stop). Additional analyses are presented in Table 3.10, in which traffic stop outcomes are examined for drivers only. In this table, warnings, citations, and arrests are assessed in order of severity at the department, area, troop, and station level. Post-stop outcomes are discussed in greater detail in Sections 5 & 7 of this report.

2006 Warnings

As reported in Table 3.8, of the 283,827 member-initiated traffic stops in 2006, 25.7% resulted in driver warnings and 0.2% in passenger warnings.[7] Troopers in Area IV issued the highest percentage of warnings (36.5%), while Area I issued the fewest (17.7%). At the troop level, warnings ranged from a high of 43.2% of stops in Troop D to a low of only 12.2% in Troop T.

2006 Citations

Table 3.8 reports that 87.2% of all traffic stops resulted in at least one driver citation issued and 0.3% resulted in a passenger citation.[8] The percentage of drivers that were issued a citation varied by areas and is inversely related to the drivers warned. Area I had the highest percentage with 92.4 % of stops resulting in a citation, while Area IV had the lowest with 78.5% of stops resulting in a driver citation. Similar to the area level, there was an inverse relationship between warnings and citations at the troop level. For instance, Troop T had the highest percentage of drivers cited (94.7%) while Troop D had the lowest percentage of stops resulting in a citation (75.3%). Both of these troops reported the lowest and highest percentage of warnings, respectively.

2006 Arrests

Throughout the department, 1.5% of all stops resulted in an arrest of the driver, and 0.1% of traffic stops resulted in the arrest of a passenger.[9] The percentage of drivers arrested did not vary dramatically from area to area and ranged from a low of 1.0% (Area II) to a high of 1.9% (Area IV). Interestingly, the rank ordering of areas in regard to percentage

[7] Please refer to Table 3.8 for further information on passenger warnings at the other organizational levels.
[8] Please refer to Table 3.8 for further information on passenger citations at the other organizational levels.
[9] Please refer to Table 3.8 for further information on passenger arrests at the other organizational levels.

of drivers arrested closely parallels the rank ordering of percentage of drivers warned (i.e., Area IV ranked first in both categories; Area I ranked fourth and fifth, respectively). Compared to the area level, traffic stop outcomes at the troop level demonstrated greater variation, with driver arrests ranging from a high of 3.6% in Troop J to a low of 0.7% in Troop T.

2006 Searches & Seizures

Similar to arrests, searches conducted as a percentage of total stops did not vary considerably. Department-wide, 1.2% of stops resulted in a search of either the occupants or the vehicle. As reported in Table 3.8, 30.9% of the 3,364 searches conducted resulted in the discovery of contraband. At the area level, Troopers in Area I conducted nearly one-third of all PSP searches in 2006. Area II had the fewest with 286, and the other three areas conducted between 575 and 775 searches each. Area II had the lowest percentage of searches (0.9%), whereas Areas IV and V had the highest (1.7% each). The percentage of successful searches, however, had greater variation. Area IV had the highest "hit rate" at 41.1%, while Area V had the lowest with 21.9% of searches resulting in contraband. At the troop level, Troop D ranked first in the number of searches conducted, searches conducted as a percentage of all stops, and the percentage of successful searches. More specifically, out of 13,644 stops, 3.7% resulted in a search (504), and 47.2% of these searches resulted in contraband. Conversely, Troop L conducted the second least number of searches (75) and had the lowest percentage of successful searches (16.0%). However, nearly one-third of troops had a lower percentage of occupants/vehicles searched (5 of 16). While the percentage of successful seizures exhibited a wide range, over half of all troops (9 of 16) conducted successful searches between 20% and 30% of the time.

Finally, Table 3.9 provides information regarding traffic stop outcomes at the station level, which demonstrated the greatest amount of variation of any organizational level. In regard to warnings, the highest percent were issued at Tionesta (57.3%) and the fewest at Somerset (T) (5.5%). Citations were inversely related to warnings and ranged from a high of 97.2% at Milton station to a low of 61.3% at Tionesta station. Drivers were arrested in a high of 6.2% of stops at Lancaster station to a low of 0.0% (excluding Highspire) of stops at King of Prussia. Drivers were arrested in 1.0% or less of all stops in more than one-third of PSP stations (35 of 90). In regard to searches, the total number of searches conducted ranged from a high of 323 at Kittanning station to a low of 0 (excluding Highspire) at Laporte station. Nine stations conducted fewer than five searches in 2006. The percentage of occupants/vehicles searched ranged from a high of 9.6% at Kittanning station to a low of 0.0% at Laporte station. The percentage of successful searches ranged from a high of 66.7% at Coudersport station to a low of 0.0% in eleven stations (excluding Highspire and Laporte, in which no searches were conducted in 2006), five of which conducted fewer than five searches in 2006. Kittanning had the third highest "hit rate" with 58.5% of searches resulting in contraband. For a complete breakdown of the categories at the various levels, please refer to Tables 3.8 & 3.9.

Table 3.8: 2006 Driver Outcomes By Department, Area & Troop

	Total # of Stops	% Drivers Warned	% Drivers Cited	% Drivers Arrested	% Passengers Warned	% Passengers Cited	% Passengers Arrested	# of Searches	% Person or Vehicle Searched	% Seized
PSP Dept.	283,827	25.7	87.2	1.5	0.2	0.3	0.1	3,364	1.2	30.9
AREA I	107,297	17.7	92.4	1.4	0.2	0.4	0.1	1,035	1.0	27.3
Troop H	26,925	21.3	88.7	2.1	0.3	0.4	0.2	445	1.7	26.5
Troop J	11,210	27.3	92.3	3.6	0.4	0.6	0.3	368	3.3	29.3
Troop L	8,933	31.3	88.3	1.6	0.2	0.5	0.1	75	0.8	16.0
Troop T	60,229	12.2	94.7	0.7	0.1	0.3	0.0	147	0.2	30.6
AREA II	30,527	21.0	89.8	1.0	0.2	0.4	0.1	286	0.9	28.7
Troop F	14,128	21.6	88.9	1.0	0.3	0.4	0.1	93	0.7	28.0
Troop P	7,868	25.2	86.6	0.8	0.1	0.2	0.1	56	0.7	19.6
Troop R	8,531	16.1	94.2	0.9	0.2	0.5	0.1	137	1.6	32.8
AREA III	59,072	30.4	84.1	1.7	0.2	0.3	0.1	581	1.0	35.5
Troop A	18,694	28.2	86.9	2.3	0.2	0.2	0.2	262	1.4	39.3
Troop B	17,446	23.6	92.1	1.5	0.2	0.4	0.1	169	1.0	33.7
Troop G	22,932	37.5	75.7	1.3	0.2	0.2	0.1	150	0.7	30.7
AREA IV	45,487	36.5	78.5	1.9	0.3	0.4	0.2	767	1.7	41.1
Troop C	17,479	33.0	79.4	1.1	0.2	0.4	0.0	140	0.8	27.9
Troop D	13,644	43.2	75.3	3.3	0.5	0.4	0.6	504	3.7	47.2
Troop E	14,364	34.5	80.3	1.7	0.3	0.3	0.1	123	0.9	30.9
AREA V	41,235	31.0	85.6	1.5	0.2	0.3	0.2	689	1.7	21.9
Troop K	12,851	40.5	82.8	2.0	0.2	0.3	0.2	335	2.6	23.0
Troop M	14,652	33.7	82.5	1.7	0.2	0.3	0.1	238	1.6	18.9
Troop N	13,732	19.2	91.5	0.9	0.3	0.4	0.2	116	0.8	25.0

Table 3.9: 2006 Driver Outcomes By Station (p. 1 of 4)

	Total # of Stops	% Drivers Warned	% Drivers Cited	% Drivers Arrested	% Passengers Warned	% Passengers Cited	% Passengers Arrested	# of Searches	% Person or Vehicle Searched	% Seized
AREA I										
Troop H										
Carlisle	6,480	19.8	92.7	1.9	0.5	0.4	0.3	155	2.4	24.5
Chambersburg	5,230	19.8	89.7	1.7	0.1	0.3	0.2	66	1.3	33.3
Gettysburg	2,530	36.7	70.6	5.3	0.4	0.6	0.2	71	2.8	38.0
Harrisburg	3,594	21.1	91.8	1.1	0.2	0.1	0.1	51	1.4	11.8
Lykens	1,121	37.8	77.7	3.7	1.2	1.7	0.2	15	1.3	46.7
Newport	2,600	16.1	90.8	0.8	0.2	0.1	0.1	33	1.3	9.1
York	5,370	16.7	90.4	2.3	0.2	0.4	0.1	54	1.0	27.8
Troop J										
Avondale	3,142	41.5	90.5	2.6	0.5	0.5	0.1	78	2.5	28.2
Embreeville	3,354	22.7	95.9	2.7	0.3	0.4	0.1	109	3.2	22.9
Ephrata	1,160	18.4	95.7	0.8	0.1	0.2	0.0	12	1.0	0.0
Lancaster	3,554	21.8	89.3	6.2	0.5	1.0	0.8	169	4.8	36.1
Troop L										
Frackville	1,592	29.8	89.9	0.6	0.3	0.8	0.0	5	0.3	40.0
Hamburg	1,709	25.3	93.1	0.8	0.1	0.4	0.1	4*	0.2	0.0
Jonestown	2,583	30.2	85.6	3.6	0.3	0.3	0.2	49	1.9	14.3
Reading	1,543	36.4	86.7	1.3	0.3	1.3	0.3	13	0.8	7.7
Schuylkill Haven	1,506	36.3	87.3	0.4	0.1	0.1	0.0	4*	0.3	50.0
Troop T										
Bowmansville	6,377	8.0	96.7	0.1	0.0	0.2	0.0	10	0.2	50.0
Everett	10,029	9.6	94.3	0.2	0.1	0.1	0.0	14	0.1	28.6
Gibsonia	7,062	14.8	92.0	4.0	0.0	0.2	0.0	27	0.4	27.0
Highspire	24	0.0	100.0	0.0	0.0	0.0	0.0	0*	--	--
King of Prussia	6,601	8.8	94.4	0.0	0.0	0.4	0.0	19	0.3	36.8
New Stanton	9,538	10.6	94.9	1.1	0.1	0.7	0.0	7	0.1	28.6
Newville	7,457	27.9	95.0	0.1	0.1	0.1	0.0	20	0.3	0.0
Pocono	5,338	14.1	93.5	0.1	0.1	0.4	0.0	5	0.1	20.0
Somerset (T)	7,786	5.5	96.5	0.2	0.0	0.3	0.0	45	0.6	35.6

* Indicates fewer than 5 searches conducted. Interpret percentages with caution.

Table 3.9: 2006 Driver Outcomes By Station (p. 2 of 4)

	Total # of Stops	% Drivers Warned	% Drivers Cited	% Drivers Arrested	% Passengers Warned	% Passengers Cited	% Passengers Arrested	# of Searches	% Person or Vehicle Searched	% Seized
AREA II										
Troop F										
Coudersport	2,025	38.7	75.1	1.4	1.6	0.3	0.1	6	0.3	66.7
Emporium	819	24.2	83.8	0.2	0.4	0.5	0.0	6	0.7	0.0
Lamar	1,663	13.0	95.9	0.4	0.0	0.4	0.0	1*	0.1	0.0
Mansfield	1,321	34.1	82.1	0.2	0.2	0.6	0.0	1*	0.1	0.0
Milton	2,669	15.2	97.2	0.7	0.1	0.2	0.1	21	0.8	19.0
Montoursville	1,720	9.8	93.3	2.0	0.1	0.3	0.3	24	1.4	37.5
Selinsgrove	2,462	11.0	91.6	1.5	0.1	0.4	0.0	24	1.0	33.3
Stonington	1,449	38.9	84.0	1.0	0.1	0.8	0.1	10	0.7	10.0
Troop P										
Laporte	1,213	27.3	84.3	0.2	0.1	0.0	0.0	0*	--	--
Shickshinny	1,085	22.0	86.6	2.1	0.1	0.3	0.0	5	0.5	0.0
Towanda	2,607	37.7	79.7	0.7	0.0	0.2	0.0	21	0.8	14.3
Tunkhannock	955	26.4	88.1	1.0	0.0	0.3	0.1	8	0.8	12.5
Wyoming	2,008	8.9	96.2	0.5	0.0	0.1	0.2	22	1.1	31.8
Troop R										
Blooming Grove	2,036	22.8	94.9	0.4	0.0	0.1	0.1	29	1.4	20.7
Dunmore	2,998	18.5	91.4	0.7	0.2	0.6	0.1	40	1.3	32.5
Gibson	1,713	9.2	95.2	2.5	0.1	0.4	0.0	19	1.1	52.6
Honesdale	1,784	10.9	97.0	0.4	0.3	0.9	0.0	49	2.7	32.7
AREA III										
Troop A										
Ebensburg	4,429	18.3	91.2	2.8	0.1	0.2	0.1	43	1.0	32.6
Greensburg	5,518	26.2	90.5	2.1	0.2	0.3	0.3	105	1.9	44.8
Indiana	4,327	28.3	85.9	2.3	0.2	0.2	0.4	64	1.5	53.1
Kiski Valley	2,344	34.8	83.7	1.2	0.2	0.2	0.1	35	1.5	11.4
Somerset (A)	2,076	46.8	73.9	3.1	0.6	0.2	0.1	15	0.7	26.7

* Indicates fewer than 5 searches conducted. Interpret percentages with caution.

Table 3.9: 2006 Driver Outcomes By Station (p. 3 of 4)

	Total # of Stops	% Drivers Warned	% Drivers Cited	% Drivers Arrested	% Passengers Warned	% Passengers Cited	% Passengers Arrested	# of Searches	% Person or Vehicle Searched	% Seized
AREA III (cont.)										
Troop B										
Belle Vernon	1,727	20.2	94.4	2.0	0.3	0.3	0.1	16	0.9	50.0
Findlay	4,663	21.9	94.2	1.6	0.2	0.2	0.0	35	0.8	20.0
Uniontown	4,732	21.2	89.3	2.0	0.3	0.5	0.2	45	1.0	42.2
Washington	4,354	17.0	92.6	0.8	0.1	0.6	0.2	38	0.9	47.4
Waynesburg	1,970	51.1	90.6	1.6	0.6	0.6	0.1	35	1.8	14.3
Troop G										
Bedford	3,161	49.1	68.6	1.0	0.2	0.1	0.1	22	0.7	36.4
Hollidaysburg	3,016	56.4	62.2	1.7	0.3	0.2	0.1	67	2.2	25.4
Huntingdon	1,591	46.1	73.6	1.9	1.1	0.1	0.3	12	0.8	50.0
Lewistown	3,852	48.9	63.9	1.1	0.1	0.2	0.1	11	0.3	45.5
McConnellsburg	3,174	22.1	86.3	0.7	0.0	0.2	0.0	8	0.3	25.0
Philipsburg	2,443	40.6	80.3	1.6	0.1	0.1	0.0	6	0.2	0.0
Rockview	5,695	18.2	87.4	1.3	0.2	0.2	0.1	24	0.4	33.3
AREA IV										
Troop C										
Clarion	3,876	39.2	74.6	0.8	0.1	0.4	0.0	51	1.3	25.5
Clearfield	4,088	18.1	90.9	1.0	0.3	0.5	0.1	33	0.8	33.3
Dubois	2,119	26.8	83.4	0.8	0.1	0.3	0.0	14	0.7	28.6
Kane	1,495	34.1	79.3	2.3	0.5	0.1	0.1	21	1.4	23.8
Punxsutawney	1,692	29.1	83.0	1.0	0.1	0.2	0.0	5	0.3	0.0
Ridgway	2,507	38.2	74.8	1.2	0.2	0.6	0.1	14	0.6	35.7
Tionesta	1,702	57.3	61.3	1.1	0.5	0.3	0.0	2*	0.1	50.0
Troop D										
Beaver	2,385	50.9	70.1	1.1	0.5	0.1	0.2	37	1.6	29.7
Butler	3,749	32.8	85.3	2.3	0.3	0.2	0.2	60	1.6	33.3
Kittanning	3,375	44.3	70.0	5.9	1.2	0.8	2.0	323	9.6	58.5
Mercer	2,356	56.0	66.8	5.1	0.0	0.3	0.3	60	2.5	18.3
New Castle	1,779	36.1	82.6	1.0	0.0	0.3	0.1	24	1.3	29.2

* Indicates fewer than 5 searches conducted. Interpret percentages with caution.

Table 3.9: 2006 Driver Outcomes By Station (p. 4 of 4)

	Total # of Stops	% Drivers Warned	% Drivers Cited	% Drivers Arrested	% Passengers Warned	% Passengers Cited	% Passengers Arrested	# of Searches	% Person or Vehicle Searched	% Seized
AREA IV (cont.)										
Troop E										
Corry	934	42.7	71.2	3.1	0.0	0.1	0.0	1*	0.1	0.0
Erie	3,091	34.3	80.7	1.1	0.2	0.4	0.2	61	2.0	26.2
Franklin	2,165	56.3	66.5	1.3	0.8	0.3	0.2	4*	0.2	50.0
Girard	2,329	27.1	86.0	2.5	0.2	0.3	0.0	10	0.4	20.0
Meadville	4,662	25.1	87.4	1.4	0.2	0.3	0.0	35	0.8	34.3
Warren	1,183	40.2	72.5	2.5	0.6	0.6	0.0	12	1.0	50.0
AREA V										
Troop K										
Media	4,084	40.1	79.1	2.1	0.3	0.3	0.3	119	2.9	31.9
Philadelphia	5,792	39.6	85.6	1.2	0.2	0.4	0.1	169	2.9	11.8
Skippack	2,975	42.6	82.5	3.3	0.1	0.2	0.3	47	1.6	40.4
Troop M										
Belfast	2,378	24.5	86.7	1.9	0.3	0.5	0.2	24	1.0	33.3
Bethlehem	2,300	31.7	86.4	2.3	0.7	0.4	0.1	47	2.0	14.9
Dublin	2,845	40.5	84.9	1.7	0.2	0.3	0.2	50	1.8	28.0
Fogelsville	5,125	31.9	80.9	1.2	0.1	0.2	0.1	99	1.9	14.1
Trevose	2,004	41.8	73.9	2.2	0.1	0.1	0.0	18	0.9	11.1
Troop N										
Bloomsburg	2,436	17.0	89.4	0.4	0.2	0.3	0.0	11	0.5	0.0
Fern Ridge	1,546	11.6	90.9	3.6	0.2	0.5	0.1	21	1.4	19.0
Hazleton	3,570	17.5	92.3	0.4	0.3	0.3	0.1	31	0.9	16.1
Lehighton	1,987	23.8	91.2	0.9	0.4	0.1	0.2	5	0.3	60.0
Swiftwater	4,193	22.6	92.5	0.7	0.3	0.6	0.4	48	1.1	35.4

* Indicates fewer than 5 searches conducted. Interpret percentages with caution.

Post Stop Outcomes by Severity

As a single traffic stop often results in multiple outcomes, it is important to consider traffic stop outcomes as rank ordered by severity. In this section, the categories of outcomes described are rank ordered and the categories are mutually exclusive. Each traffic stop is categorized based on the most severe sanction received by the driver. All passenger traffic stop outcomes are removed from this analysis. The rank ordering is as follows (from least severe to most severe):

- Level 1: Warning
- Level 2: Citation
- Level 3: Arrest

For example, if a driver received both a warning and a citation, they would be included in the citation category. Table 3.10 below displays the total number of traffic stops and the percentages of each of the most severe outcomes for drivers at the department, area, troop, and station levels. At the department level, 12.0% of drivers received a warning as the most severe outcome. For the large majority of traffic stops (86.4%), a citation was the most severe outcome a driver received. Finally, 1.5% of all stops resulted in an arrest as the most severe outcome received. The most noticeable difference in these rates for drivers compared to Table 3.8 is the reduction in the percentage of warnings issued. In other words, a large number of warnings are issued in combination with either a citation or arrest.

At the area level, Area IV issued the highest percentage of warnings as the most severe traffic stop outcome for drivers. Conversely in Area I, a warning was issued to drivers in only 7.0% of the traffic stops as the most severe outcome. Not surprisingly, an inverse relationship was reported for citations issued to drivers as the most severe outcome of traffic stops. Ninety-one percent of drivers stopped in Area I received a citation as the most severe outcome, compared to 77.6% of drivers in Area IV. Finally, arrests were issued to drivers in 1.9% of the traffic stops in Area IV as the most severe outcome, and in 1.0% of the traffic stops in Area II.

At the troop level, warnings were issued to drivers as the most severe outcome in 23.4% of all traffic stops in Troop G, and in 5.1% of the traffic stops in Troop T. Similar to the inverse relationship reported at the area level, Troop T had the highest percent of citations issued as the most severe outcome (94.2%), but Troop D had the lowest rate of citations issued to drivers (73.4%). In regard to arrests, Troop J had the highest rate of arrests (3.6%), and Troop T had the lowest rate of arrests at 0.7% of all drivers stopped. Greater variation was evident at the station level; please refer to Table 3.10 for details.

Table 3.10: 2006 Driver Outcomes By Department, Area, Troop & Station (p. 1 of 3)*

	Total # of Stops	% Warning Only	% Citation Only	% Arrest Only
PSP Dept.	283,615	12.0	86.4	1.5
AREA I	107,173	7.0	91.6	1.4
Troop H	26,895	10.2	87.7	2.1
Carlisle	6,466	6.5	91.6	1.9
Chambersburg	5,229	9.5	88.8	1.7
Gettysburg	2,527	24.5	70.2	5.3
Harrisburg	3,592	7.5	91.4	1.1
Lykens	1,118	20.9	75.3	3.8
Newport	2,598	8.9	90.3	0.8
York	5,365	8.6	89.1	2.3
Troop J	11,203	6.0	90.4	3.6
Avondale	3,138	8.4	89.0	2.6
Embreeville	3,354	2.7	94.7	2.7
Ephrata	1,159	4.1	95.1	0.8
Lancaster	3,552	7.6	86.2	6.2
Troop L	8,932	11.3	87.1	1.6
Frackville	1,592	9.9	89.6	0.6
Hamburg	1,708	6.5	92.7	0.8
Jonestown	2,583	13.6	82.8	3.6
Reading	1,543	12.9	85.8	1.3
Schuylkill Haven	1,506	12.7	86.9	0.4
Troop T	60,143	5.1	94.2	0.7
Bowmansville	6,377	3.3	96.6	0.1
Everett	10,024	5.6	94.2	0.2
Gibsonia	7,053	7.6	88.4	4.0
Highspire	24	0.0	100.0	0.0
King of Prussia	6,579	5.2	94.7	0.0
New Stanton	9,516	4.8	94.1	1.1
Newville	7,454	5.0	94.9	0.1
Pocono	5,338	6.5	93.4	0.1
Somerset (T)	7,761	3.1	96.7	0.2

* 212 traffic stops were removed from the analysis because they were coded as "other."

Table 3.10: 2006 Driver Outcomes By Department, Area, Troop & Station (p. 2 of 3)

	Total # of Stops	% Warning Only	% Citation Only	% Arrest Only
AREA II	30,510	9.8	89.3	1.0
Troop F	14,123	10.6	88.4	1.0
Coudersport	2,025	24.3	74.2	1.4
Emporium	819	16.1	83.6	0.2
Lamar	1,663	4.0	95.6	0.4
Mansfield	1,321	17.7	82.1	0.2
Milton	2,667	2.7	96.7	0.7
Montoursville	1,719	5.8	92.2	2.0
Selinsgrove	2,462	7.2	91.3	1.5
Stonington	1,447	15.4	83.6	1.0
Troop P	7,867	13.1	86.1	0.8
Laporte	1,213	15.7	84.2	0.2
Shickshinny	1,085	12.9	85.0	2.1
Towanda	2,606	19.7	79.6	0.7
Tunkhannock	955	11.5	87.4	1.0
Wyoming	2,008	3.6	95.8	0.5
Troop R	8,520	5.4	93.6	1.0
Blooming Grove	2,029	4.5	95.0	0.4
Dunmore	2,996	8.2	91.0	0.7
Gibson	1,711	4.2	93.3	2.5
Honesdale	1,784	2.8	96.7	0.4
AREA III	59,053	14.9	83.4	1.7
Troop A	18,689	11.7	86.0	2.3
Ebensburg	4,428	7.7	89.5	2.8
Greensburg	5,517	8.2	89.6	2.1
Indiana	4,326	12.6	85.1	2.3
Kiski Valley	2,343	15.5	83.4	1.2
Somerset (A)	2,075	23.2	73.7	3.1
Troop B	17,438	7.1	91.4	1.5
Belle Vernon	1,727	5.0	93.0	2.0
Findlay	4,662	4.7	93.6	1.6
Uniontown	4,729	9.4	88.6	2.0
Washington	4,352	7.0	92.2	0.8
Waynesburg	1,968	8.9	89.5	1.6
Troop G	22,926	23.4	75.3	1.3
Bedford	3,161	31.0	68.0	1.0
Hollidaysburg	3,014	36.7	61.6	1.7
Huntingdon	1,591	25.1	73.0	1.9
Lewistown	3,850	35.3	63.6	1.1
McConnellsburg	3,173	13.3	86.1	0.7
Philipsburg	2,442	18.5	79.9	1.6
Rockview	5,695	11.4	87.3	1.3

Table 3.10: 2006 Driver Outcomes By Department, Area, Troop & Station (p. 3 of 3)

	Total # of Stops	% Warning Only	% Citation Only	% Arrest Only
AREA IV	45,469	20.5	77.6	1.9
Troop C	17,477	20.1	78.9	1.1
Clarion	3,875	25.1	74.1	0.8
Clearfield	4,088	8.6	90.5	1.0
Dubois	2,119	16.3	82.9	0.8
Kane	1,494	19.7	78.0	2.3
Punxsutawney	1,692	16.4	82.6	1.0
Ridgway	2,507	24.7	74.2	1.2
Tionesta	1,702	38.2	60.6	1.1
Troop D	13,634	23.3	73.4	3.3
Beaver	2,385	29.4	69.4	1.1
Butler	3,747	13.6	84.1	2.3
Kittanning	3,368	26.6	67.5	5.9
Mercer	2,356	32.6	62.4	5.1
New Castle	1,778	17.0	82.0	1.0
Troop E	14,358	18.3	80.0	1.7
Corry	934	26.1	70.8	3.1
Erie	3,091	18.4	80.5	1.1
Franklin	2,164	32.9	65.8	1.3
Girard	2,326	11.7	85.9	2.5
Meadville	4,662	11.5	87.1	1.4
Warren	1,181	25.4	72.1	2.5
AREA V	41,201	13.5	85.0	1.5
Troop K	12,838	16.2	81.8	2.0
Media	4,078	19.7	78.2	2.1
Philadelphia	5,786	13.7	85.1	1.2
Skippack	2,974	16.5	80.2	3.3
Troop M	14,639	16.5	81.8	1.7
Belfast	2,376	12.7	85.4	1.9
Bethlehem	2,295	12.1	85.5	2.4
Dublin	2,843	14.1	84.2	1.7
Fogelsville	5,122	18.5	80.3	1.2
Trevose	2,003	24.4	73.3	2.2
Troop N	13,724	7.7	91.4	0.9
Bloomsburg	2,436	10.5	89.1	0.4
Fern Ridge	1,546	6.0	90.4	3.6
Hazleton	3,566	7.3	92.3	0.4
Lehighton	1,987	8.3	90.8	0.9
Swiftwater	4,193	6.9	92.5	0.7

SUMMARY

Section 3 described the characteristics of traffic stops and stopped drivers at the department, area, troop, and station levels based on data collected from January 1, 2006 through December 31, 2006. The trends in these descriptive findings are summarized below.

- Across the department, the majority of traffic stops had the following characteristics:
  - Occurred on a weekday (71.4%)
  - Occurred during the daytime (70.4%)
  - Occurred on a state highway (48.2%) or an interstate (47.6%)
  - Involved a vehicle registered in Pennsylvania (76.0%)
  - Involved vehicles with an average of 0.6 passengers
  - Lasted between 1-15 minutes (89.0%)
  - September and April accounted for the largest percentages of traffic stops

- Across the department, characteristics of the stop included:
  - The most frequent violation observed prior to traffic stops was speeding (69.8%), followed by moving violations (17.2%), equipment inspections (8.8%), and registration (3.2%)
  - Average speed over the limit was 19.1 mph

- Across the department, characteristics of the drivers included:
  - Average age of 35.1 years
  - 68.8% male
  - White (84.2%), Black (8.5%), White Hispanic (3.1%), Black Hispanic (0.4%), Middle Eastern (1.9%), Asian/Pacific Islander (1.6%), unknown race/ethnicity or missing data (0.5%)
  - Non-resident of municipality in which they were stopped (95.5%), non-resident of county in which they were stopped (64.4%), and non-Pennsylvania resident (24.9%)

- Across the department, traffic stop outcomes can be summarized by the following characteristics:
  - 12.0% of stops resulted in a warning issued only to the driver as the most severe outcome
  - 25.7% of stops resulted in a warning issued to the driver
  - 86.4% of stops resulted in a citation issued only to the driver as the most severe outcome
  - 87.2% of stops resulted in a citation issued to the driver
  - 1.5% of stops resulted in the arrest of the driver
  - 1.2% of stops resulted in a search of either the occupant(s) and/or the vehicle
  - Of the searches conducted, 30.9% resulted in the discovery of contraband

4. TREND ANALYSES I: TRAFFIC STOPS 2002 - 2006

OVERVIEW

This section provides comparisons of the racial/ethnic composition of drivers stopped by PSP Troopers across four years and seven months of data collection (May 1, 2002 through December 31, 2006) at the department, area, troop, and station level. The initial set of tables (Tables 4.1 & 4.2) report the raw number of stops and the stop rates for Caucasian, Black, and Hispanic drivers across all organizational units between 2003 and 2006. The station level stopping trends for Black and Hispanic drivers are visually displayed in Figures 4.1 - 4.32 and include stops that occurred in 2002. As noted in the *Years 3 & 4 Final Report*, only eight months of data were collected in 2002; therefore the raw numbers are not reported in the tables. Data from 2002 is included in these graphs, however, to provide a longer context for the stopping trends at the station level. While the absolute number of the 2002 stops was smaller than subsequent years because of the shorter data collection period, there is no reason to believe the percentage, or rate, of these stops would be any different if data for all twelve months had been collected. Thus, all five calendar years – representing four years and seven months of data – are included in the trend analyses reported in this section. Further analyses of the stopping trends by station for Black and Hispanic drivers is conducted and reported in Tables 4.3 – 4.6. In these analyses, both county and station stopping rates are compared between 2002, 2003, 2004, and 2005 (representing the base year comparisons), and 2006 (the year of interest) using a binomial statistical test.

In contrast to previous reports, data regarding traffic stops conducted by canine handlers have been included within the station totals in which the traffic stops were made, rather than separated by assignment. That is, traffic stops conducted by canine handlers are no longer reported under a separate category of "canine unit" but, rather, are included in the individual station totals where they work. The decision to capture information in this manner was two-fold. First, the CDR X-press system initially did not include a station code for canine handlers, thus requiring that their reported station become the station where they were currently assigned. Second, PSP administrators agreed with the UC research team that the capture of traffic stops by canine handlers at the station where they were assigned provided more relevant information regarding geographic distributions of traffic stop patterns. In the multivariate analyses examining post-stop outcomes (see Section 5), assignment as a canine handler is considered as a possible explanation for different rates of post-stop outcomes. This change from previous reports may slightly inflate the amount of activity occurring at the station level; however, due to the small number of canine handlers and subsequent small number of traffic stops conducted by these officers in comparison to statewide totals, the differences across reporting years is negligible.

Reporting data over time and across organizational units allows for two comparisons: 1) across organizational units, and 2) within organizational units across time. The information in this section is best utilized as a measure of activity across time rather than comparisons across organizational units. By comparing activity within organizational units across time, differences in traffic patterns, driver behaviors, and officer deployment that exist in different geographical areas will not influence the analysis. Therefore, the strength of the comparisons reported below is within organizational units across time, to evaluate the continuity or change in behavior of each organizational unit.

Substantial changes that are identified in the patterns of traffic stops within organizational units over time should be further examined by PSP administrators to identify the cause of these changes. A reported change in the pattern of occurrences of traffic stops and/or post-stop outcomes over time is not necessarily the result of a single factor. Several factors could be working independently or in conjunction to produce the trend displayed across time. Specifically, when assessing the rates of traffic stops and post-stop outcomes by organizational unit, it is crucial to acknowledge that such results could be due to changes in: 1) traffic population within that jurisdiction, 2) reporting patterns by PSP troopers, 3) PSP traffic stop behaviors, 4) deployment patterns, and/or 5) manpower allocation. Regardless, the following tables are designed to present an overall picture of traffic stops and post-stop outcomes, but are not intended to provide explanations for the reported trends. That is, this section is descriptive in nature and should be used to highlight potential areas of concern for future study, but should not be used to conclude any particular organizational unit is engaging in racially biased traffic stop behavior.

TRAFFIC STOPS: 2002 – 2006

This section documents the stopping trends of PSP Troopers across all organizational units between 2003 and 2006. Initially, the racial/ethnic makeup of the drivers stopped is highlighted to identify patterns of stopping behavior over time in Tables 4.1 – 4.2. This information is further explored by displaying the station level activity of Black and Hispanic drivers between 2002 and 2006 in Figures 4.1 – 4.32. Reporting of the trends in traffic stops concludes with a series of statistical tests conducted at the county and station level for stops of Black and Hispanic drivers (see Tables 4.3 – 4.6).

Racial/Ethnic Composition of Traffic Stops: 2002 – 2006

Table 4.1 reports the total number of traffic stops by year, as well as the percentage of stops involving Caucasian, Black, and Hispanic drivers at the department, area, and troop levels. Table 4.2 summarizes the same information at the station level. Initially, as demonstrated in Table 4.1, there was an overall decrease in the total number of member-initiated traffic stops at the department level between 2003 and 2006, although 2006 showed an increase in stops from the previous two years. Across the department, the number of member-initiated traffic stops decreased by 5.4% between 2003 and 2004, declined an additional 9.3% in 2005, but increased 4.1% in 2006. In spite of this increase, the number of member-initiated traffic stops reported on CDR forms declined 10.7% overall between 2003 and 2006. This decline in the reported number of officer-initiated traffic stops may be due to a number of factors, including changes in officer workload (responding to more calls for service resulting in fewer Trooper-initiated stops), reductions in manpower (fewer Troopers available to make Trooper initiated stops), changes in driving patterns (fewer drivers violating traffic laws leading to a stop), and/or failure of Troopers to follow traffic stop reporting protocols. These analyses do not allow for a clear determination of the reasoning underlying these trends over time.

As expected, trends in the total number of stops varied at the area level. Areas I and IV demonstrated stopping trends that were similar to the department level, whereas Area II had

an increase in officer-initiated stops in 2004 prior to a decrease in 2005 and 2006. Conversely, Area III decreased its number of traffic stops in 2004, followed by an increase of roughly 2,000 stops each in the following two years. Finally, Area V had an increase in officer initiated stops in 2004, a decrease in 2005, and an increase in 2006. Please refer to Tables 4.1 & 4.2 for specific activity at the troop and station level.

In regard to the race/ethnicity of drivers, Table 4.1 documents that, statewide, Caucasian drivers consistently represented approximately 85% of all drivers stopped by Troopers. This fluctuated from a high in 2003 of 85.2% to a low in 2006 of 84.5%. In 2004 and 2005, the rate remained constant at 84.9%. Throughout the study period, Black drivers consistently represented a little less than 8% of the drivers stopped, with a slight increase to 8.5% in 2006. Hispanics drivers consistently represented slightly more than 3% of the drivers stopped. However, the percentage of Hispanic drivers stopped statewide from 2003 to 2006 has incrementally increased each year, from 2.9% to 3.5% of all traffic stops.

While there are racial/ethnic differences in the percent of stops across areas, when the within-area percentages are compared it is clear that the racial/ethnic composition of drivers stopped within these organizational units remained consistent. For example, stops in Area I ranged between 81.1% and 81.4% for Caucasian drivers across the four years; Area III's percentage of Black drivers ranged between 5.3% and 5.0% over the four years, and Hispanic drivers made up between 1.8% and 2.1% of the stops in Area IV. Area V demonstrated the greatest variation in racial/ethnic differences across the years, with 4.3% fewer stops of Caucasians, and 2.8% and 2.4% more stops of Blacks and Hispanics, respectively. The other four areas had less than a 1% variation in the range of racial/ethnic differences from 2003 to 2006. The troop (Table 4.1) and station level (Table 4.2) numbers mirror this pattern of consistency across the four years, with only a slight increase in variability compared to the area levels.

Overall, consistencies in the percentage of minority drivers stopped within organizational units and geographic areas suggest that the initial findings reported in the Year 1, Year 2, and Year 3 - 4 Final Reports remain valid. Compared to relevant benchmarks, these previous reports suggested there was no consistent evidence indicating that PSP Troopers made stopping decisions based on drivers' race/ethnicity. Given the stability of PSP stopping patterns over time, there is no reason to challenge these initial conclusions.

Table 4.1: Traffic Stops By Race of Driver By Department, Area & Troop – 2003-2006

	Total # of Stops				% Caucasian				% Black				% Hispanic			
	2003	2004	2005	2006	2003	2004	2005	2006	2003	2004	2005	2006	2003	2004	2005	2006
PSP Dept.	317,920	300,683	272,670	283,827	85.2	84.9	84.9	84.5	7.8	7.7	7.8	8.5	2.9	3.3	3.4	3.5
AREA I	111,149	102,265	99,776	107,297	81.2	81.4	81.3	81.1	10.0	9.9	9.8	10.4	3.7	3.9	4.2	4.2
Troop H	18,955	26,073	23,209	26,925	87.1	87.2	86.5	85.6	6.7	6.5	7.0	8.2	3.5	3.4	3.8	3.6
Troop J	9,448	8,510	9,286	11,210	81.4	78.9	78.3	78.6	8.9	9.4	9.6	9.8	7.2	9.2	10.1	9.3
Troop L	10,135	9,033	8,878	8,933	84.5	83.8	82.5	85.0	6.0	6.3	6.9	6.0	6.4	6.2	7.1	6.4
Troop T	72,611	58,649	58,403	60,229	79.1	78.8	79.6	78.9	11.6	12.0	11.5	12.2	2.9	3.1	3.0	3.1
AREA II	39,282	39,743	31,626	30,527	90.7	90.1	91.0	90.7	4.2	4.5	4.1	4.6	1.9	2.1	2.0	2.1
Troop F	20,967	22,033	15,409	14,128	90.1	90.2	91.7	90.8	4.6	4.7	4.0	5.1	1.9	1.9	1.6	1.7
Troop P	8,177	8,072	7,678	7,868	96.1	95.5	95.7	95.2	2.1	2.3	2.2	2.2	1.0	1.0	1.0	1.6
Troop R	10,138	9,638	8,539	8,531	87.9	85.2	85.4	86.3	5.0	5.9	5.9	6.1	2.7	3.3	3.5	3.5
AREA III	62,416	54,792	56,643	59,072	91.4	91.9	92.0	91.8	5.3	5.0	5.0	5.1	0.8	0.9	0.8	0.8
Troop A	17,469	15,734	15,736	18,694	94.8	95.3	95.9	95.4	3.6	3.0	2.8	3.1	0.4	0.4	0.3	0.4
Troop B	22,745	19,364	19,666	17,446	90.3	90.7	90.9	90.9	6.9	6.6	6.7	6.7	0.6	0.7	0.6	0.6
Troop G	22,202	19,694	21,241	22,932	89.9	90.4	90.2	89.6	5.1	5.0	5.0	5.5	1.4	1.4	1.5	1.4
AREA IV	57,377	54,582	44,801	45,487	88.3	88.5	88.5	88.2	5.5	5.5	5.9	6.2	1.9	2.1	1.8	2.1
Troop C	26,403	21,421	17,140	17,479	84.8	85.0	85.8	86.1	6.3	6.4	6.1	6.5	2.9	3.3	2.8	3.1
Troop D	15,237	16,028	14,251	13,644	91.5	90.5	90.3	89.1	5.4	5.7	6.3	7.4	0.9	1.4	1.2	1.5
Troop E	15,737	17,133	13,410	14,364	91.2	90.9	90.0	90.0	4.3	4.3	5.2	4.8	1.1	1.1	1.2	1.5
AREA V	44,925	46,648	38,157	41,235	78.5	77.3	75.5	74.2	11.2	10.9	11.5	13.7	5.5	6.9	7.9	7.8
Troop K	12,758	11,044	8,395	12,851	75.5	74.4	71.6	69.4	16.2	17.1	18.5	20.8	3.4	4.1	4.6	5.0
Troop M	17,100	20,218	16,860	14,652	80.6	78.6	75.8	75.2	8.4	8.3	9.2	10.5	6.7	8.5	10.0	10.5
Troop N	15,067	15,386	12,902	13,732	78.7	77.6	77.5	77.7	10.1	9.8	10.0	10.5	5.9	6.7	7.3	7.7

Table 4.2: Traffic Stops By Race of Driver By Station – 2003-2006 (p. 1 of 4)

	Total # of Stops				% Caucasian				% Black				% Hispanic			
	2003	2004	2005	2006	2003	2004	2005	2006	2003	2004	2005	2006	2003	2004	2005	2006
AREA I																
Troop H																
Carlisle	3,432	5,944	5,213	6,480	87.0	85.5	84.9	84.6	7.0	7.3	7.6	8.6	2.8	3.6	4.3	4.0
Chambersburg	3,637	5,049	3,761	5,230	88.5	89.3	88.1	89.5	6.1	5.8	6.1	5.7	3.4	3.3	4.2	3.3
Gettysburg	1,865	2,969	2,689	2,530	86.6	87.4	85.7	85.4	5.3	5.0	5.2	5.3	5.5	4.4	5.4	6.0
Harrisburg	4,305	3,885	3,321	3,594	86.3	85.1	82.9	82.6	7.3	7.2	8.9	9.4	3.9	4.2	4.3	5.0
Lykens	916	1,250	1,481	1,121	96.6	97.3	97.8	97.4	1.7	1.0	0.9	1.5	0.9	0.8	1.1	0.7
Newport	1,310	2,058	2,340	2,600	90.4	91.5	90.7	90.3	3.7	4.2	4.4	4.9	1.8	1.0	2.1	1.6
York	3,490	4,918	4,404	5,370	83.4	84.1	84.2	80.4	9.3	9.0	9.9	13.5	3.9	3.8	3.5	3.0
Troop J																
Avondale	3,159	3,007	2,747	3,142	78.0	73.6	73.3	73.6	9.6	9.9	9.4	11.5	10.4	14.4	15.6	13.2
Embreeville	2,745	2,400	2,410	3,354	79.1	78.0	76.0	77.4	12.1	13.2	14.8	13.2	5.5	5.3	6.3	5.9
Ephrata	1,408	977	1,014	1,160	83.1	81.0	80.5	85.2	6.9	6.8	7.3	4.8	7.0	9.1	9.7	7.6
Lancaster	2,136	2,126	3,115	3,554	88.5	86.3	83.6	82.1	5.0	5.6	6.5	6.7	4.9	6.5	8.2	9.6
Troop L																
Frackville	1,642	952	873	1,592	91.2	91.4	87.4	86.7	3.9	3.0	6.1	5.9	2.9	3.7	3.6	5.0
Hamburg	1,616	1,812	2,005	1,709	76.1	76.5	77.6	79.6	9.7	8.7	8.5	7.9	7.7	7.1	8.7	7.8
Jonestown	2,942	2,739	3,187	2,583	81.5	80.1	80.2	81.7	8.2	8.9	8.7	7.5	6.2	6.9	7.2	8.0
Reading	2,555	1,938	1,295	1,543	82.6	84.0	81.0	86.0	5.1	5.2	5.6	4.7	10.7	9.2	10.8	7.9
Schuylkill Haven	1,380	1,592	1,518	1,506	96.0	93.8	92.3	94.0	1.5	2.3	2.8	2.7	1.5	1.9	3.5	2.2
Troop T																
Bowmansville	9,649	6,486	5,859	6,377	76.5	76.7	77.5	77.2	12.5	13.0	12.2	12.4	4.4	4.4	4.3	5.1
Everett	10,533	7,816	9,652	10,029	75.5	73.7	74.6	73.6	14.2	15.1	14.6	15.4	2.9	3.3	3.3	3.3
Gibsonia	8,745	8,209	7,977	7,062	83.3	82.8	82.7	83.3	9.6	10.3	10.3	10.2	1.9	1.9	1.7	2.2
Highspire	27	4	45	24	63.0	66.7	73.3	79.2	14.8	33.3	13.3	12.5	7.4	0.0	6.7	4.2
King of Prussia	7,415	6,773	6,188	6,601	79.9	79.6	79.3	79.4	10.2	10.5	10.2	10.5	3.9	4.2	4.4	4.6
New Stanton	9,234	7,829	8,086	9,538	86.1	83.5	82.7	82.2	8.7	10.7	10.8	11.1	1.1	1.4	1.7	1.7
Newville	11,257	9,978	8,607	7,457	76.6	77.2	79.4	78.3	13.2	12.3	11.2	13.1	3.4	3.5	3.2	3.0
Pocono	6,419	4,250	5,242	5,338	86.7	85.8	86.9	85.6	6.5	7.9	6.7	7.6	2.3	2.4	2.8	2.8
Somerset (T)	9,331	7,303	6,736	7,786	72.5	73.8	75.8	74.5	14.9	14.5	13.7	14.7	2.9	3.5	2.8	3.0

Table 4.2: Traffic Stops By Race of Driver By Station – 2003-2006 (p. 2 of 4)

	Total # of Stops				% Caucasian				% Black				% Hispanic			
	2003	2004	2005	2006	2003	2004	2005	2006	2003	2004	2005	2006	2003	2004	2005	2006
AREA II																
Troop F																
Coudersport	1,593	1,515	1,366	2,024	98.2	97.5	98.2	97.8	0.8	1.1	0.4	0.8	0.5	0.6	0.4	0.5
Emporium	1,355	1,182	956	819	99.0	99.0	99.2	98.7	0.6	0.4	0.5	0.4	0.2	0.2	0.1	0.6
Lamar	3,514	3,536	1,735	1,663	76.5	76.8	75.7	80.6	8.9	8.7	9.1	8.5	4.4	4.6	4.8	3.9
Mansfield	1,559	1,438	1,243	1,321	92.9	92.7	92.8	90.4	2.8	3.7	3.5	4.6	1.1	0.3	1.1	1.2
Milton	2,404	2,873	2,121	2,669	83.1	83.8	85.6	85.8	8.3	7.7	7.1	8.5	3.5	3.9	3.6	2.6
Montoursville	4,624	6,897	4,075	1,720	92.2	92.7	94.0	90.2	4.4	4.3	3.4	7.6	1.5	1.1	0.8	0.8
Selinsgrove	4,202	3,095	2,847	2,462	93.0	93.8	94.0	91.9	4.0	3.7	3.8	4.8	1.0	1.1	1.1	1.5
Stonington	1,716	1,497	1,066	1,449	97.5	98.2	97.8	96.2	0.9	0.7	1.0	1.5	1.0	0.8	0.8	1.7
Troop P																
Laporte	1,603	1,343	1,456	1,213	98.1	97.3	97.8	97.8	0.7	1.0	1.0	0.8	0.6	0.7	0.3	0.6
Shickshinny	1,033	996	1,101	1,085	96.4	94.1	95.6	96.0	1.7	3.4	2.2	2.2	1.5	1.8	1.4	1.1
Towanda	1,650	1,781	2,400	2,607	97.7	98.3	97.3	97.8	1.3	0.5	1.3	0.8	0.5	0.4	0.7	0.7
Tunkhannock	1,366	1,438	1,052	955	97.3	97.2	96.8	95.3	0.7	0.8	1.1	0.9	1.2	1.2	1.3	3.0
Wyoming	2,525	2,514	1,669	2,008	92.9	92.3	90.9	89.7	4.6	4.7	5.3	5.5	1.3	1.2	1.8	2.8
Troop R																
Blooming Grove	2,697	2,607	1,918	2,036	88.6	87.6	88.0	86.9	5.3	5.5	5.4	6.4	2.8	3.9	4.2	4.6
Dunmore	2,944	2,823	3,093	2,998	86.2	82.9	82.7	85.7	5.8	6.6	6.7	6.2	3.7	3.9	4.0	4.0
Gibson	1,569	2,121	1,541	1,713	79.5	76.6	77.3	79.8	8.3	9.1	8.8	8.6	2.6	3.1	3.6	2.6
Honesdale	2,928	2,087	1,987	1,784	93.4	94.3	93.5	93.1	2.1	2.2	2.8	3.4	1.8	2.0	2.1	2.0
AREA III																
Troop A																
Ebensburg	3,578	3,127	4,054	4,429	95.3	95.8	96.3	95.8	2.8	2.5	2.2	2.5	0.5	0.6	0.3	0.4
Greensburg	5,374	4,180	3,957	5,518	95.3	96.5	96.6	96.7	3.3	2.4	2.6	2.4	0.4	0.3	0.3	0.3
Indiana	3,620	3,920	2,629	4,327	94.9	94.7	94.6	93.8	3.1	3.3	3.3	4.1	0.3	0.4	0.2	0.5
Kiski Valley	2,796	2,495	2,732	2,344	90.6	92.2	93.8	92.3	7.9	5.2	4.6	5.7	0.4	0.6	0.3	0.5
Somerset (A)	2,101	2,012	2,364	2,076	97.9	97.2	97.8	98.0	1.1	1.6	1.2	1.3	0.2	0.3	0.3	0.2

Table 4.2: Traffic Stops By Race of Driver By Station – 2003-2006 (p. 3 of 4)

	Total # of Stops				% Caucasian				% Black				% Hispanic			
	2003	2004	2005	2006	2003	2004	2005	2006	2003	2004	2005	2006	2003	2004	2005	2006
AREA III (cont.)																
Troop B																
Belle Vernon	4,015	3,052	2,368	1,727	90.2	88.7	87.5	90.4	6.7	8.0	9.3	6.5	0.7	1.0	1.3	1.2
Findlay	7,266	4,403	4,639	4,663	88.1	88.0	88.2	87.1	8.3	8.4	8.4	9.0	0.8	0.9	0.6	0.8
Uniontown	3,416	3,981	5,401	4,732	93.4	93.5	94.1	94.8	5.9	5.7	5.3	4.7	0.3	0.2	0.1	0.1
Washington	5,149	5,336	5,044	4,354	90.1	90.9	91.3	90.1	7.1	6.2	6.2	7.4	0.5	0.8	0.6	0.6
Waynesburg	2,899	2,592	2,214	1,970	92.3	93.0	91.4	92.9	4.2	3.8	4.8	4.6	0.7	0.8	0.6	0.6
Troop G																
Bedford	3,190	3,119	3,082	3,161	92.5	93.0	92.7	91.0	4.2	4.1	4.2	5.2	1.2	0.8	0.9	1.0
Hollidaysburg	3,153	3,156	2,885	3,016	93.7	92.5	91.0	91.2	3.6	4.5	5.0	5.7	0.7	0.7	1.3	1.2
Huntingdon	2,159	2,188	1,873	1,591	97.6	96.8	97.0	97.2	1.7	2.0	2.1	2.1	0.5	0.6	0.6	0.4
Lewistown	2,951	2,457	3,180	3,852	90.8	90.2	92.0	91.9	4.0	4.5	3.8	3.5	1.8	1.9	1.8	1.9
McConnellsburg	2,570	2,036	2,121	3,174	77.8	79.1	81.1	77.9	13.6	13.1	12.0	13.4	2.1	1.8	1.2	2.1
Philipsburg	2,658	2,803	2,483	2,443	94.9	91.6	90.4	93.1	2.5	3.9	4.2	3.6	0.5	1.7	2.1	1.0
Rockview	5,521	3,935	5,617	5,695	86.1	88.0	88.6	89.5	5.5	4.6	5.0	4.4	2.4	2.4	2.0	1.6
AREA IV																
Troop C																
Clarion	6,064	4,934	3,545	3,876	76.6	77.3	75.0	75.6	10.4	10.2	12.0	12.1	4.9	5.5	5.7	5.4
Clearfield	5,827	5,145	3,660	4,088	81.9	83.4	81.6	80.5	8.2	6.8	7.8	9.2	3.0	3.7	3.4	4.3
Dubois	4,249	3,080	2,261	2,119	78.9	79.0	77.9	79.9	9.1	10.2	9.0	8.9	5.1	4.7	5.2	5.4
Kane	2,158	1,559	1,475	1,495	89.9	89.1	90.2	94.7	0.8	2.4	1.7	1.4	0.5	1.1	0.3	0.8
Punxsutawney	3,405	2,369	2,024	1,692	93.5	93.2	94.3	96.6	3.1	3.1	3.0	1.6	1.4	1.5	0.8	0.7
Ridgway	2,416	2,317	1,890	2,507	92.5	92.0	95.7	96.6	1.8	2.5	1.4	0.9	0.9	1.9	0.7	0.6
Tionesta	2,284	2,017	2,285	1,702	98.4	95.8	98.4	97.6	0.6	1.9	0.9	1.2	0.2	0.5	0.1	0.6
Troop D																
Beaver	2,902	2,334	2,318	2,385	91.9	91.9	91.7	90.3	6.8	6.6	6.7	8.3	0.3	0.5	0.3	0.5
Butler	5,272	4,281	4,015	3,749	95.2	94.7	94.0	93.6	2.9	3.1	4.0	3.7	0.5	0.4	0.4	1.0
Kittanning	2,726	4,147	3,637	3,375	93.1	92.7	91.7	91.2	5.0	5.5	6.4	6.5	0.4	0.5	0.7	0.8
Mercer	2,588	3,098	2,534	2,356	80.7	78.9	79.8	75.6	8.9	9.3	9.6	13.3	3.2	5.3	4.6	5.0
New Castle	1,749	2,168	1,747	1,779	93.0	93.2	92.5	91.5	6.0	5.4	6.3	7.5	0.3	0.5	0.5	0.4

Table 4.2: Traffic Stops By Race of Driver By Station – 2003-2006 (p. 4 of 4)

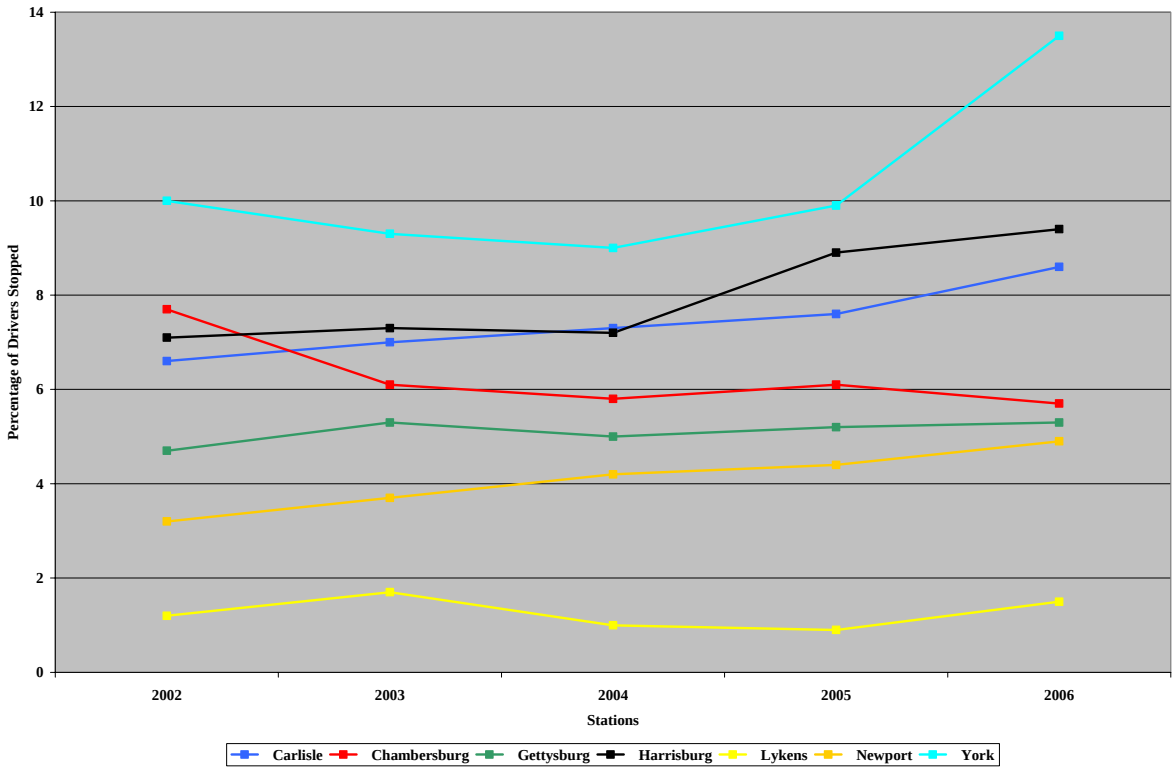
	Total # of Stops				% Caucasian				% Black				% Hispanic			
	2003	2004	2005	2006	2003	2004	2005	2006	2003	2004	2005	2006	2003	2004	2005	2006
AREA IV (cont.)																
Troop E																
Corry	1,153	1,208	852	934	97.0	94.0	98.1	98.2	1.9	3.0	0.8	1.0	0.3	0.6	0.5	0.5
Erie	4,068	4,329	2,714	3,091	89.5	88.8	89.4	88.3	4.9	5.2	5.2	5.6	1.4	1.4	1.4	1.8
Franklin	2,132	2,988	1,662	2,165	97.3	94.4	90.8	92.2	1.0	2.5	4.9	3.2	0.6	1.2	1.8	2.0
Girard	4,362	3,719	2,791	2,329	87.3	89.1	87.9	89.6	6.2	5.3	6.1	5.5	1.8	1.3	1.5	1.7
Meadville	2,709	3,325	4,407	4,662	89.4	87.9	87.8	86.7	5.6	5.8	6.7	6.4	0.8	1.2	1.1	1.5
Warren	1,313	1,564	984	1,183	98.8	98.5	98.7	98.1	0.5	0.4	0.4	0.8	0.4	0.3	0.1	0.4
AREA V																
Troop K																
Media	5,179	3,867	2,571	4,084	75.5	71.5	72.9	71.5	17.0	21.3	19.3	20.2	3.0	3.2	4.0	3.9
Philadelphia	3,498	2,735	3,141	5,792	65.1	63.5	62.7	63.3	23.6	24.2	24.5	25.5	4.0	5.0	5.3	5.2
Skippack	4,081	4,442	2,683	2,975	84.4	83.6	80.8	78.2	8.9	9.0	10.7	12.4	3.3	4.4	4.4	5.9
Troop M																
Belfast	3,028	3,159	3,164	2,378	79.9	76.2	74.3	72.5	8.9	9.3	9.4	12.7	8.1	10.2	11.6	11.5
Bethlehem	2,333	4,432	3,479	2,300	79.7	77.3	73.4	73.1	7.2	8.4	9.4	9.8	8.2	10.3	12.1	13.7
Dublin	4,143	4,173	3,139	2,845	92.1	89.9	89.2	88.7	2.4	3.0	4.0	3.7	3.5	4.6	4.6	5.4
Fogelsville	4,371	5,142	4,943	5,125	77.1	74.6	73.3	73.1	8.8	9.1	9.1	10.3	9.0	10.6	11.8	12.3
Trevose	3,225	3,312	2,135	2,004	71.9	74.9	68.0	66.7	16.2	12.9	16.2	19.3	5.5	5.8	8.3	7.9
Troop N																
Bloomsburg	3,209	2,895	2,027	2,436	77.6	76.9	77.2	80.2	11.0	10.6	11.3	9.5	4.7	5.1	4.3	5.0
Fern Ridge	1,668	2,774	1,893	1,546	75.8	73.3	75.6	77.0	10.0	10.9	10.3	10.8	7.9	8.4	8.2	8.9
Hazleton	2,836	3,298	3,149	3,570	77.3	75.0	74.6	75.4	9.9	8.6	7.9	9.1	6.8	10.0	11.5	11.2
Lehighton	2,454	2,554	2,356	1,987	93.1	92.3	92.4	92.5	2.5	3.2	3.3	3.5	2.8	2.8	2.8	3.2
Swiftwater	4,900	3,865	3,477	4,193	74.1	73.8	71.4	71.6	13.3	13.7	15.4	15.6	7.0	6.3	7.9	7.9

As previously mentioned, Table 4.2 reported the percentages of drivers stopped by racial group at the station level between 2003 and 2006. It is important to identify those stations with significant increases (or decreases) in the percentages of minority drivers stopped. As previously noted, the reasons for these changes may be legitimate (e.g., changes in traffic patterns, deployment patterns, etc.) or illegitimate (e.g., officer bias). Figures 4.1 – 4.32 graphically report the percentage of Black and Hispanic drivers stopped within each PSP station and grouped by the sixteen troops.[10] As noted previously, these graphs contain information from *all* data collection periods (i.e., May 1, 2002 through December 31, 2006) to allow for a longer trend line to be incorporated. The graphs were created to visually display the trends of each station (within troops), thus the scales of each graph (i.e., the X-axis) vary depending on the amount of activity in the stations. Direct comparisons should not be made across graphs without considering the variability in the graphs' scales.

The following figures do not provide any definitive conclusions about racial inequities at the station level, but do permit an assessment of the overall trend of each station. There is an expected degree of variation between stations within each of the troops, as each station patrols in diverse areas with different demographic compositions and travel patterns. The text following each figure highlights any station with percentages of minority stops that are trending upward in 2006, and therefore should be monitored in 2007. As noted previously, an upward trend does not necessarily indicate police bias. Those stations identified with upward trends in the percentage of minority drivers stopped should be further examined by PSP administrators to determine the likely reasons for the changing patterns. Likewise, significant downward trends in the percentage of minority stops could be due to the same factors as identified previously (e.g., changes in deployment, traffic patterns, etc.), but may also be due to trooper disengagement. Therefore any major fluctuations in the percentages of minorities stopped (both upward and downward trends) should be closely examined by PSP administrators.

[10] Highspire station (Troop T) was removed from these graphs due to the low number of stops that occurred at this station, which is primarily administrative.

Figure 4.1: Percent of Traffic Stops Involving Black Drivers – Area 1, Troop H: 2002-2006



The stopping patterns for all stations in Troop H are reported for Black drivers in Figure 4.1, and demonstrate that slight increases of 1% or less occurred from 2005 to 2006 in Carlisle, Harrisburg, Newport, and Lykens. York saw a greater increase in the percent of Black drivers stopped, from 9.9% in 2005 to 13.5% in 2006. It will be important to continue monitoring this trend during 2007. Gettysburg has been consistent in its percent of traffic stops involving Black drivers between 2002 and 2006, while Chambersburg experienced a slight decrease in the percent of Black drivers stopped from 2005 to 2006.

Figure 4.2: Percent of Traffic Stops Involving Hispanic Drivers– Area I, Troop H: 2002-2006

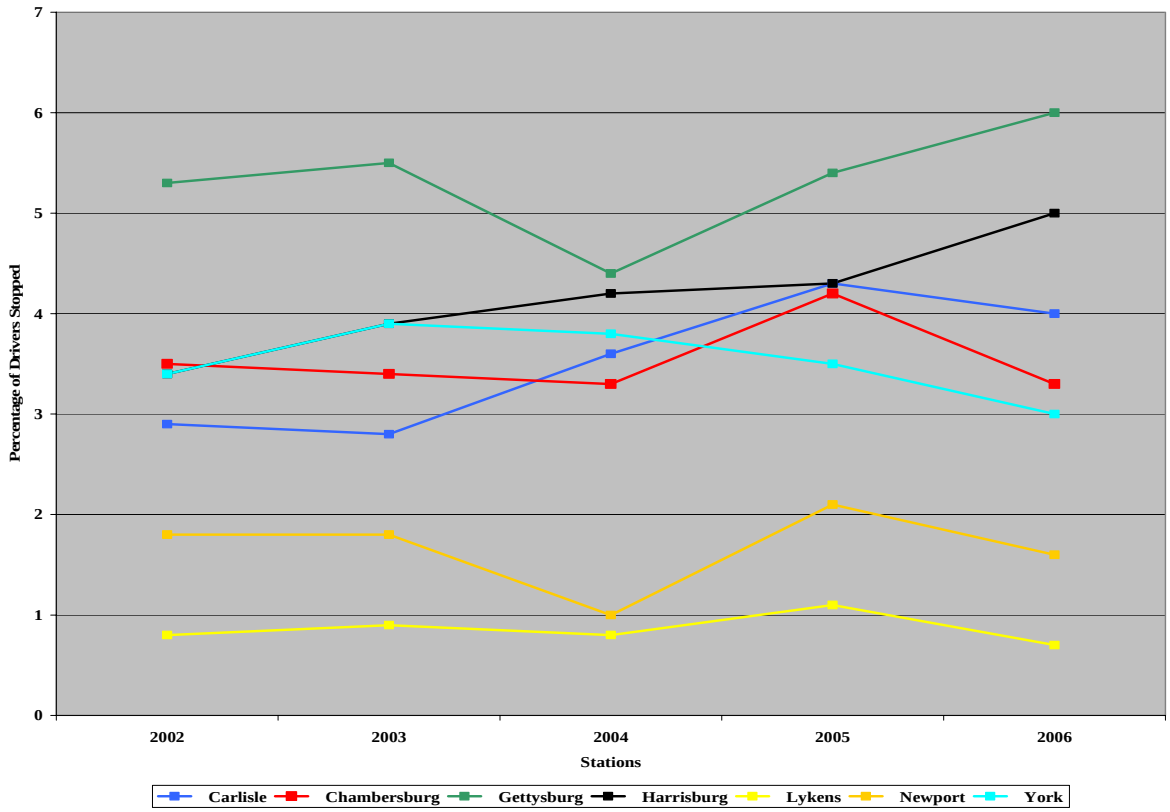
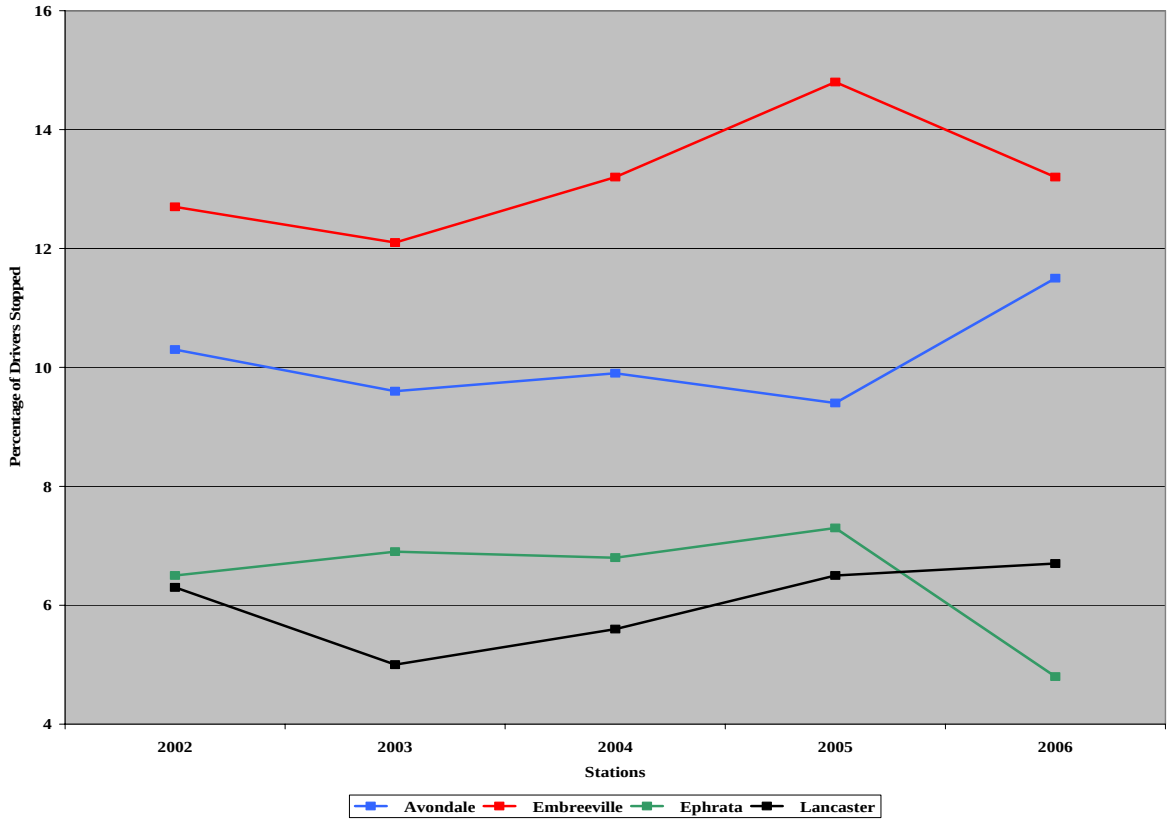


Figure 4.2 reports the stopping trends of Hispanic drivers between 2002 and 2006 in Troop H. During this time period, Chambersburg, Lykens, and Newport reported an increase of approximately 1% in 2005, but then reported decreases of 1% or less in 2006, returning these stations to their 2002 levels. Gettysburg and Harrisburg demonstrated increases in 2005, which continued in 2006. Gettysburg demonstrated more variability than Harrisburg; however, Harrisburg has seen increases every year since 2002. Conversely, York continued to see decreases in the percent of Hispanic drivers stopped since 2003, and Carlisle has also experienced a slight decrease in 2006 after increases in the previous two years.

Figure 4.3: Percent of Traffic Stops Involving Black Drivers – Area I, Troop J: 2002-2006



The percentages of Black drivers stopped in Troop J between 2002 and 2006 are displayed in Figure 4.3. After several years of consistency, Avondale demonstrated an increase of over 2.0% in the percentage of Black drivers stopped and it will be important to continue monitoring this trend in 2007. Embreeville reported a noticeable increase between 2003 and 2005, but decreased in 2006 to its 2004 level. After four years of limited change in Ephrata, this station demonstrated a noticeable decrease of 2.5% in 2006. Lancaster continued to show a slight increase in stops of black drivers (1.7%) between 2003 and 2006; however, the rate in 2006 is similar to its 2002 rate.

Figure 4.4: Percent of Traffic Stops Involving Hispanic Drivers – Area I, Troop J: 2002-2006

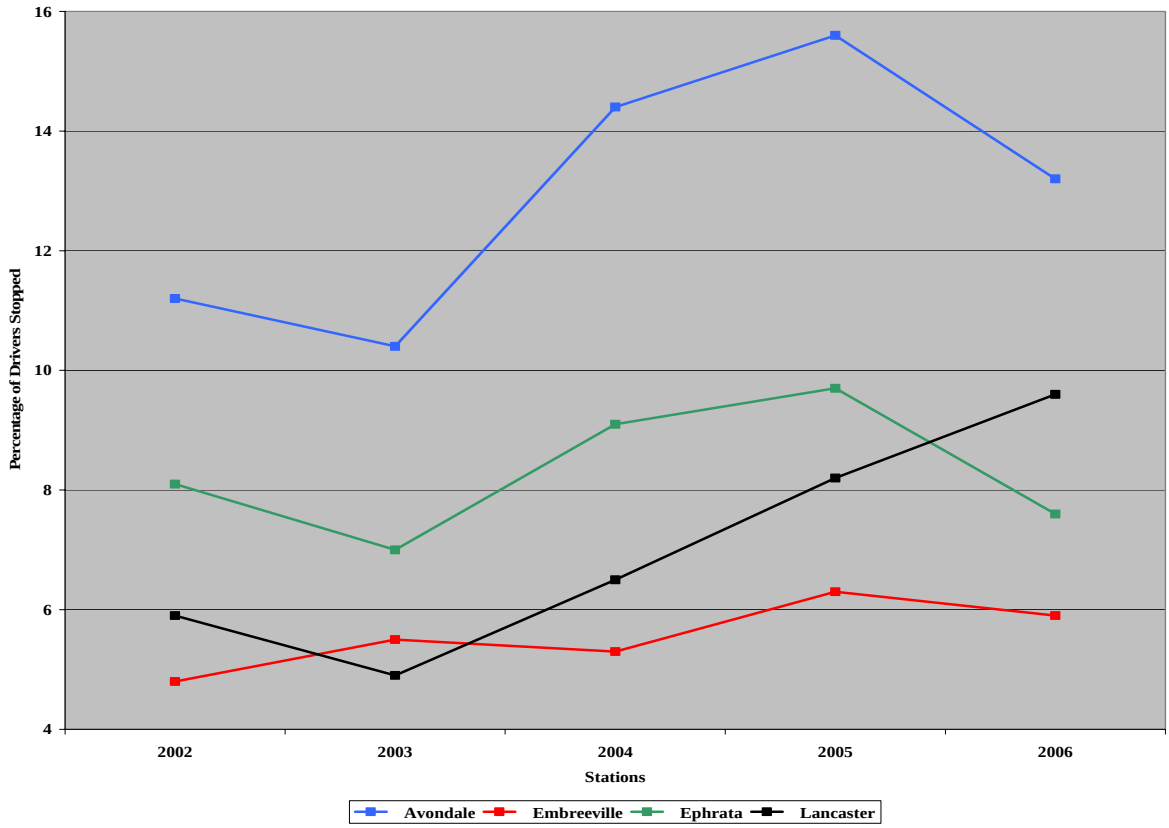


Figure 4.4 demonstrates that, for Hispanic drivers, Avondale had the highest percentage across the four years and demonstrated a noticeable increase of roughly 5% since 2003; however, this rate dropped almost 2.5% in 2006. Embreeville exhibited a slight decrease in 2006 after an upward trend in the previous four years. Ephrata also demonstrated a noticeable drop in 2006 after increases in the previous years. Finally, Lancaster continued to increase in the percent of Hispanic drivers stopped, from 4.9% in 2003 to 9.6% in 2006. It will be important to monitor Lancaster's trends in 2007.

Figure 4.5: Percent of Traffic Stops Involving Black Drivers – Area I, Troop L: 2002-2006

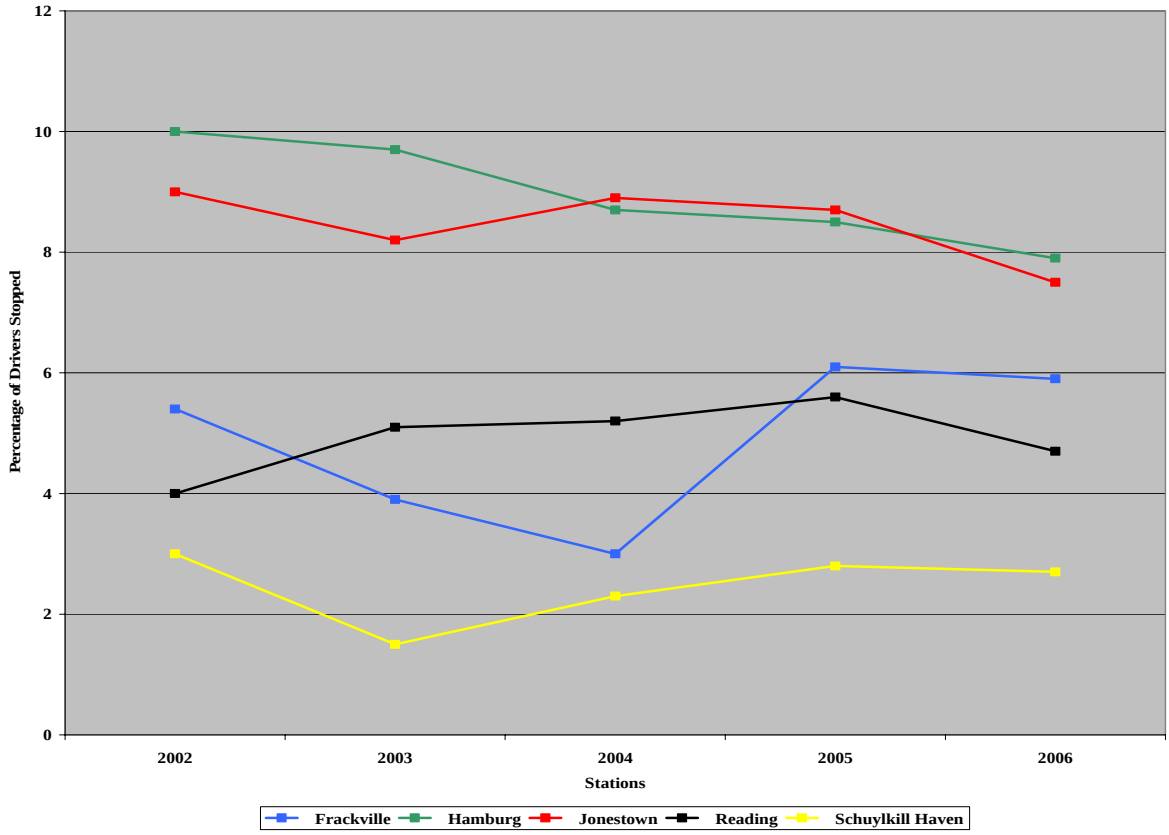


Figure 4.5 displays the percentages of Black drivers stopped in Troop L between 2002 and 2006. Specifically, Figure 4.5 demonstrates that all five stations in Troop L showed decreases in the percent of Black drivers stopped between 2005 and 2006. Frackville and Schuylkill Haven had decreases of less than 0.5%, Hamburg and Reading had decreases of less than 1%, and Jonestown had a 1.2% decrease. In particular, Frackville stabilized their noticeable increase between 2004 and 2005 by demonstrating a slight reduction in 2006.

Figure 4.6: Percent of Traffic Stops Involving Hispanic Drivers – Area I, Troop L: 2002-2006

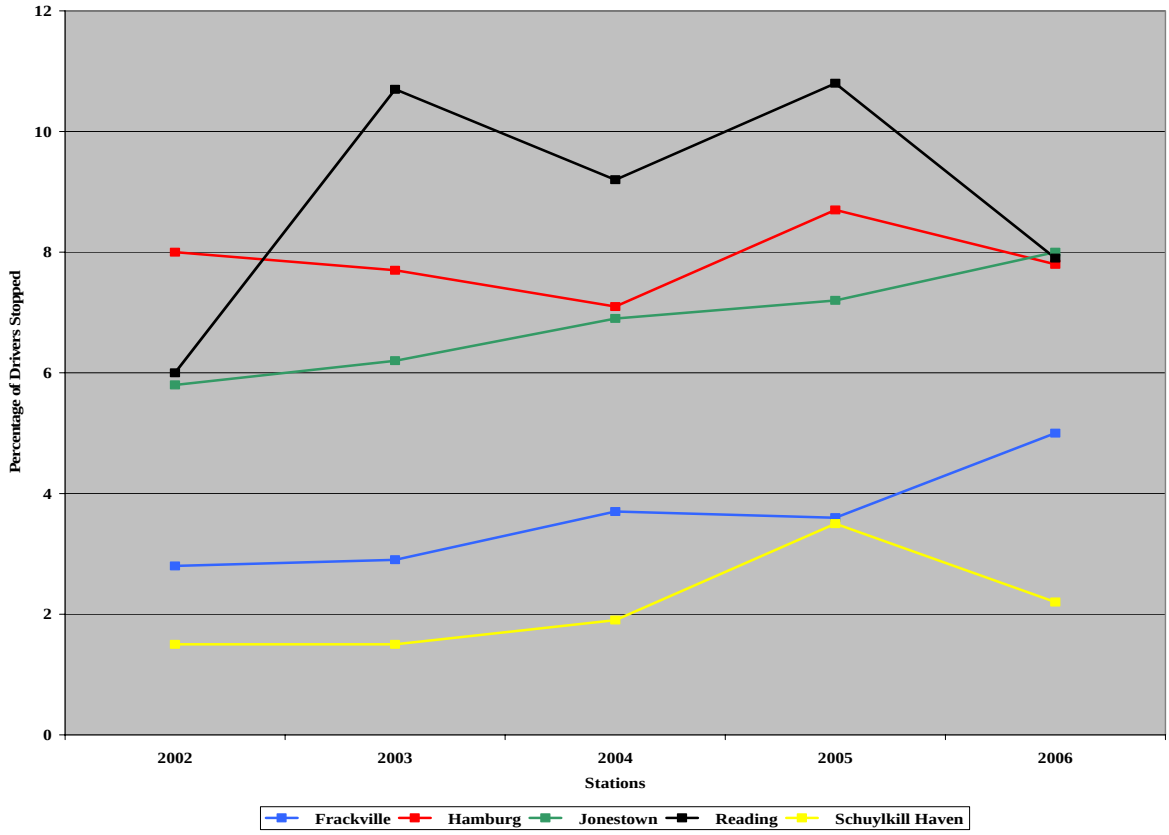


Figure 4.6 demonstrates that Frackville experienced a slight overall increase in their percentage of Hispanic drivers stopped between 2002 and 2005, but a more noticeable increase occurred last year. Similarly, Jonestown has been incrementally increasing in the percentage of Hispanic drivers stopped for all years considered in this analysis. Hamburg and Schuylkill Haven showed decreases of about 1% in Hispanic drivers stopped in 2006 after noticeable increases in 2005. Reading demonstrated greater variability, with large increases in 2003 and 2005, and equally large decreases in 2004 and 2006; the 2006 rate is 2% greater than their 2002 rate, but almost 3% smaller than their 2005 rate. The reason(s) for such inconsistency regarding the percentage of traffic stops involving Hispanic drivers over time within Reading station is unknown, but this station should continue to be monitored.

Figure 4.7: Percent of Traffic Stops Involving Black Drivers – Area I, Troop T: 2002-2006

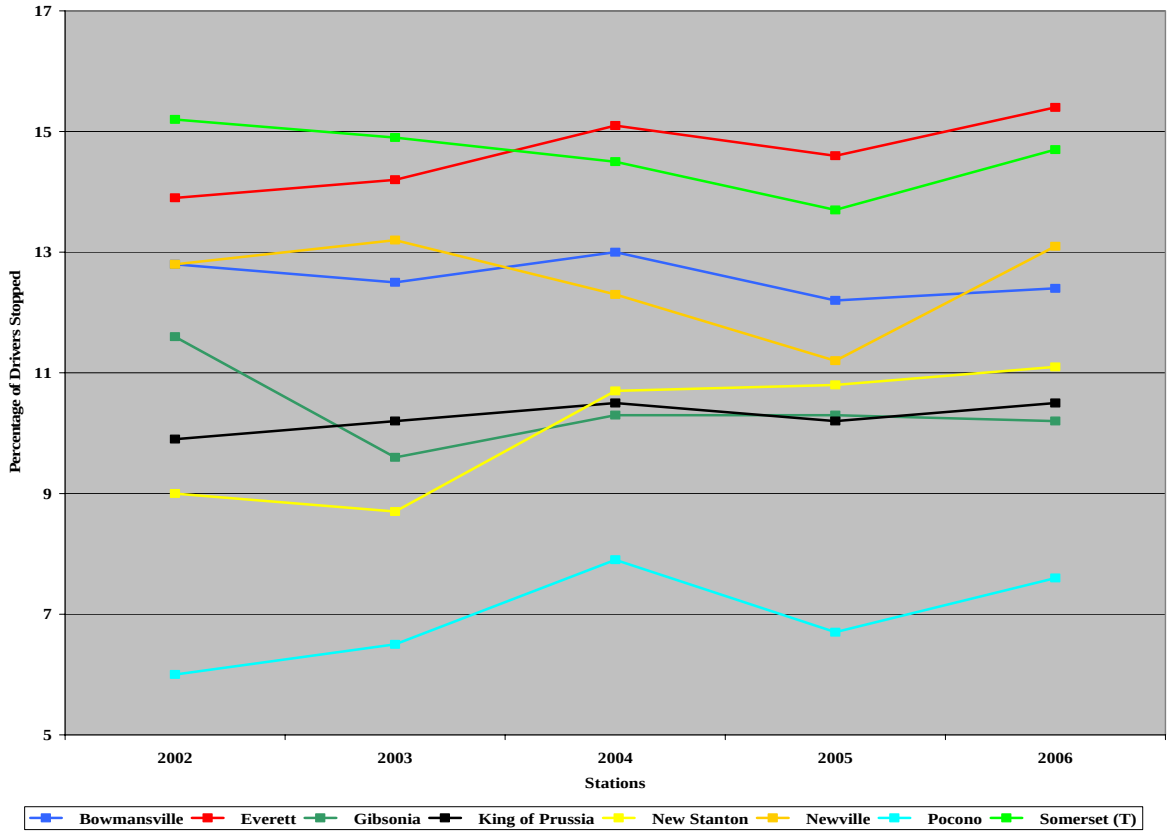


Figure 4.7 documents the percentage of Black drivers stopped in Troop T between 2002 and 2006. As displayed, seven of eight stations exhibited increases in the percent of Black drivers stopped in 2006; six of which had exhibited decreases in 2005 (New Stanton had increased slightly). Newville reported 1.9% more stops of Black drivers in 2006 than in 2005, after a decrease of 2.0% the previous two years, thus returning it to the 2003 level. The other six stations reported increases of 1.0% or less. The remaining station, Gibsonia, decreased slightly but still remains at about the same rate as reported in 2004 and 2005.

Figure 4.8: Percent of Traffic Stops Involving Hispanic Drivers – Area I, Troop T: 2002-2006

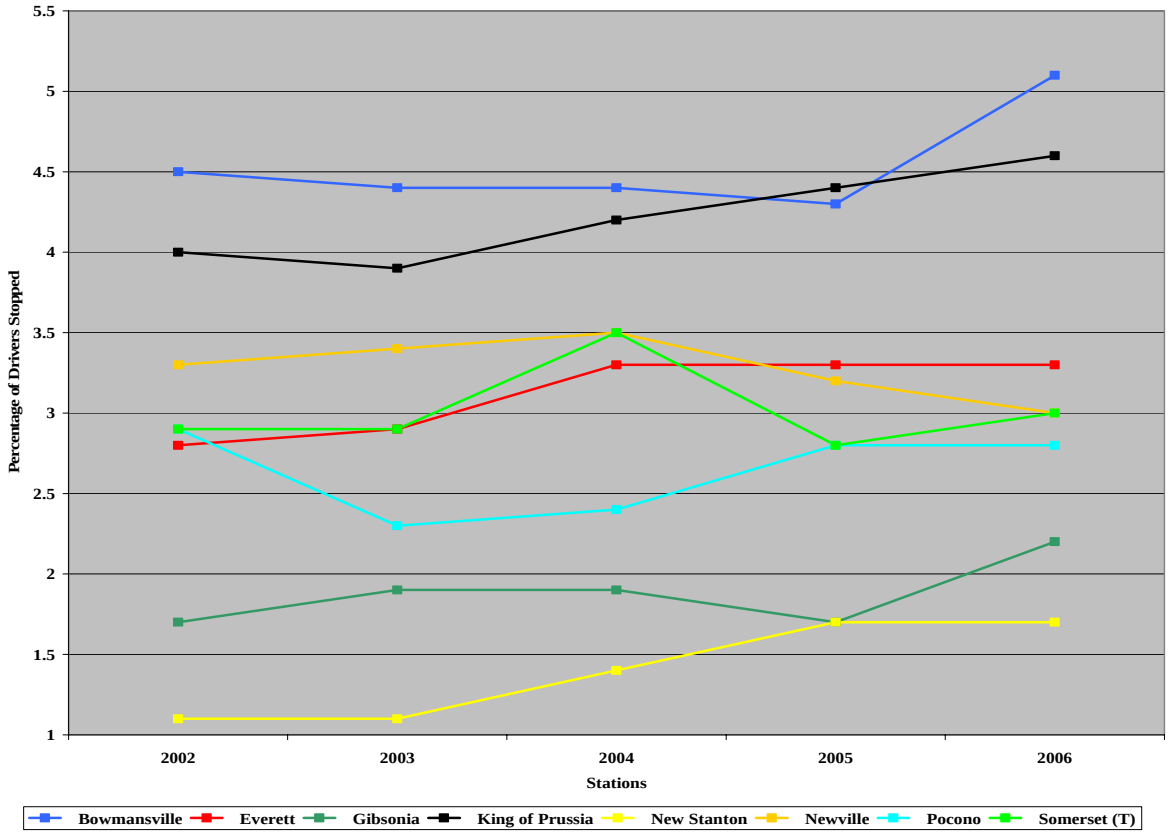


Figure 4.8 reports the percentages of Hispanic drivers stopped in Troop T, which demonstrated only minor changes between 2005 and 2006. Three stations reported a 0.5% increase or less, one station reported a 0.2% decrease, and three stations reported identical rates. Bowmansville demonstrated a 0.8% increase in stops of Hispanic drivers after four years of a relatively stable rate. Overall, these eight stations remain very consistent, with none experiencing more than a 1% change in their rates since 2002.

Figure 4.9: Percent of Traffic Stops Involving Black Drivers – Area II, Troop F: 2002-2006

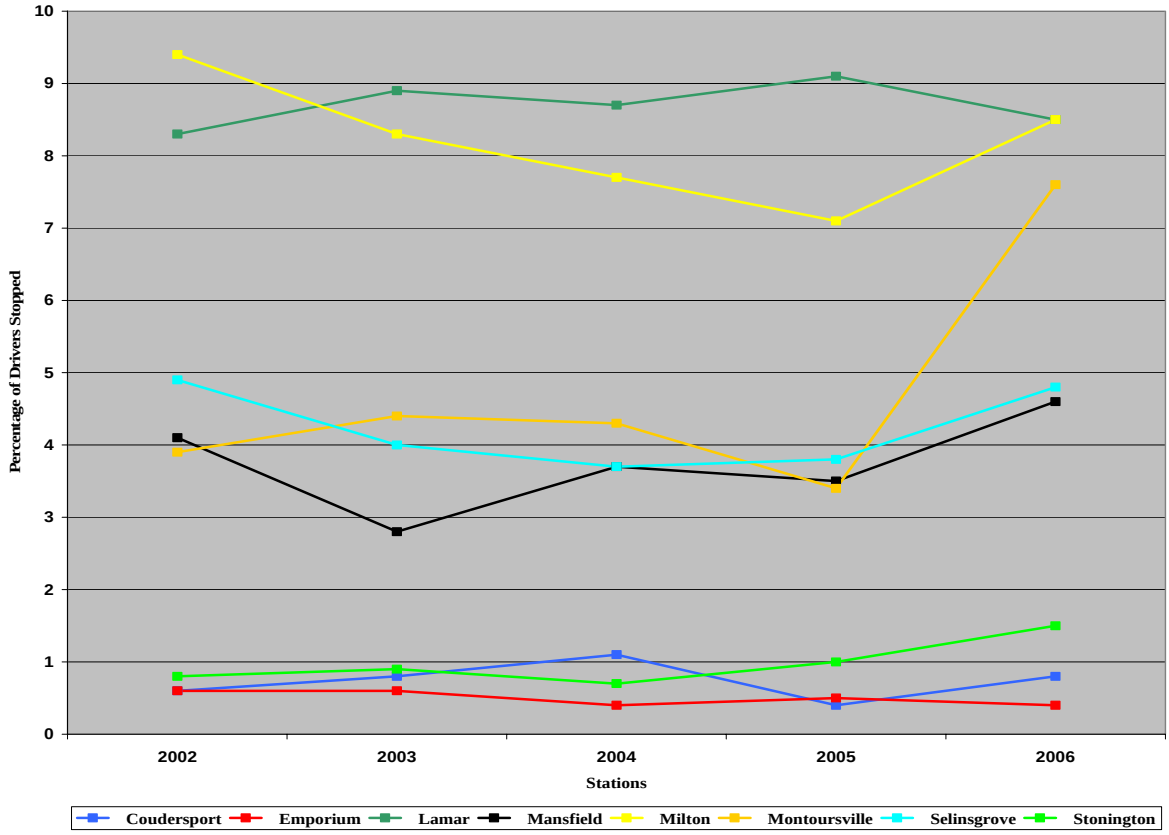
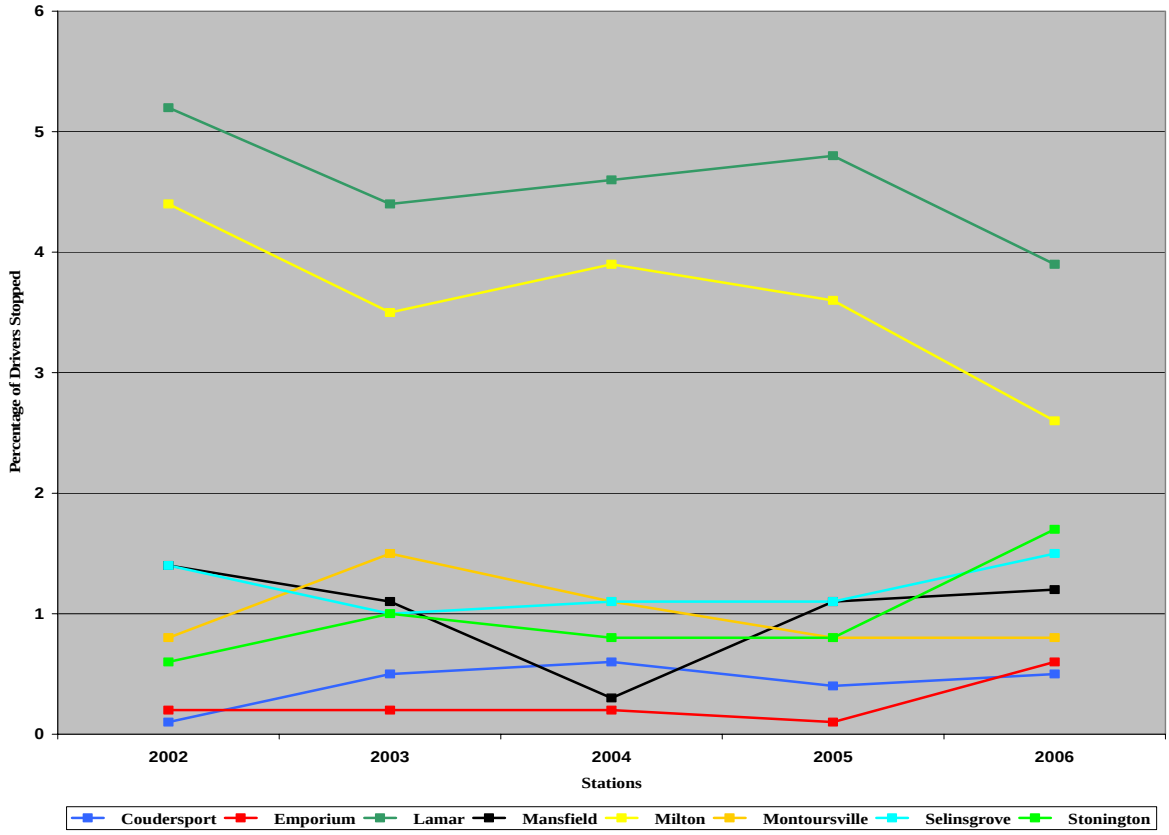


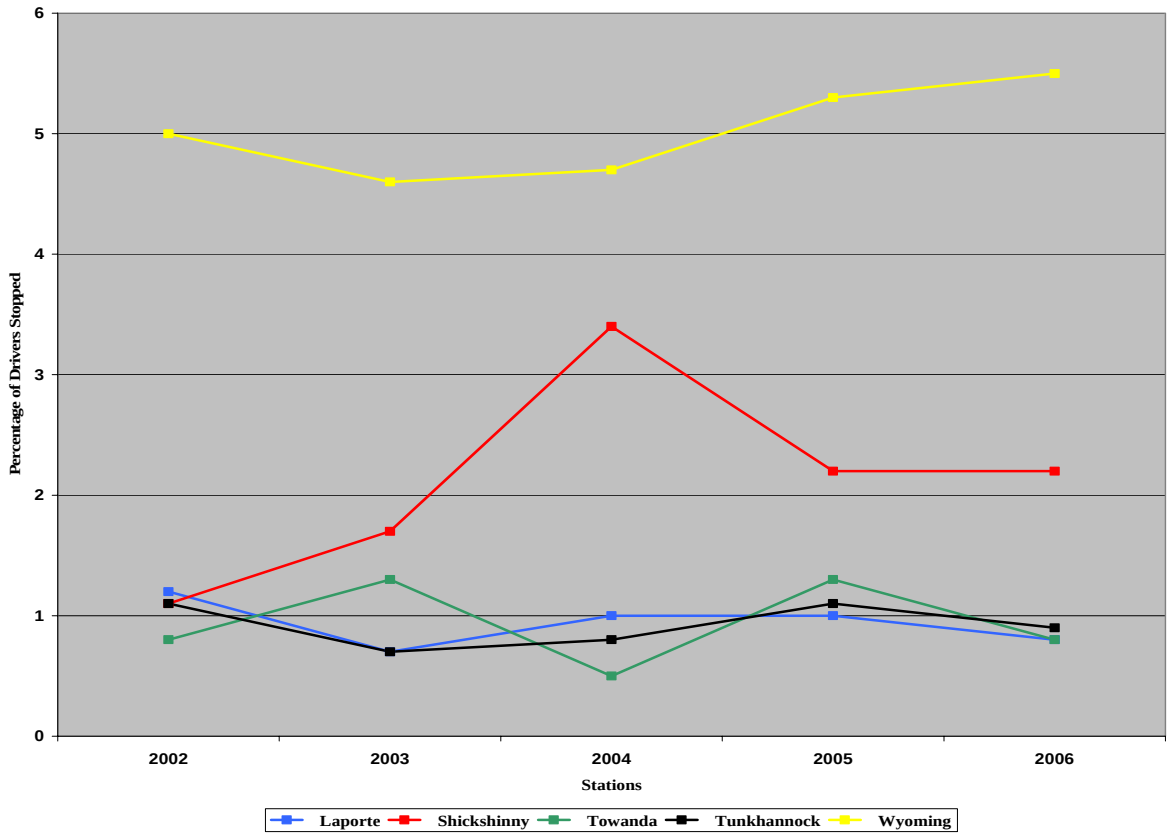
Figure 4.9 reports the percentages of Black drivers stopped in Troop F between 2002 and 2006. Coudersport, Emporium, and Stonington all demonstrated minor fluctuations in the percent of Black drivers stopped over the five years of data collection. Mansfield and Selinsgrove reported greater variability, but were approximately at their 2002 levels after increases of about 1% in 2006. Similarly, Lamar nearly returned to its 2002 rate after a 0.6% decrease in 2006. After three years of decreasing percents, Milton exhibited a 1.4% increase in the rate of stops of Black drivers. Montoursville more than doubled in the percent of Black drivers stopped, from 3.4% in 2005 to 7.6% in 2006. It will be important to continue monitoring this station's stopping patterns in 2007.

Figure 4.10: Percent of Traffic Stops Involving Hispanic Drivers – Area II, Troop F: 2002-2006



In regard to Hispanic drivers, Figure 4.10 demonstrates a pattern of relative stability across three stations in Troop F (Coudersport, Montoursville, and Selinsgrove). Mansfield increased slightly in 2006, after a more noticeable increase in 2005. Emporium and Stonington both demonstrated increases in 2006 after stable rates in the previous years. Finally, Lamar and Milton continued their downward trends of stops of Hispanic drivers by demonstrating noticeable deceases in 2006.

Figure 4.11: Percent of Traffic Stops Involving Black Drivers – Area II, Troop P: 2002-2006



The rate of Black drivers stopped in Troop P between 2002 and 2006 is reported in Figure 4.11. Minor decreases were demonstrated in Laporte, Towanda, and Tunkhannock, with none of these stations exhibiting a more than 1% change in either direction for any year of data collection. After a more than 1% decrease in the percent of Black drivers stopped in 2005, Shickshinny demonstrated no change in 2006. Wyoming reported slight increases from 2003 to 2006, but the total increase is less than 1%.

Figure 4.12: Percent of Traffic Stops Involving Hispanic Drivers – Area II, Troop P: 2002-2006

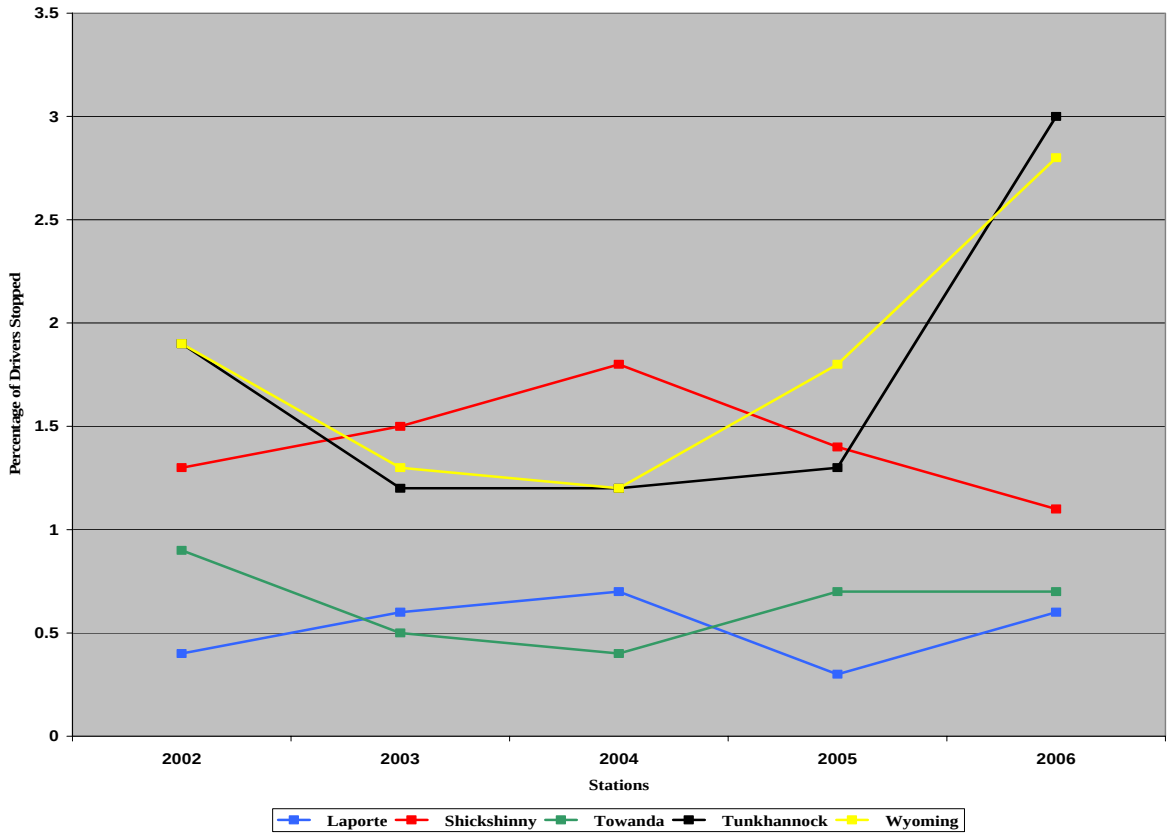


Figure 4.12 reports the stopping rates of Hispanic drivers between 2002 and 2006 in Troop P. Laporte, Shickshinny, and Towanda each reported no more than a 0.3% change in the percent of Hispanic drivers stopped between 2005 and 2006, and less than a 0.5% difference in their rates when including data from 2002. Tunkhannock and Wyoming both reported increases of 1.7% and 1.0% in their 2006 rates, respectively. Both of these stations demonstrated decreases between 2002 and 2004 and increases in 2005. Again, it will be important to monitor these stations' trends in 2007.

Figure 4.13: Percent of Traffic Stops Involving Black Drivers – Area II, Troop R: 2002-2006

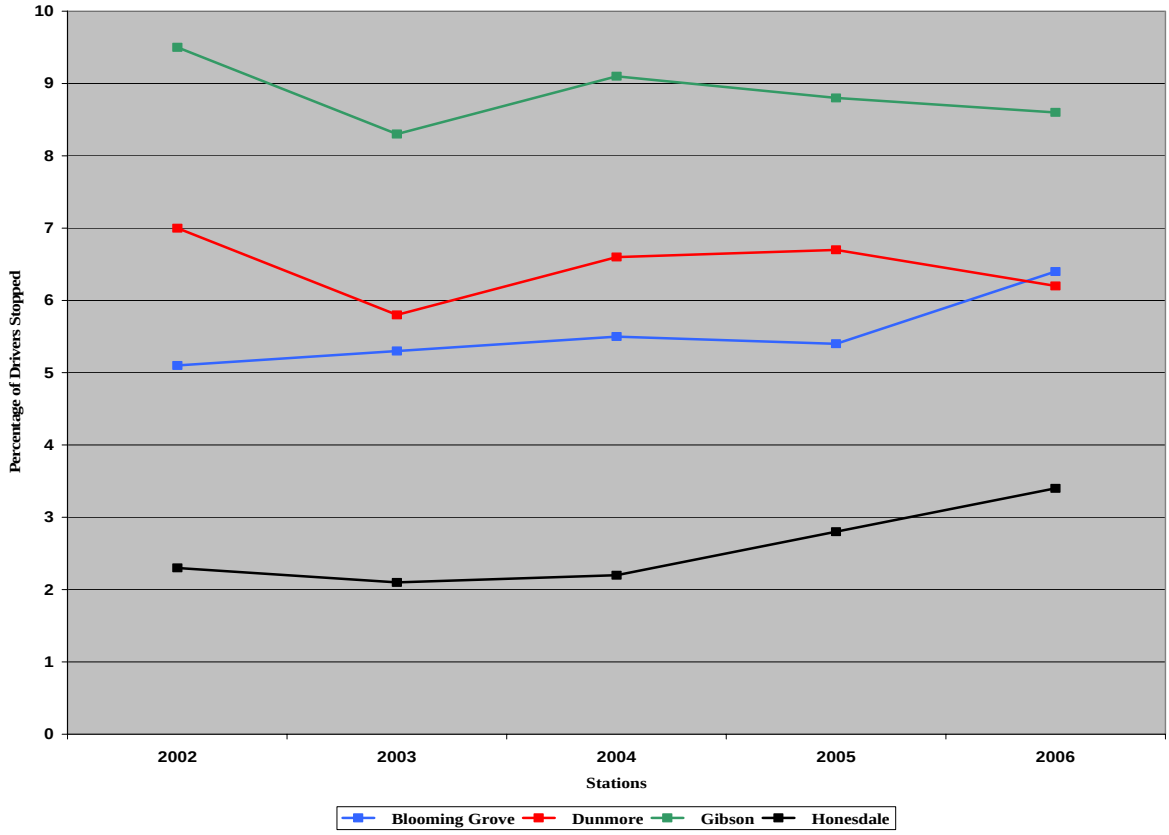


Figure 4.13 reports the percentage of Black drivers stopped in Troop R between 2002 and 2006. Dunmore and Gibson reported slight decreases in 2006, which continues their on-going trend since 2002. In 2006, Blooming Grove and Honesdale reported increases of 1% and 0.6%, respectively; both of these stations have increased about 1% overall in the rate of Black drivers stopped since 2002.

Figure 4.14: Percent of Traffic Stops Involving Hispanic Drivers – Area II, Troop R: 2002-2006

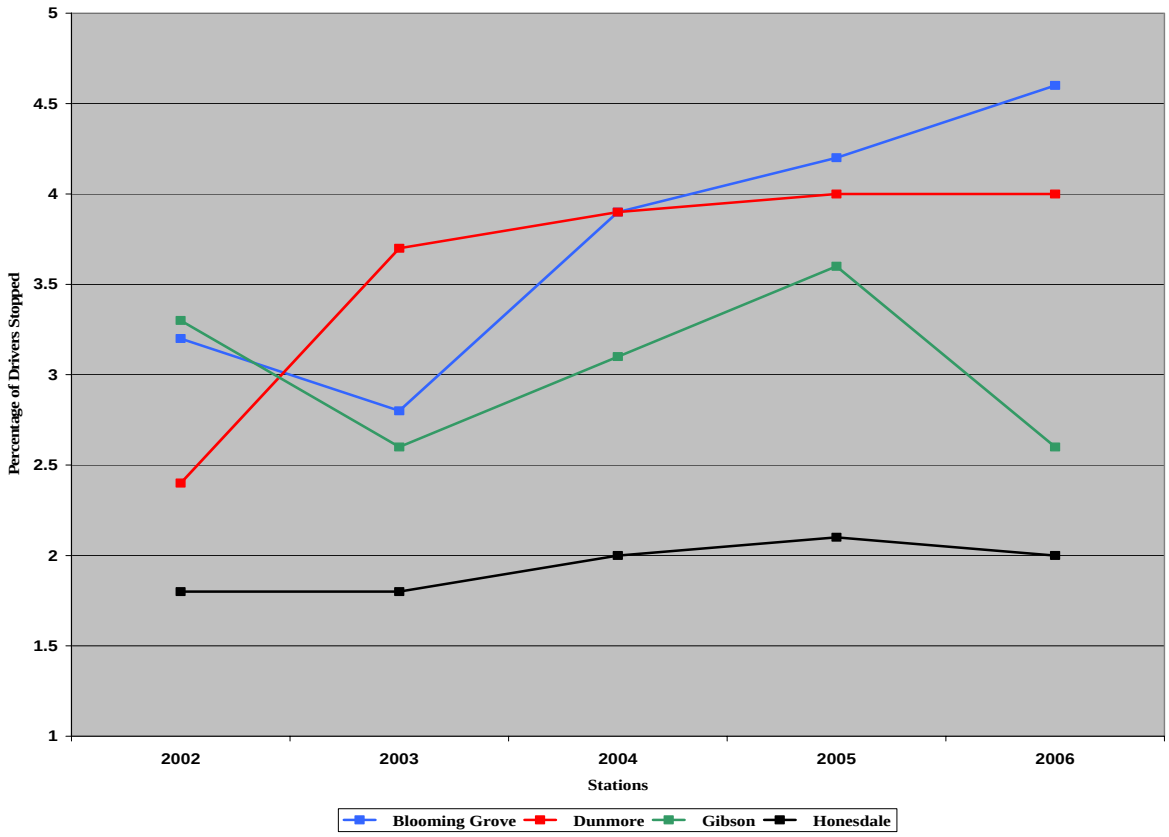
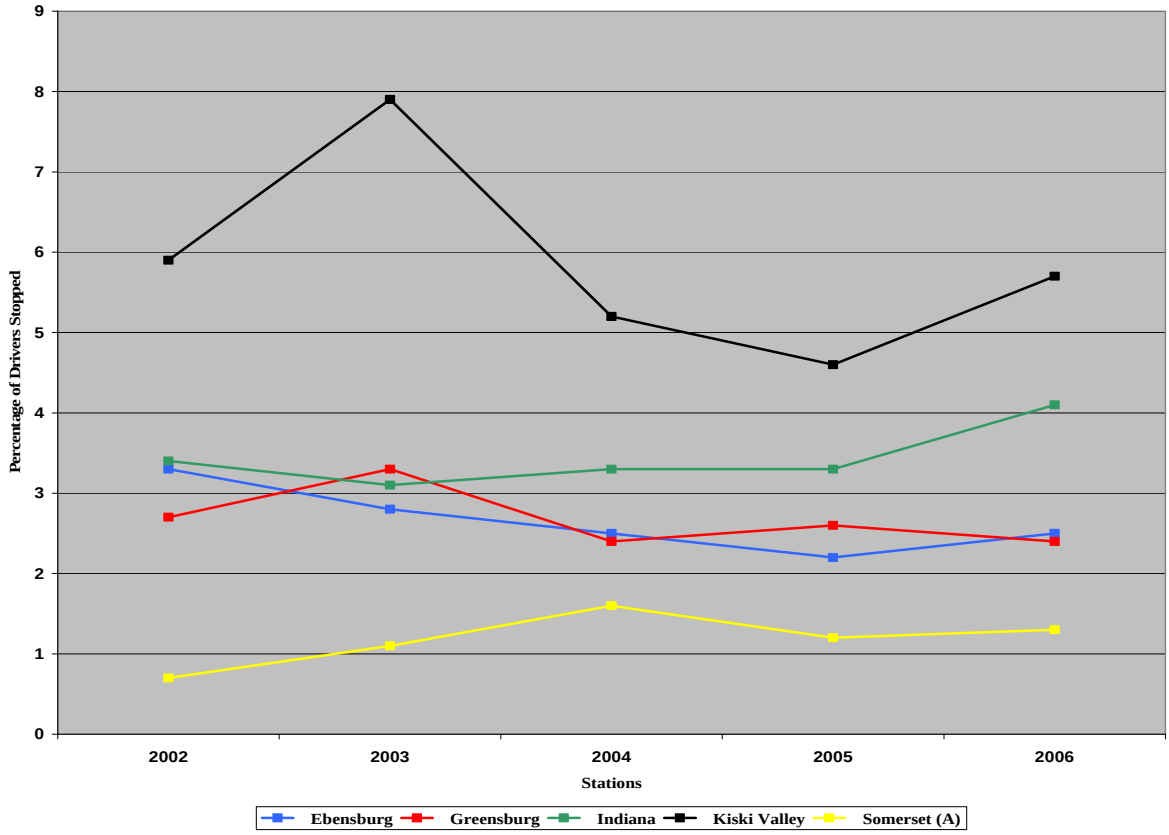


Figure 4.14 details the pattern of traffic stops involving Hispanic drivers between 2002 and 2006 in Troop R. Dunmore and Honesdale reported slight or no change in their rates of stopping Hispanic drivers in 2006; the former has changed negligibly since 2002 and the latter, after experiencing a nearly 1.5% increase in 2003, has also changed negligibly. Gibson demonstrated a 1% decrease in 2006, although this is less than a 1% decrease overall since 2002. Blooming Grove reported a slight increase in the percent of Hispanic drivers stopped in 2006, and a nearly 2% increase since 2003. It will be important to continue monitoring this trend in 2007.

Figure 4.15: Percent of Traffic Stops Involving Black Drivers – Area III, Troop A: 2002-2006



The rate of Black drivers stopped in Troop A between 2002 and 2006 is reported in Figure 4.15. Across the five years, the rates of stops for Black drivers were relatively stable in four of the five stations (i.e., Ebensburg, Greensburg, Indiana, and Somerset (A)). Although overall these stations were stable, it should be noted that Indiana experienced an increase of roughly 1% in 2006. Kiski Valley exhibited more variation, with a 2% increase in 2003, a 3.3% decrease in the percentage of stopped Black drivers between 2003 and 2005, and a 1% increase in 2006, returning it to approximately its 2002 rate.

Figure 4.16: Percent of Traffic Stops Involving Hispanic Drivers – Area III, Troop A: 2002-2006

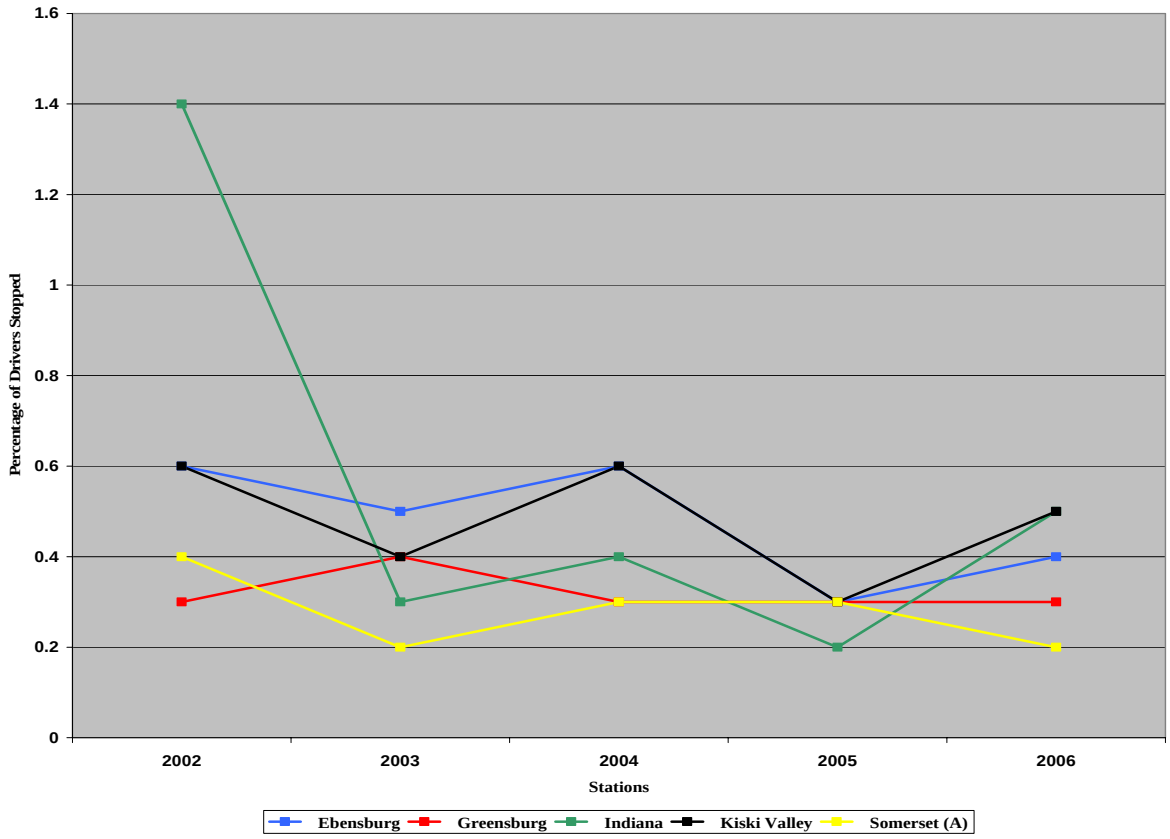


Figure 4.16 displays the stopping trends of Hispanic drivers across the study period in Troop A. All five stations demonstrated little variation between 2002 and 2006, with no more than 0.3% change in their rates of traffic stops involving Hispanic drivers from 2005 to 2006. The greatest variation reported was in Indiana, which had a roughly 1% decline in traffic stops involving Hispanic drivers between 2002 and 2003.

Figure 4.17: Percent of Traffic Stops Involving Black Drivers – Area III, Troop B: 2002-2006

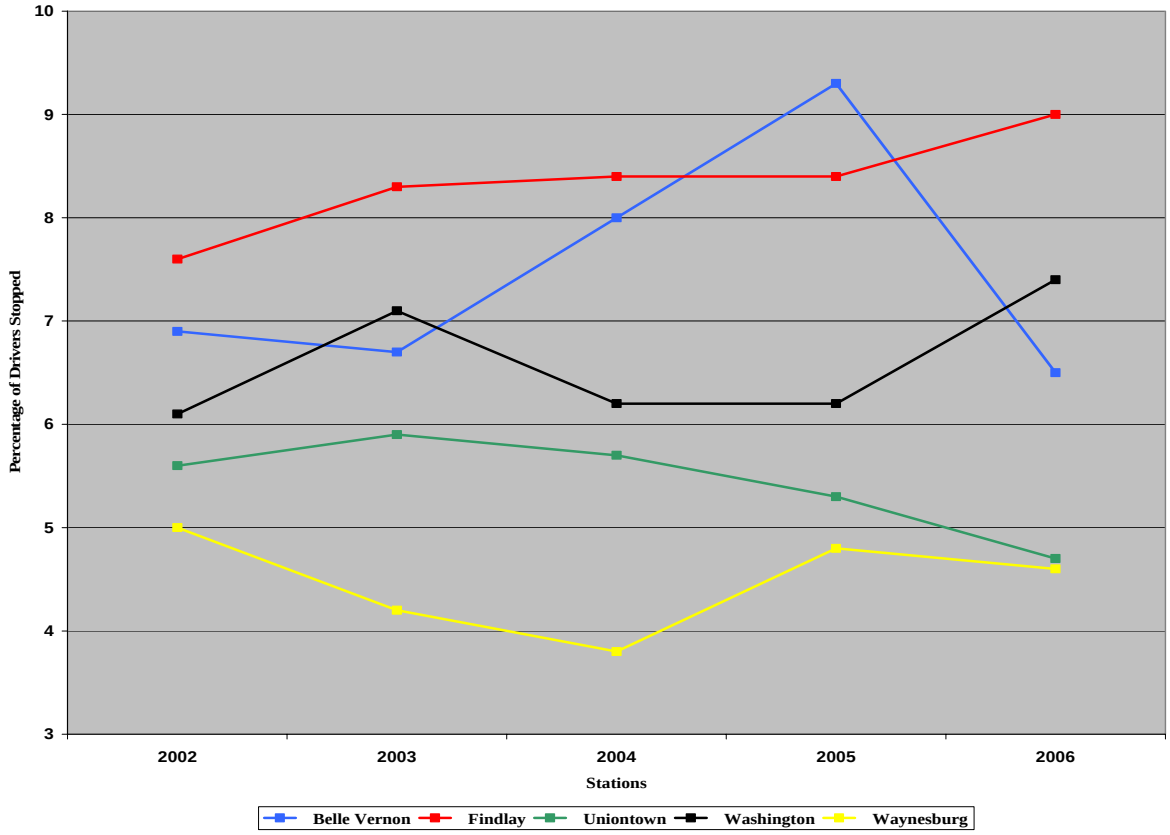


Figure 4.17 reports the percentage of Black drivers stopped in Troop B between 2002 and 2006. Between 2003 and 2005, Belle Vernon showed a steady increase in their rate of traffic stops involving Black drivers with an overall increase of roughly 2.6%; however, this station reported a 2.8% decrease in 2006. Findlay steadily increased their rate of Black drivers stopped between 2002 and 2006 (about 1.5%), while Uniontown has steadily decreased over this time period (about 1%). Washington demonstrated more variability over the years, with an approximately 1% increase in 2006, after no change in 2005. Finally, Waynesburg demonstrated a slight dip in the percent of Black drivers stopped in 2006, a 0.4% decrease from 2002 overall.

Figure 4.18: Percent of Traffic Stops Involving Hispanic Drivers – Area III, Troop B: 2002-2006

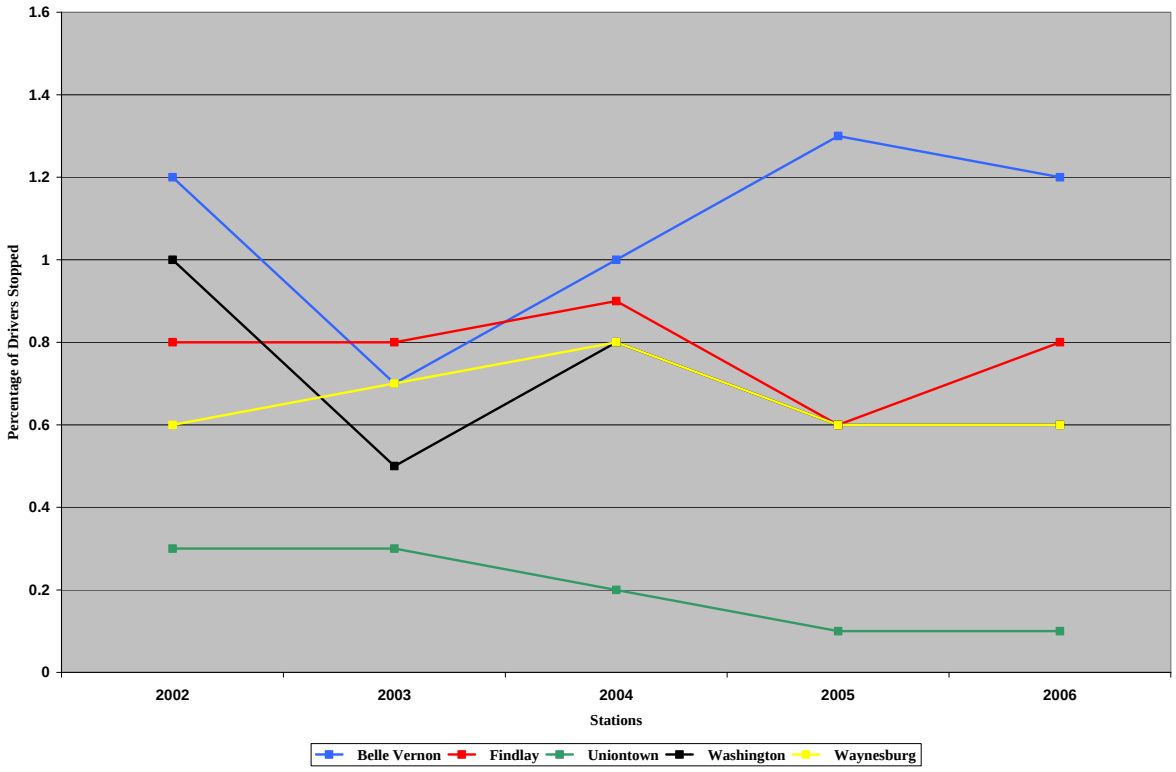
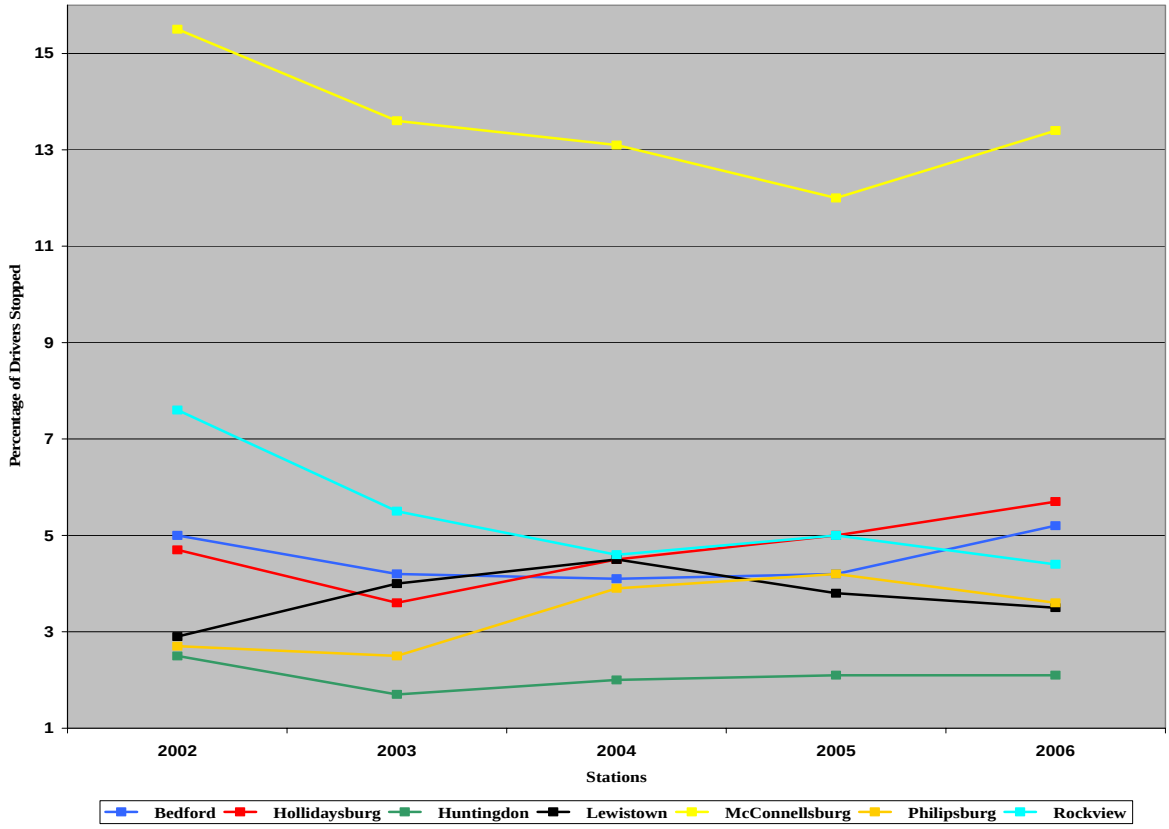


Figure 4.18 reports the trends in Troop B across the five years for Hispanic drivers. Three of the five stations (Uniontown, Washington, and Waynesburg) displayed no change in traffic stops involving Hispanic drivers between 2005 and 2006. Belle Vernon and Findlay reported slight changes in 2006, although both reported identical rates in 2006 as in 2002.

Figure 4.19: Percent of Traffic Stops Involving Black Drivers – Area III, Troop G: 2002-2006



The rate of Black drivers stopped in Troop G between 2002 and 2006 is reported in Figure 4.19. Five of seven stations reported considerable consistency in their rates of Black drivers stopped between 2002 and 2006. Nonetheless, there are some changes in the trends worth noting. McConnellsburg's rate of traffic stops involving Black drivers decreased roughly 3% between 2002 and 2005, but demonstrated an increase of 1.4% in 2006 and should continue to be monitored in 2007. Except for McConnellsburg, all stations in Troop G had slight alterations in 2006 of less than 1%, with some stations reducing their rates and others increasing their rates of traffic stops involving Black drivers. For example, Hollidaysburg showed an increase in 2006, which follows an upward trend beginning in 2003. Finally, it is worth noting that Rockview's rates of Black drivers stopped have decreased roughly 2.5% overall since 2002.

Figure 4.20: Percent of Traffic Stops Involving Hispanic Drivers – Area III, Troop G: 2002-2006

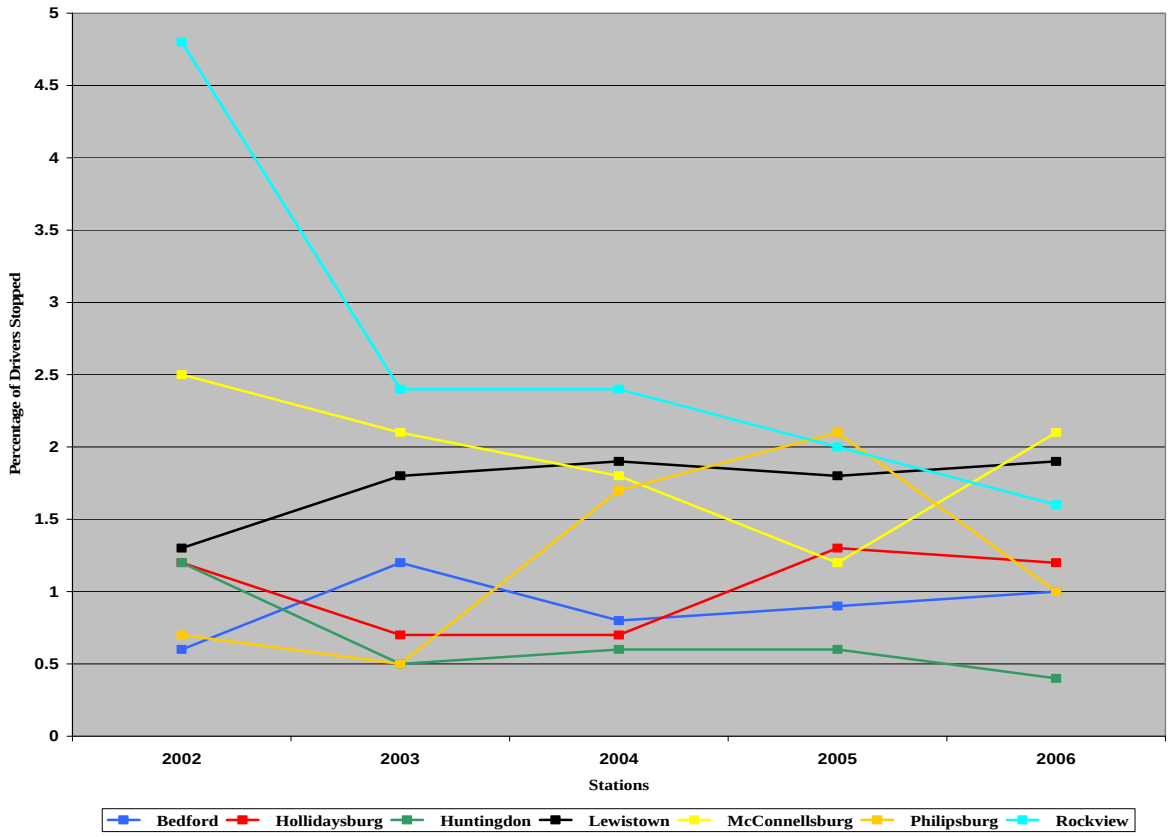


Figure 4.20 reports the trends in Troop G for Hispanic drivers between 2002 and 2006. Bedford, Hollidaysburg, Huntington, and Lewistown all displayed slight variation in their trends from 2002 to 2006; these variations were less than 1%. More noticeable changes were evident in McConnellsburg, Philipsburg, and Rockview. Specifically, after a nearly 1.5% decrease in the Hispanic rate from 2002 to 2005, McConnellsburg reported an increase in Hispanic drivers stopped of roughly 1% in 2006. Philipsburg and Rockview both reported decreases in their rates of traffic stops involving Hispanic drivers, the latter continuing a trend since 2002 when the reported rate of Hispanic drivers stopped was roughly triple the present rate.

Figure 4.21: Percent of Traffic Stops Involving Black Drivers – Area IV, Troop C: 2002-2006

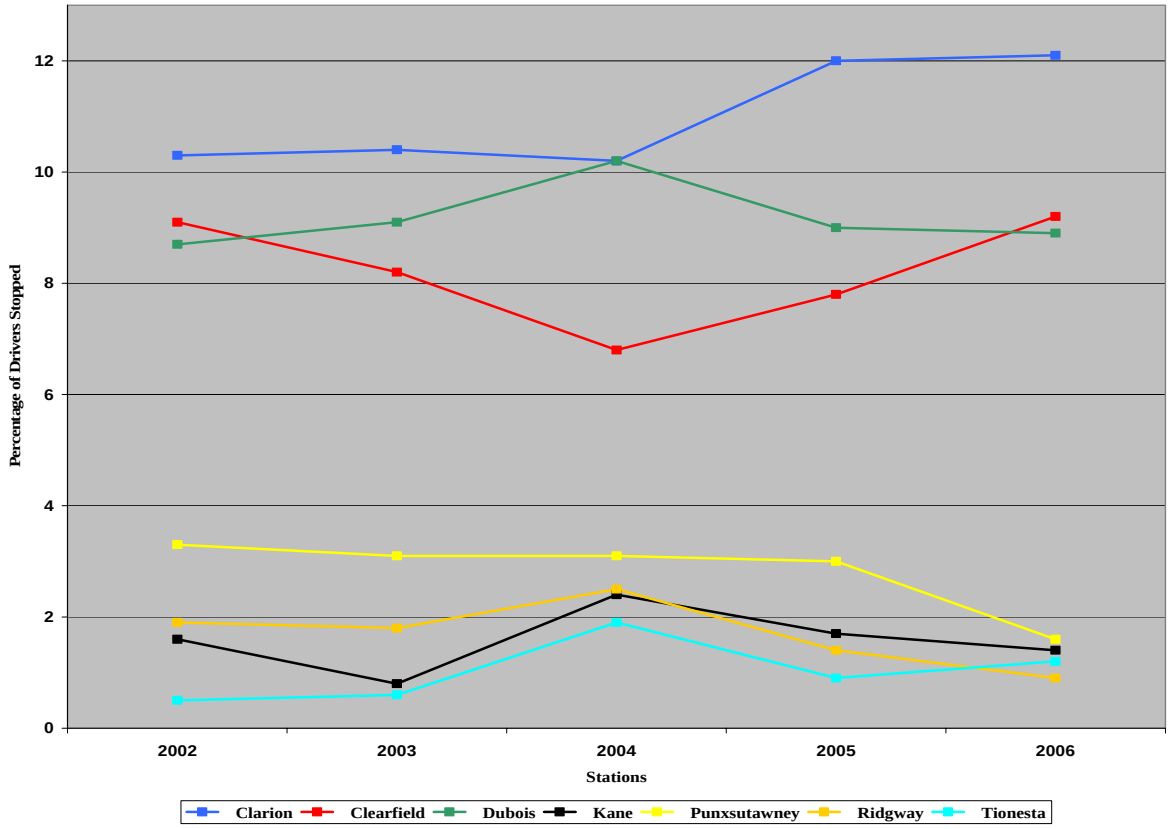


Figure 4.21 reports the percentage of Black drivers stopped in Troop C between 2002 and 2006. As displayed in Figure 4.21, five of the seven stations demonstrated slight changes (0.5% or less) in their rates of traffic stops involving Black drivers between 2005 and 2006. Specifically, Clarion leveled its rate of traffic stops involving Black drivers in 2006 after an increase in 2005. At the same time, Dubois, Kane, Ridgeway, and Tionesta all demonstrated marginal alterations to their rates in 2006. Clearfield displayed an increase of roughly 2.5% between 2004 and 2006 returning this station to its 2002 level. It will be important to monitor its rate of traffic stops involving Black drivers in 2007. In contrast, Punxsutawney reported a roughly 1.5% decrease in 2006 after three years of insignificant change.

Figure 4.22: Percent of Traffic Stops Involving Hispanic Drivers – Area IV, Troop C: 2002-2006

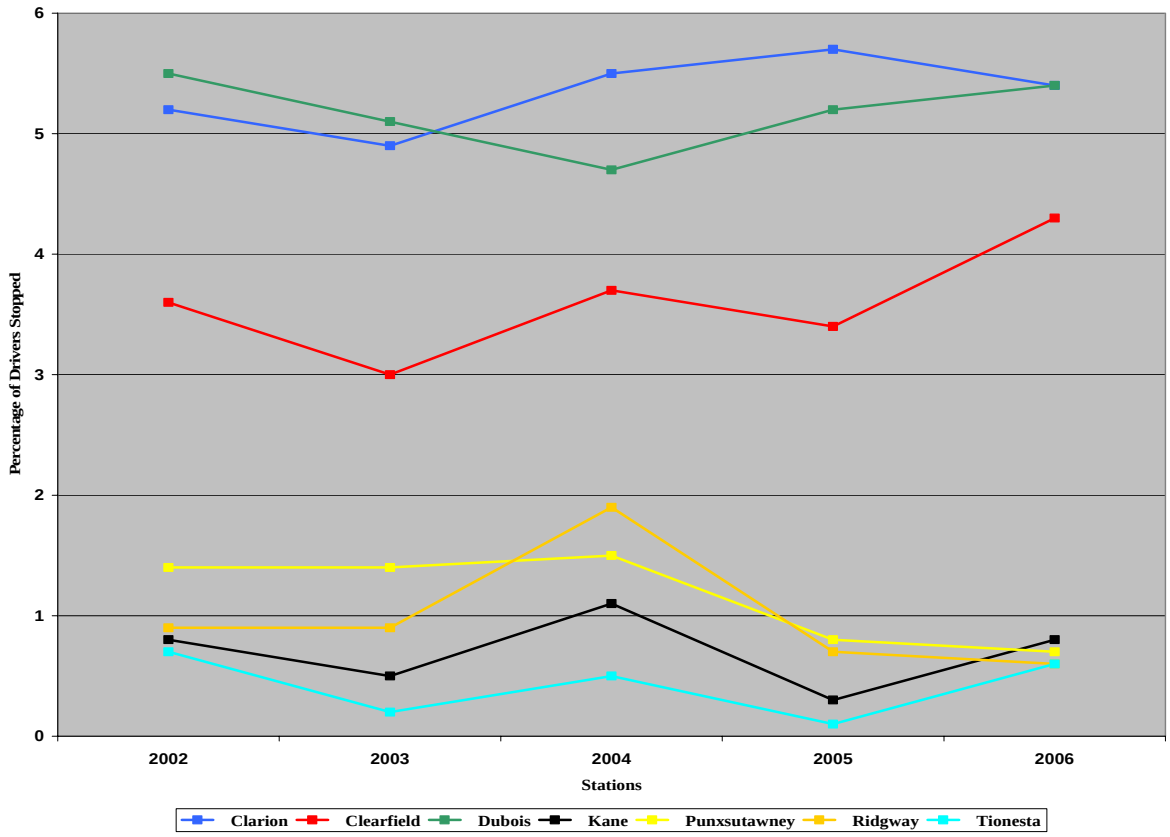
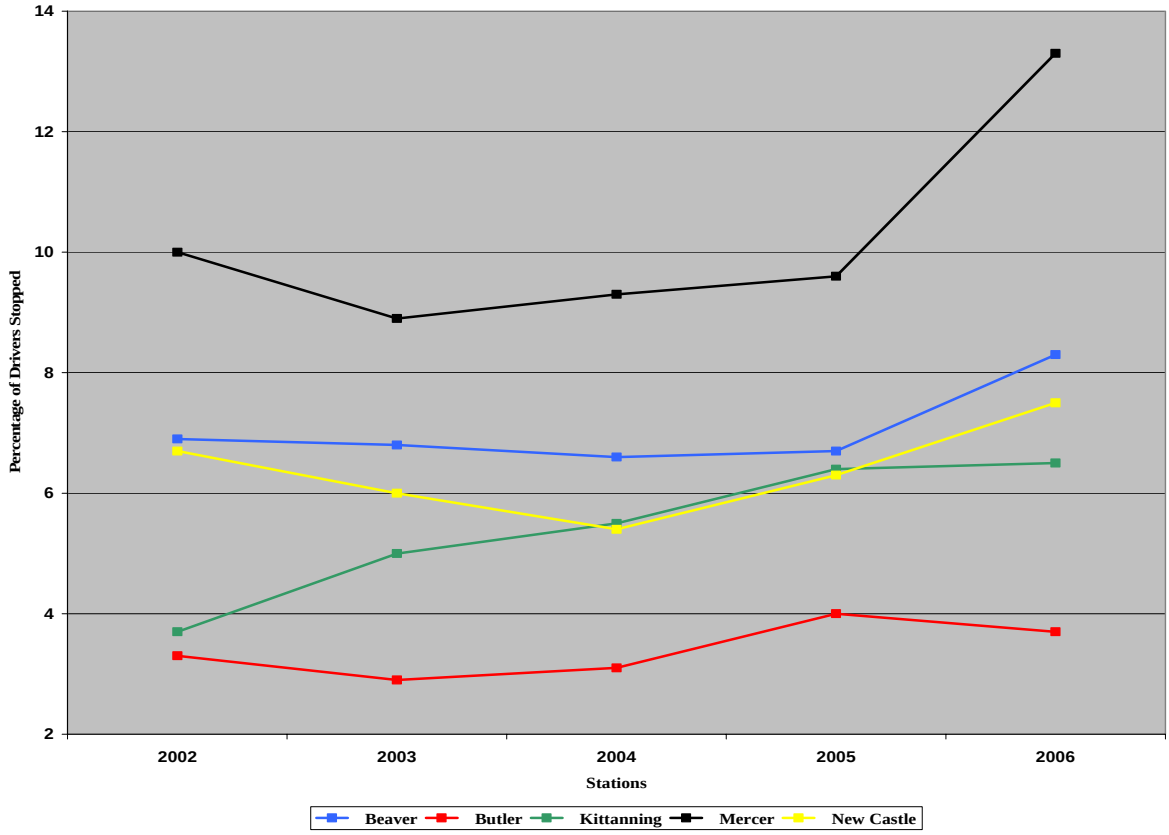


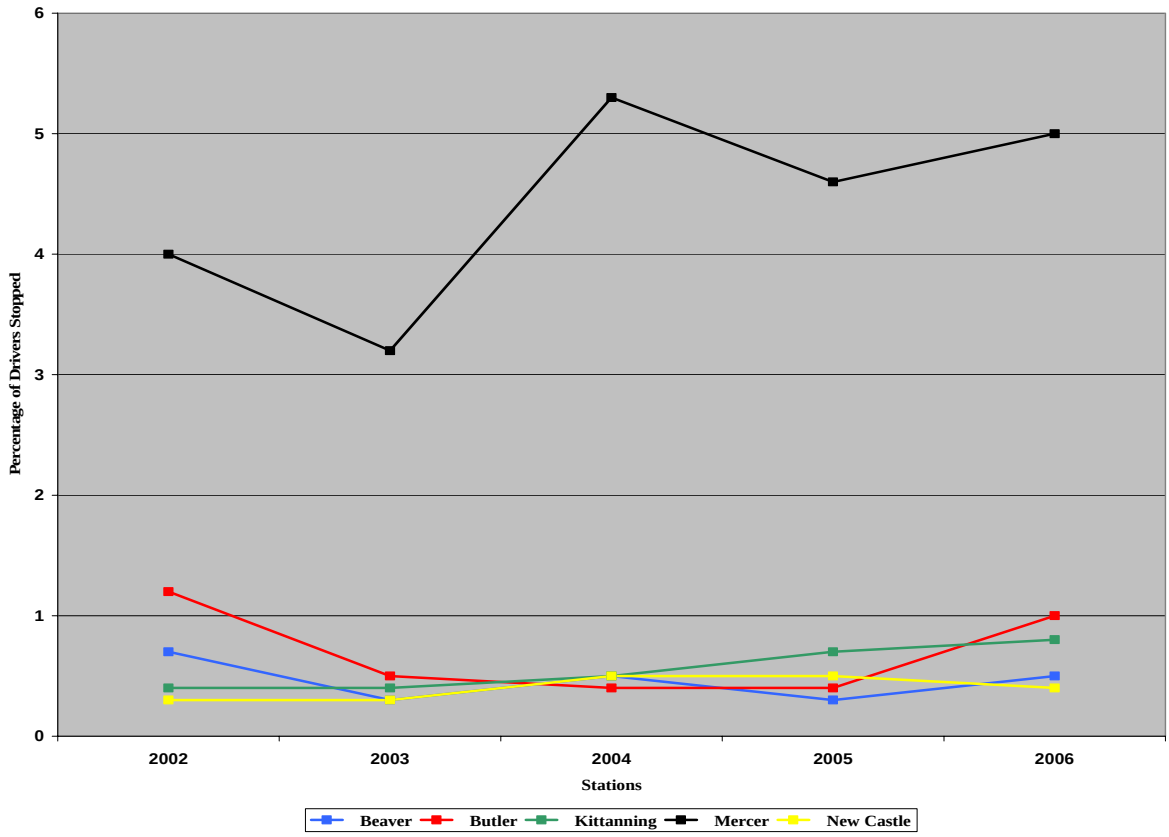
Figure 4.22 reports the traffic stops involving Hispanic drivers in Troop C between 2002 and 2006. No station demonstrated more than a 1% change in their rate of stops of Hispanic drivers in 2006: four increased and three decreased their rates. Overall, the stations in Troop C reported rates in 2006 very similar to those reported in 2002, with the exception of Clearfield which has been experiencing a general increase in traffic stops involving Hispanic drivers since 2003.

Figure 4.23: Percent of Traffic Stops Involving Black Drivers – Area IV, Troop D: 2002-2006



The rate of Black drivers stopped in Troop D between 2002 and 2006 is reported in Figure 4.23. Several stations exhibited increases in 2006. For example, Beaver and New Castle reported increases of 1.6% and 1.2%, respectively, with the latter continuing a trend beginning in 2004. More noticeable was the increase in Mercer, which reported a sharp increase of 3.7% in the rate of stops of Black drivers. These three stations reported little variation between 2002 and 2005. These changes do highlight the importance of monitoring their activity in 2007. Butler reported a slight decrease in 2006, continuing a trend of relatively stability in the rate of Black drivers stopped. Finally, Kittanning reported a slight increase in the percent of Black drivers stopped in 2006. Importantly, their rate increased each year since data collection began (roughly 2.5% overall), and it will be important to monitor this trend in upcoming years.

Figure 4.24: Percent of Traffic Stops Involving Hispanic Drivers – Area IV, Troop D: 2002-2006



Hispanic drivers are detailed in Figure 4.24 across the five years of analysis. Four of the five stations showed little variation between 2002 and 2006, with changes of less than 1% for these stations. Mercer had a higher overall rate of stops and more variation across the four years than any of the other stations. Although there was a reduction in 2005, the 2006 rate crept back up and this instability in the percentage of Hispanic drivers stopped in Mercer should be monitored with future data collection.

Figure 4.25: Percent of Traffic Stops Involving Black Drivers – Area IV, Troop E: 2002-2006

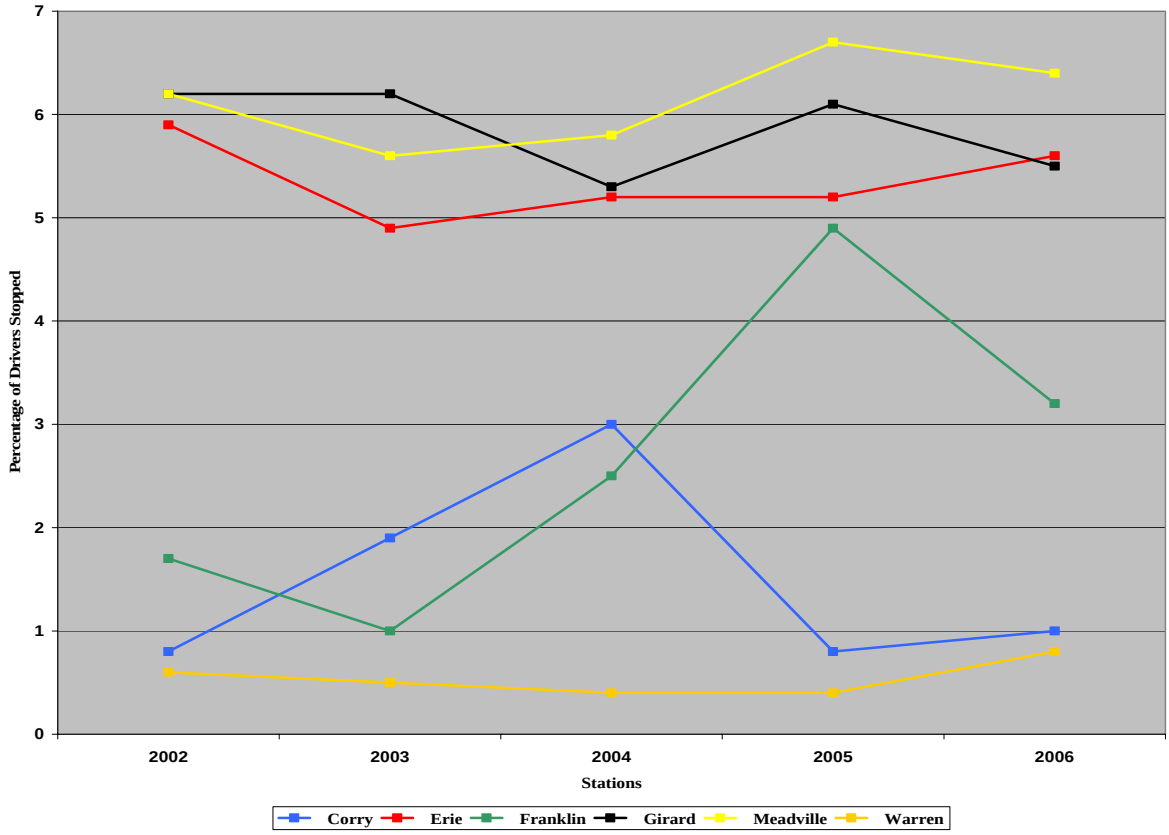


Figure 4.25 reports the percentage of Black drivers stopped in Troop E between 2002 and 2006. Erie, Girard, and Meadville all demonstrated slight variation in stops of Black drivers between 2002 and 2006, with an overall reduction in Erie and Girard, and a slight increase in Meadville. After a 2.2% decrease in 2005, Corry demonstrated a slight increase in 2006 returning to roughly its 2002 level. The rate of stops in Warren remains relatively unchanged across the five years. After an almost 4% increase culminating in 2005, Franklin reported an almost 1.5% decrease in the percent of Black drivers stopped in 2006.

Figure 4.26: Percent of Traffic Stops Involving Hispanic Drivers – Area IV, Troop E: 2002-2006

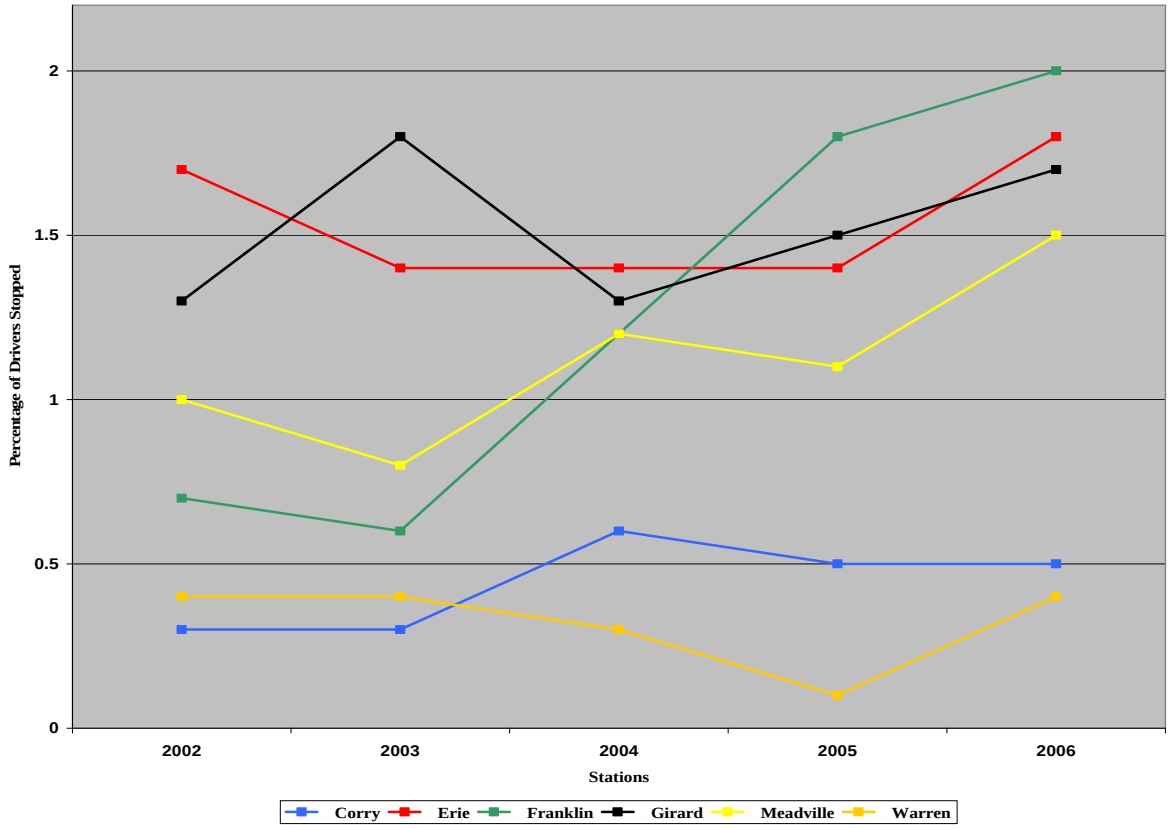
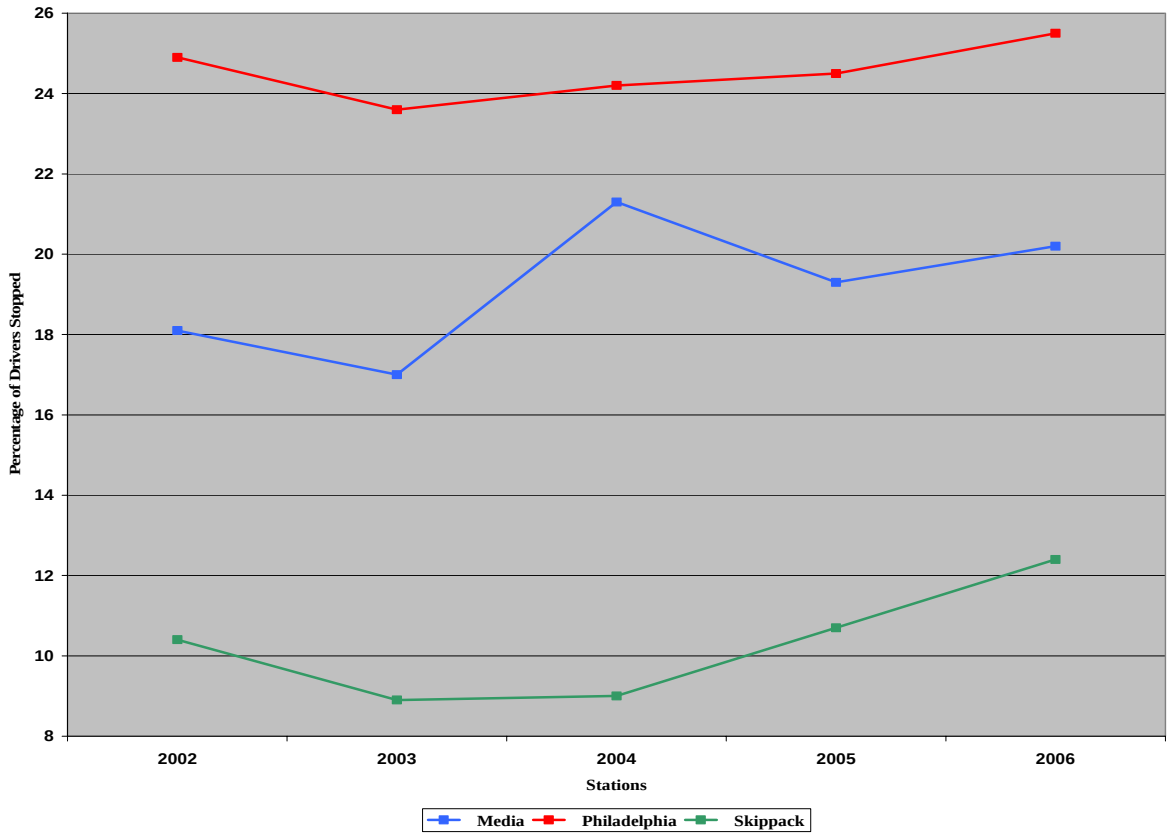


Figure 4.26 highlights the stopping trends for Hispanic drivers in Troop E between 2002 and 2006. All six stations reported slight increases or unchanged rates of traffic stops involving Hispanic drivers in 2006. Four of these had previously reported slight decreases of unchanged rates in 2005, while Girard reported a slight increase, and Erie reported no change since 2003. Franklin reported a slight increase in 2006, contributing to a roughly 1.5% increase overall since 2003. It will be important to monitor this trend in 2007.

Figure 4.27: Percent of Traffic Stops Involving Black Drivers – Area V, Troop K: 2002-2006



The rate of Black drivers stopped in Troop K between 2002 and 2006 is reported in Figure 4.27. In general, all three stations exhibited increases in their rates in 2006: 0.9% in Media, 1.0% in Philadelphia, and 1.7% in Skippack. Media and Skippack increased roughly 2% overall since 2002, while Philadelphia remained relatively stable over the five years of data collection. Media and Skippack need to be monitored in 2007 to determine if these trends continue.

Figure 4.28: Percent of Traffic Stops Involving Hispanic Drivers – Area V, Troop K: 2002-2006

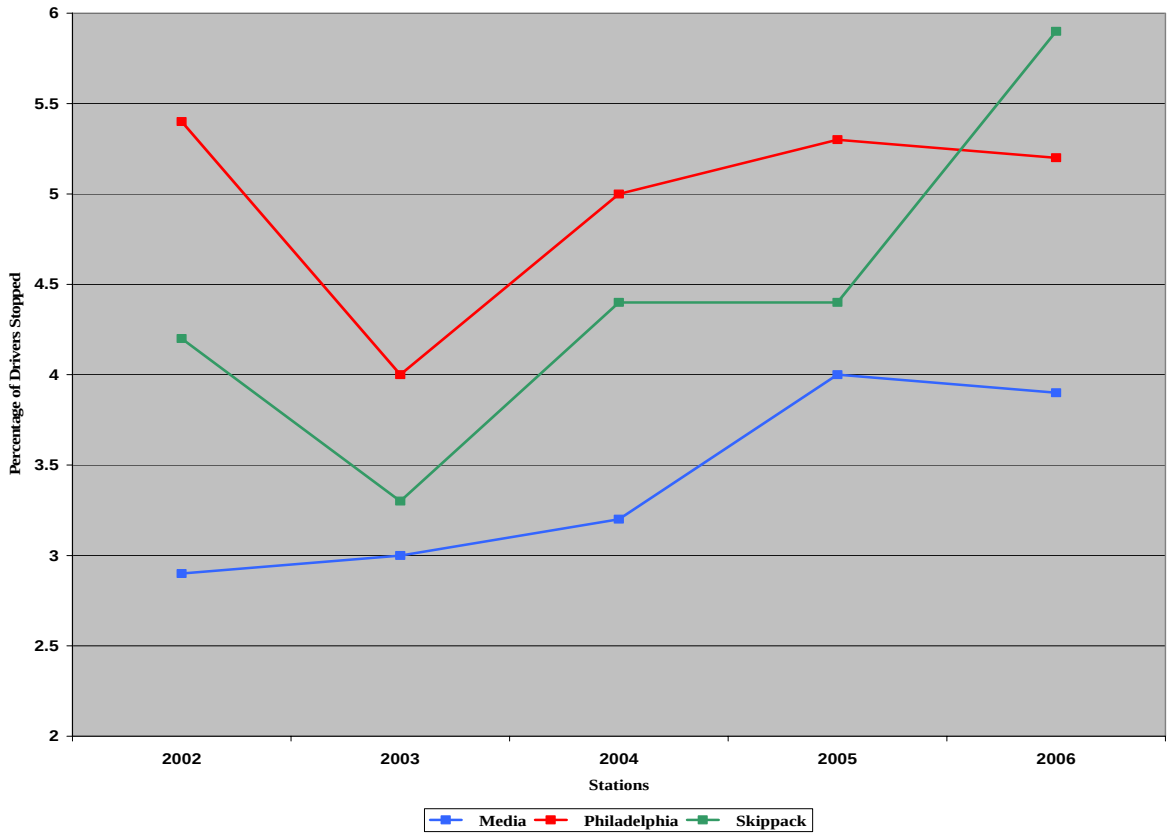
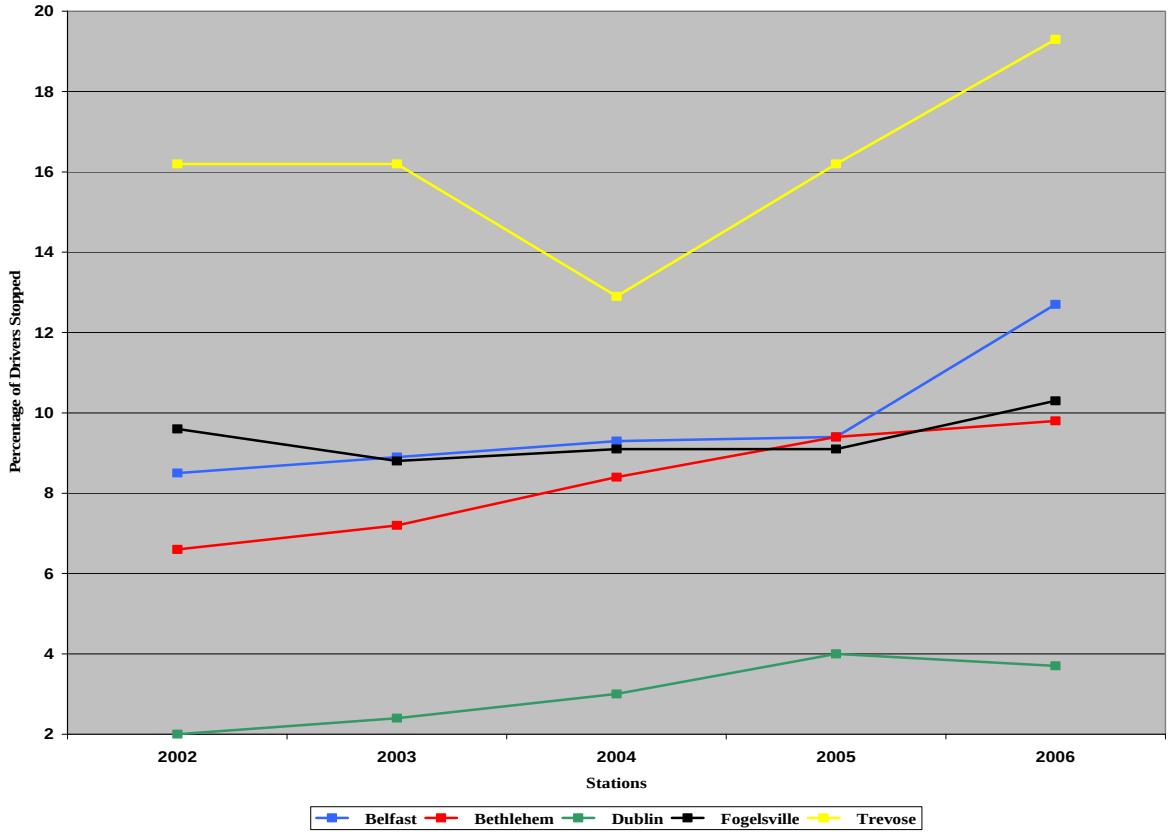


Figure 4.28 reports the trends for Hispanic drivers in Troop K between 2002 and 2006. Media and Philadelphia displayed negligible decreases in 2006, which is important as previously both stations had demonstrated upward trends. Skippack reported a noticeable increase of 1.5% in 2006 and a 2.6% overall increase since 2003. This trend needs to be monitored in 2007.

Figure 4.29: Percent of Traffic Stops Involving Black Drivers – Area V, Troop M: 2002-2006



The rate of Black drivers stopped in Troop M between 2002 and 2006 is reported in Figure 4.29. Fogelsville reported a 1.2% increase in 2006 after three years of virtually unchanged rates of traffic stops involving Black drivers. Bethlehem and Dublin both demonstrated steady increases in their rates from 2002 to 2005. Bethlehem continued this trend with a 0.4% increase in 2006 and a roughly 3% increase overall, while Dublin experienced a slight decline in 2006 and a roughly 2% increase overall since 2002. Belfast and Trevose both reported large increases in their 2006 rates (3.3% and 3.2%, respectively); Belfast increased roughly 4% overall since 2002 while Trevose increased roughly 3% overall. It will be important to continue monitoring the trends in Belfast, Bethlehem, and Trevose in 2007.

Figure 4.30: Percent of Traffic Stops Involving Hispanic Drivers – Area V, Troop M: 2002-2006

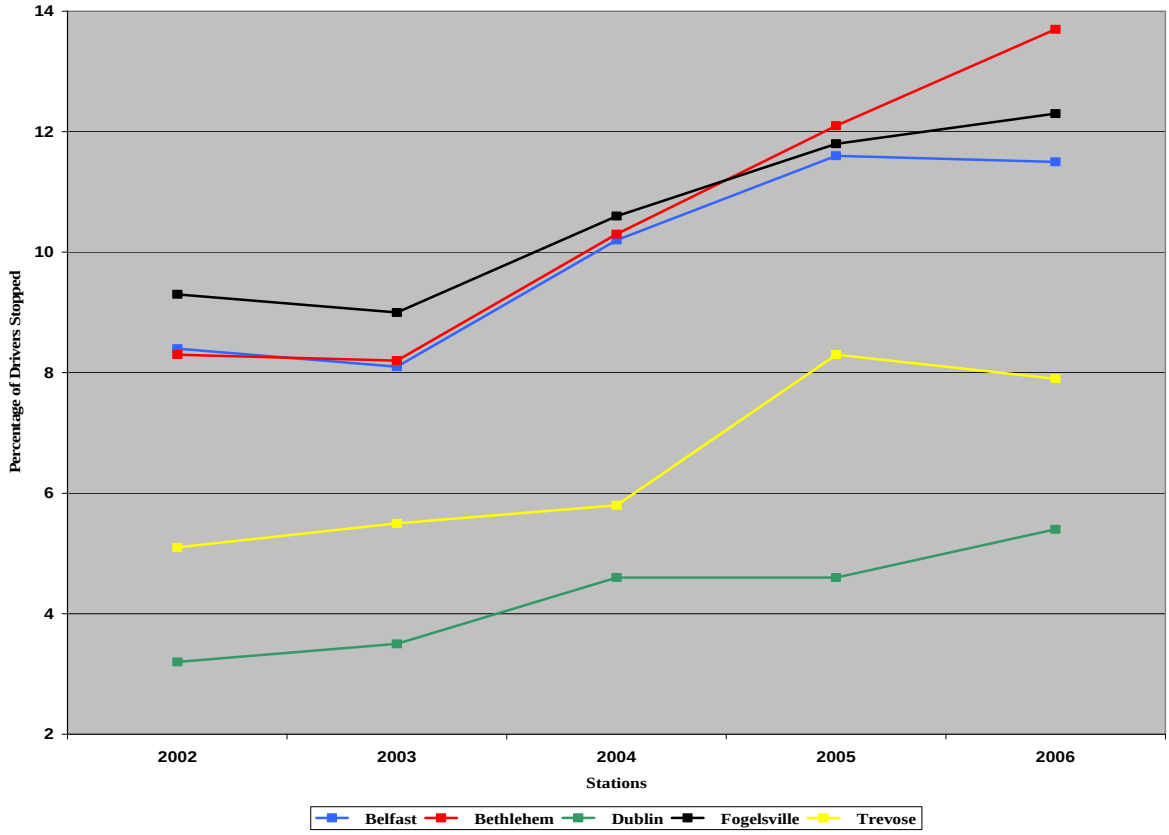
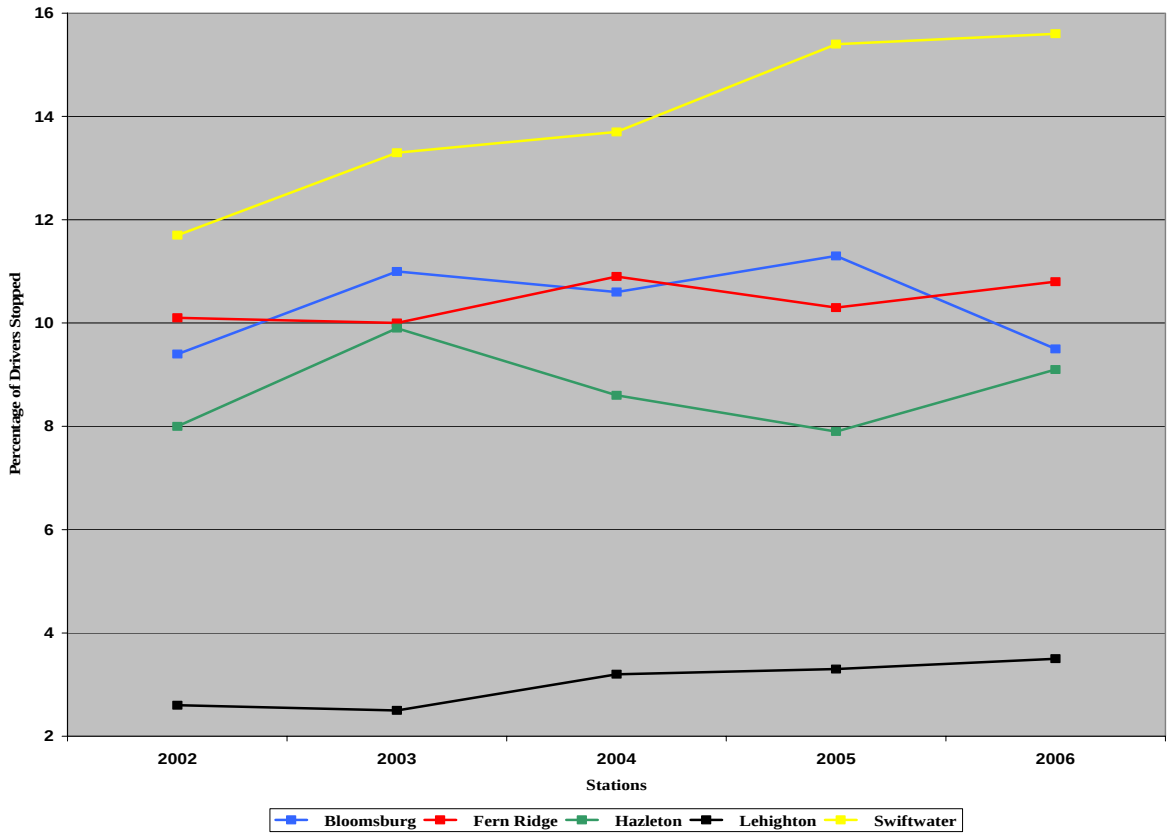


Figure 4.30 reports the trends of traffic stops involving Hispanic drivers in Troop M between 2002 and 2006. Three of the five stations demonstrated varying degrees of increases in the percent of traffic stops involving Hispanic drivers over the five years of data analysis (i.e., Bethlehem, Dublin, and Fogelsville) and should continue to be monitored in 2007 to assess whether their trends continue. After continual increases, Belfast and Trevose reported slight decreases in the percent of Hispanic drivers stopped in 2006; both increased roughly 3% overall since data collection began.

Figure 4.31: Percent of Traffic Stops Involving Black Drivers – Area V, Troop N: 2002-2006



The rate of Black drivers stopped in Troop N between 2002 and 2006 is reported in Figure 4.31. Four of the five stations in Troop N demonstrated variability in their rates across the five years of data analysis; however, as of 2006, all were currently reporting rates similar to those in 2002. Only one station, Swiftwater, displayed an upward trend across the five years. This station has experienced an overall increase of roughly 4% and needs to be monitored in future years.

Figure 4.32: Percent of Traffic Stops Involving Hispanic Drivers – Area V, Troop N: 2002-2006

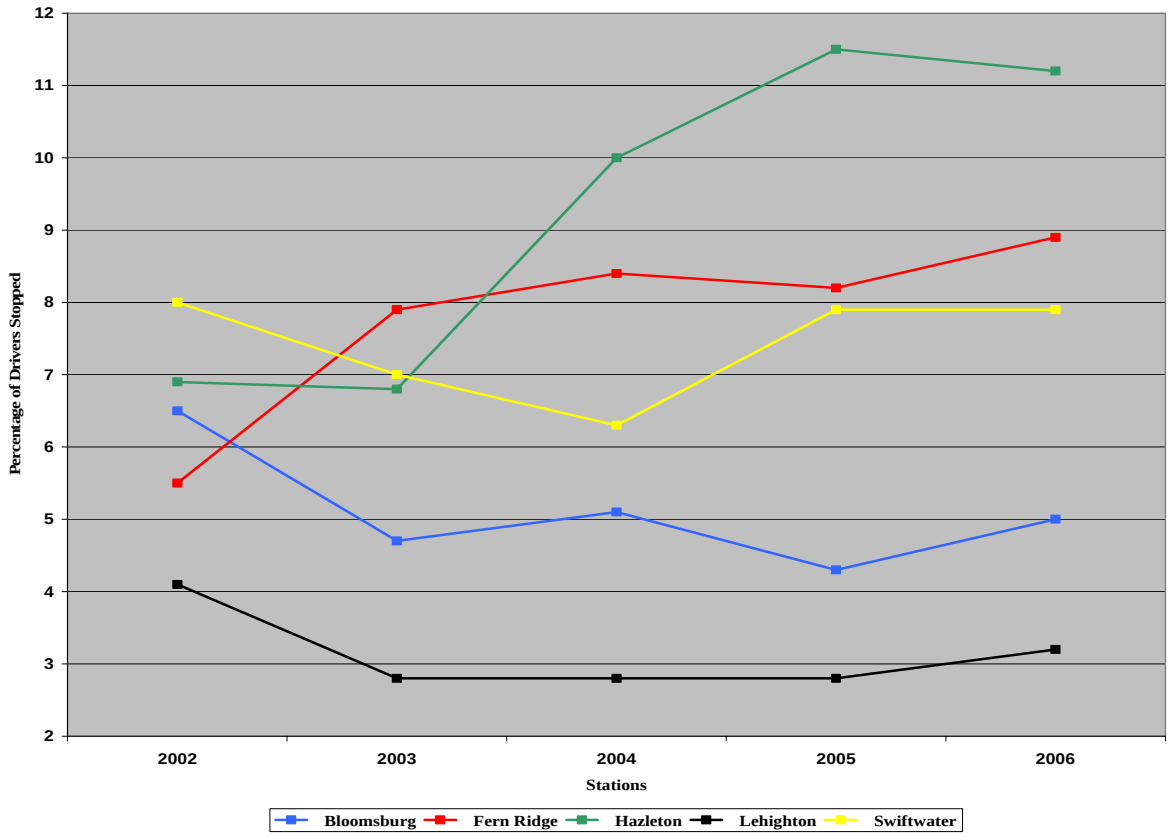


Figure 4.32 shows the trends for Hispanic drivers between 2002 and 2006, with Bloomsburg and Lehighton demonstrating increases of less than 1.0% in the rates of Hispanic drivers stopped in 2006; however, this was still a reduction overall since 2002 in both stations. Fern Ridge also increased less than 1.0% in 2006; however, this is a roughly 3.5% increase overall since 2002 and this station needs to be monitored in the future. Swiftwater reported no change in 2006. Finally, Hazleton showed a small decrease in the rate of stops of Hispanic drivers in 2006 after a roughly 4.5% increase since 2003.

Traffic Stops of Black & Hispanic Drivers at the Station & County Levels: 2002 – 2006

As demonstrated in Figures 4.1 - 4.32, trends of stopping Black and Hispanic drivers from 2002 to 2006 varied considerably within and across stations. While these figures are useful for descriptive purposes, they cannot be used to determine if there are statistically significant differences in the rates of stopping Black and Hispanic drivers across time. To address this issue, a statistical test (the binomial) was conducted for data at the station and county level to compare the rates of Black and Hispanic drivers stopped across multiple years of data collection.

The binomial significance test was used for this analysis because it allows a comparison of two proportions to determine if there is a statistically significant difference in the two values. In addition, it takes the sample size (i.e., the number of traffic stops) into account when determining whether there is a statistical difference between the two proportions. The result of the binomial test is a value that can be interpreted as the probability of an outcome occurring by chance alone. That is, the value produced by the binomial test represents the level of confidence that the difference between the two proportions is, in fact, a real statistical difference and not an artifact of the data. For example, if a 0.0001 confidence level is used, the binomial statistic is interpreted as reflecting a statistically significant difference between the stop rates 9,999 times out of 10,000. Alternatively, only one time out of 10,000 would this result occur due to chance.

The binomial is particularly appropriate for examining percentages across time periods when the total number of events (i.e., cases) change across those time periods. In this case, there are a fluctuating number of traffic stops across years. The binomial is constructed in a manner to consider these varying numbers of events when determining statistical significance. Moreover, because the binomial considers the number of cases, it also accounts for locations that have a low number of stops. In other words, the result of the binomial has taken into account areas that have low numbers of stops and has corrected for any bias that may be associated with such conditions. Simply put, this statistical technique considers the small number of stops in some locations when calculating measures of statistical significance.

Importantly, a statistically significant increase in the rate of stopping a minority group cannot be used to conclude the existence of officer bias. There are a variety of potential explanations for a change in the rate of minority stops that include but are not limited to racial bias. For example, changes in the rate of stops could occur as a result of:

- Changes in the racial/ethnic composition of residential populations, altering the racial/ethnic composition of drivers eligible to be stopped.
- Other changes in travel patterns which differentially impact the percentages of minority drivers on particular roadways.
- Changes in PSP deployment patterns and manpower allocation to address changes in reported criminal patterns and calls for service, resulting in higher concentrations of officers in areas where minorities are more likely to travel and/or violate the law.
- Changes in officer bias toward minority drivers.

- Changes in the data collection system.

These analyses are useful for identifying trends across time and areas that may need further examination to assess the validity of the aforementioned explanations.

Prior to computing the binomial, two decisions were made to ensure that the results of the binomial were accurate. First, a stringent confidence level was selected. The research team decided on using a confidence level of 0.0001, which demands an extremely high degree of confidence in the result. That is, for each county and station, an independent binomial value is produced, and only if that value reaches the 0.0001 level is the county or station identified as having a statistically significant difference in their rate of stopping the racial/ethnic group of interest during the selected time period.

Second, rates of stops for Black and Hispanic drivers in 2006 were compared to their rate of stops in 2002, 2003, 2004, and 2005. It is important to compare the 2006 rate to multiple previous years to better ensure that a change in 2006 was not merely a random fluctuation from one comparison year. Therefore, independent comparisons of 2006 rates to rates in 2002, 2003, 2004 and 2005 provide more confidence that any statistically significant result indicates real change rather than random fluctuation.

Based on these criteria, binomial analyses were conducted for Black and Hispanic drivers across all stations and counties. This process results in four comparisons for each jurisdiction (i.e., 2002 vs. 2006; 2003 vs. 2006; 2004 vs. 2006; and 2005 vs. 2006), and the results indicate whether the 2006 rate was significantly higher or lower than each of the previous years.[11]

Tables 4.3 – 4.6 below document only the stations and counties that had significant increases in the rates of Black and Hispanic drivers stopped for at least three of the four years compared to 2006. In these tables, the first five columns report the number of traffic stops of the minority group. In the next five columns, the percent of stops of the minority group are reported for all five years. The final four columns identify the comparison that reached statistical significance in the rate of stops when comparing 2006 to previous years.[12] The results are characterized by the following symbols:

- "No" indicates that no statistically significant change occurred between the years analyzed
- "+" indicates that there was a statistically significant **increase** in the 2006 rate of traffic stops compared to the earlier year

The larger analysis (documented in Appendix A) reports the trends in each jurisdiction and whether any change from previous years is statistically significantly different from 2006. In Tables 4.3 – 4.6, only those stations and counties with three or more years that significantly differ from 2006 are reported.

[11] The full results of the binomial analyses are reported in Appendix A.

[12] These columns reflect the analysis between the rate of traffic stops in 2002 and 2006, the rate of traffic stops in 2003 and 2006, the rate of traffic stops in 2004 and 2006, and the rate of traffic stops in 2005 and 2006, respectively.

Station Analyses

Tables 4.3 & 4.4 identify the stations that had at least three rate comparisons reaching statistical significance for Black and Hispanic drivers, respectively. For Black drivers, there were six stations that had increases in three of the comparisons and four other stations with statistical increases in all four comparisons. Carlisle, Clarion, Harrisburg, Skippack, Swiftwater and Trevose all exhibited higher rates of traffic stops involving Black drivers in 2006 compared to their rate in 2002, 2003, and 2004. None of these stations had statistically significant differences between the 2005 and 2006 rate. That is, the difference between the rate of stops of Black drivers in 2005 was not statistically different from the rate in 2006. In the case of Carlisle, Clarion, Harrisburg, and Swiftwater, there was a general trend of higher rates each year with a slight leveling in 2006, which accounts for the lack of significance between the 2005 and 2006 rates. Skippack and Trevose had their highest rates in 2006, which contributed to the significant differences reported. For those stations with significant results for all four comparisons, their 2006 rate of traffic stops involving Black drivers was noticeably higher than any previous year. That is, the 2006 rates of traffic stops involving Black drivers in Belfast, Mercer, Montoursville, and York were the highest of any year, which explains the significant result in all four comparisons.

For stops of Hispanic drivers, six stations had elevated rates in 2006 compared to at least three previous years (see Table 4.4). Specifically, five of the six stations had three significant comparisons and one station exhibited an increase in all four year comparisons. Most of these stations had a general increase in the number of Hispanic drivers stopped across all years. Exceptions include:

- Skippack: fairly stable rates between 2002 and 2005 prior to an increase in 2006 that explains the statistically significant result in all four comparisons
- Trevose: slight increases between 2002 and 2004, prior to an increase in 2005 and a slight reduction in 2006
- Tunkhannock: higher rates in 2002 and 2006

Bethlehem, Fogelsville, and Lancaster all demonstrated an increasing trend across all five years. The reasons for these increased rates in traffic stops of minority drivers, however, cannot be determined from these data.

Table 4.3: Binomial Analyses of Traffic Stops of Black Drivers by Station – 2002-2006

	# Stops					% Stops					Significant Change 2002-2006	Significant Change 2003-2006	Significant Change 2004-2006	Significant Change 2005-2006
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006				
Belfast	204	269	293	298	300	8.6	8.9	9.3	9.5	12.7	+	+	+	+
Carlisle	143	241	435	394	554	6.6	7.1	7.3	7.6	8.6	+	+	+	**No**
Clarion	435	629	505	424	469	10.4	10.4	10.3	12.0	12.1	+	+	+	**No**
Harrisburg	268	312	278	294	337	7.1	7.3	7.2	8.9	9.4	+	+	+	**No**
Mercer	194	230	289	243	310	10.1	9.0	9.4	9.7	13.3	+	+	+	+
Montoursville	118	201	298	138	130	3.9	4.4	4.3	3.4	7.6	+	+	+	+
Skippack	232	360	399	288	369	10.5	8.9	9.0	10.7	12.4	+	+	+	**No**
Swiftwater	525	652	530	536	649	13.2	13.4	13.8	15.4	15.6	+	+	+	**No**
Trevose	302	520	427	345	382	16.3	16.3	13.0	16.5	19.3	+	+	+	**No**
York	364	323	443	437	723	10.4	9.5	9.1	10.0	13.5	+	+	+	+

Table 4.4: Binomial Analyses of Traffic Stops of Hispanic Drivers by Station – 2002-2006

	# Stops					% Stops					Significant Change 2002-2006	Significant Change 2003-2006	Significant Change 2004-2006	Significant Change 2005-2006
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006				
Bethlehem	165	190	455	419	315	8.3	8.2	10.3	12.3	13.7	+	+	+	**No**
Fogelsville	256	390	546	585	622	9.3	9.0	10.6	11.9	12.3	+	+	+	**No**
Lancaster	195	103	138	256	342	5.9	4.9	6.5	8.2	9.6	+	+	+	**No**
Skippack	93	135	197	118	175	4.2	3.3	4.4	4.4	5.9	+	+	+	+
Trevose	95	178	192	177	157	5.1	5.6	5.9	8.5	7.9	+	+	+	**No**
Tunkhannock	15	16	17	14	29	2.0	1.2	1.2	1.3	3.0	**No**	+	+	+

County Analyses

As reported in Table 4.5, seven out of 67 counties reported at least three comparison years with statistically significant increases in the rate of Black drivers stopped. Mercer and Monroe counties reported increases in their 2006 rate of Black drivers stopped compared to 2002, 2003, and 2004. In both counties, there was relatively stability in their rates of Black drivers stopped, until 2005 and 2006 when increases were reported. The remaining five counties had a statistically significant increase in their 2006 rates of Black drivers stopped compared to all previous years. Lehigh and Montgomery counties exhibited increases in the percentage of Black drivers stopped across all years, but a statistically significant increase in 2006. The remaining three counties (i.e., Lycoming, Northhampton, and York) reached significance due to relative stability in the years preceding 2006, at which point a noticeable increase in the percentage of Black drivers stopped occurred.

Table 4.6 identifies six counties that had at least three comparison years with statistically significant differences in traffic stops involving Hispanic drivers compared to their rates in 2006. The results for Warren County were based on an extremely small number of traffic stops involving Hispanic drivers and should be viewed with caution. Butler County had statistical differences in three comparison years, resulting in trends where the rate of traffic stops involving Hispanic drivers in 2002 and 2006 were nearly identical, but the years in between has significantly lower rates. Lancaster, Lehigh, Luzerne, and Schuylkill counties all demonstrated an increase in traffic stops involving Hispanic drivers in 2005 from previous levels and this higher rate was maintained in 2006.

As previously described, there are several plausible factors that might account for the statistically significant differences in the rates of Black and Hispanic drivers stopped. Unfortunately, the data available cannot be used to confirm or deny these reasons. Some factors that may be responsible for statistically significant increases in the percentages of traffic stops of Black and Hispanic drivers include:

- Changes in the racial/ethnic composition of residential populations surrounding these jurisdictions that have altered the racial/ethnic composition of drivers eligible to be stopped.
- Other changes in travel patterns that differentially impact the percentages of minority drivers on particular roadways.
- Changes in PSP deployment patterns and manpower allocation to address changes in reported criminal patterns and calls for service, resulting in higher concentrations of Troopers in areas where minorities are more likely to travel and/or violate the law.
- Modifications to data collection procedures that resulted in more (or less) accurate collection of data in 2006 compared to earlier time periods.
- Increases in Trooper bias toward minority drivers.

While the analyses reported above cannot determine the reasons for statistically significant increases in the percentages of minority drivers stopped in these stations, the simple identification of these patterns can be used by PSP administrators to further examine the most plausible reasons for these increases. In addition, data collected for future reports will be used to examine whether or not these trends continue.

Table 4.5: Binomial Analyses of Traffic Stops of Black Drivers by County – 2002-2006

	# Stops					% Stops					Significant Change 2002-2006	Significant Change 2003-2006	Significant Change 2004-2006	Significant Change 2005-2006
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006				
Lehigh	449	596	784	761	793	8.2	8.2	8.7	9.0	10.0	+	+	+	+
Lycoming	112	174	275	136	130	3.8	4.0	4.1	3.4	7.5	+	+	+	+
Mercer	184	253	352	375	313	10.5	9.6	10.5	12.8	13.5	+	+	+	**No**
Monroe	644	795	735	689	813	12.6	12.7	12.7	13.5	14.1	+	+	+	**No**
Montgomery	1,056	1,659	1,666	1,475	2,241	14.0	13.2	13.5	15.0	17.7	+	+	+	+
Northhampton	251	336	431	399	354	8.5	8.7	9.6	9.8	12.3	+	+	+	+
York	396	384	495	494	776	10.0	9.5	9.1	9.9	13.2	+	+	+	+

Table 4.6: Binomial Analyses of Traffic Stops of Hispanic Drivers by County – 2002-2006

	# Stops					% Stops					Significant Change 2002-2006	Significant Change 2003-2006	Significant Change 2004-2006	Significant Change 2005-2006
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006				
Butler	35	31	25	32	56	1.2	0.6	0.5	0.7	1.3	**No**	+	+	+
Lancaster	494	474	370	486	593	5.3	4.9	5.6	6.8	7.4	+	+	+	**No**
Lehigh	429	568	911	948	894	7.8	7.8	10.1	11.2	11.3	+	+	+	**No**
Luzerne	232	246	389	417	476	3.9	3.5	5.2	6.3	6.2	+	+	+	**No**
Schuylkill	72	81	75	109	128	2.4	2.2	2.6	3.7	3.8	+	+	+	**No**
Warren	1	5	3	1	11	0.2	0.3	0.2	0.1	0.8	+	**No**	+	+

SUMMARY

Section 4 reports trends in traffic stops between 2002 and 2006 at the area, troop, station, and county levels. It is important to note that the analyses reported in this section are descriptive and, even when based on statistical testing, cannot be used to determine the causes of the trends reported. Key findings include:

- After two years of steady decline in the statewide number of traffic stops initiated by PSP personnel (from 317,920 in 2003 to 272,670 in 2005), there was a 4.1% increase in 2006 to 283,827 stops. Nevertheless, this still represents a 10.7% decline in the number of member-initiated stops between 2003 and 2006.

- Between 2002 and 2006, Caucasian drivers made up roughly 85% of all traffic stops, Black drivers accounted for approximately 8%, and Hispanic drivers represented roughly 3% of all traffic stops, with only slight variation in percentages from year to year.

- The percentages of Black and Hispanic drivers stopped varied increasingly as more specific organizational units were examined (i.e., areas, troops, and stations); as a result, a more thorough analysis at the station level was conducted. This included both a visual trend across all five years at the station level and a binomial analysis for all stations and counties.
    - The results of the binomial analyses highlighted ten stations that had statistically significant elevated rates of stops of Black drivers in at least three comparisons between their 2006 rate and the rate in previous years.
        - These stations include: Belfast, Carlisle, Clarion, Harrisburg, Mercer, Montoursville, Skippack, Swiftwater, Trevose, and York.
    - Similar analyses of Hispanic drivers stopped revealed that six stations had statistically significant elevated rates of stops of Hispanic drivers in at least three comparisons between their 2006 rate and the rate in previous years.
        - These stations include: Bethlehem, Fogelsville, Lancaster, Skippack, Trevose, and Tunkhannock.

- Binomial statistical analyses were also conducted at the county level.
    - The results of county analyses highlighted seven Pennsylvania counties with statistically significant increases in their 2006 rates of traffic stops of Black drivers compared to previous years.
        - These counties include: Lehigh, Lycoming, Mercer, Monroe, Montgomery, Northampton, and York.
    - Similar analyses of Hispanic drivers stopped revealed that six counties had statistically significant elevated rates of stops of Hispanic drivers in 2006 compared to previous years.
        - These counties include: Butler, Lancaster, Lehigh, Luzerne, Schuylkill, and Warren.

- The data available cannot be used to determine why certain geographic areas reported significant increases in the percentage of stops that were of Black or Hispanic drivers. Some factors that may be responsible for statistically significant increases in the percentages of traffic stops of Black and Hispanic drivers include:
    - Changes in the racial/ethnic composition of residential populations surrounding these jurisdictions that have altered the racial/ethnic composition of drivers eligible to be stopped.
    - Other changes in travel patterns that differentially impact the percentages of minority drivers on particular roadways.
    - Changes in PSP deployment patterns and manpower allocation to address changes in reported criminal patterns and calls for service, resulting in higher concentrations of Troopers in areas where minorities are more likely to travel and/or violate the law.
    - Modifications to data collection procedures that resulted in more (or less) accurate collection of data in 2006 compared to earlier time periods.
    - Increases in Trooper bias toward minority drivers.

5. ANALYSES OF POST-STOP OUTCOMES

OVERVIEW

In this section, differences in post-stop outcomes (e.g., warnings, citations, arrests, and searches) are examined in greater detail.[13] Specifically, Section 5 is divided into two components: 1) differences in post-stop outcomes across types of drivers, and 2) multivariate statistical analyses predicting post-stop outcomes. Initially, post-stop outcomes are examined by drivers' race/ethnicity and gender at the department, area, troop, and station levels for 2006. Tables 5.1 & 5.2 document statistically significant differences between racial/ethnic and gender groups for warnings, citations, arrests, and searches across all organizational units for 2006 data. Additionally, Table 5.3 documents statistically significant differences between racial/ethnic and gender groups for probable cause/reasonable suspicion searches at the department and area levels. These relationships are further explored in hierarchical multivariate statistical analyses presented in Tables 5.4 & 5.5, which predict the four officer actions (i.e., warnings, citations, arrests, and searches).[14]

DIFFERENCES IN POST-STOP OUTCOMES ACROSS TYPES OF DRIVERS

Unless otherwise indicated for comparisons reported in this section, drivers' race is collapsed into three categories: Caucasian, Black, and Hispanic. Traffic stops where the drivers' race was recorded as Middle Eastern, Asian, Native American, unknown, or missing are excluded from the analyses in this section. Tables report the total number of stops and percentages of drivers warned, cited, arrested, and searched for each organizational unit.

Table 5.1 illustrates the variation in post-stop outcomes (i.e., warnings, citations, arrests, and searches) by drivers' race and gender for both the department and area levels in 2006. At the department level, Hispanic drivers were the most likely to be given a citation (89.4% of all stops) compared to Black (88.2%) and Caucasian (86.7%) drivers. Hispanic drivers were

[13] Throughout this section, the term "Caucasian" is used to describe the "White" category recorded on the CDR, while "Hispanic" is used to describe the combined "White Hispanic" and "Black Hispanic" groups recorded on the CDR.

[14] In Tables 5.1– 5.6, the asterisks indicate statistically significant differences in the outcomes received by racial and gender groups based on bivariate chi-square associations. Chi-square statistics are based on the differences between groups and the sample size. Because this statistical technique is sensitive to sample size, smaller differences between groups can result in statistically significant differences when the sample size is large. Therefore, depending on the sample size used in the chi-square test, statistical significance is reported at the 0.05, 0.01, or 0.001 level. For example, if the 0.05 level is used, a finding is statistically significant if we are 95% confident that the difference between groups is not due to chance; in contrast, a 0.001 level is interpreted as 99.9% confident that the result is not due to chance. Also note that these analyses are based on only the relationship between two variables (e.g., drivers' race and citations). That is, for each chi-square test, the comparison is between one outcome (e.g., citation) and one explanatory variable (e.g., drivers' gender). These findings do not take into account any other factors that might influence the outcome of the stop. In addition, multivariate analyses are reported and statistical significance in these analyses is also signified by an asterisk (see Tables 5.7 & 5.8). These asterisks, however, represent statistical significance when other factors believed to influence the outcome of stops are taken into account.

also more likely to be arrested (2.2% of stops) compared to Caucasian (1.6%) and Black (1.5%) drivers. Additionally, Hispanic drivers were more likely to be searched (3.7% of stops) compared to Black (3.1%) and Caucasian (0.9%) drivers. These differences are statistically significant based at a 0.001 level chi-square analysis. That is, the differences noted are likely due to chance no more than 0.1% of the time. Based solely on the statistical significance, these results suggest that a difference exists in the likelihood of receiving citations, being arrested, or being searched depending on the race of the driver. It is important to recognize, however, that chi-square analyses do not consider other variables when determining statistical significance. In other words, the chi-square test does not measure other factors potentially associated with the likelihood of receiving post-stop outcomes; rather, it only considers the race/ethnicity of the driver. Consequently, the results of these analyses should be interpreted with caution and the multivariate models (reported later in this section) should be examined prior to reaching conclusions regarding the relationship between race of the driver and post-stop outcomes.

Area level data differences due to racial characteristics are also displayed in Table 5.1. Results from both Area I and Area V demonstrate that the likelihood of receiving a citation is significantly related to driver race. In Area II, minority drivers (Black and Hispanic) had a greater likelihood of receiving a citation compared to Caucasian drivers. Hispanic drivers were more likely to be arrested in Area I compared to Black and Caucasian drivers. In all areas, minority drivers had a greater likelihood of being searched than Caucasian drivers.

Gender differences for 2006 stop outcomes are also displayed in Table 5.1. At the department level, male drivers were more likely to be cited (87.3% of stops), arrested (1.8%), and searched (1.5%) compared to female drivers (86.8% cited, 0.9% arrested, and 0.5% searched). At the area level, male drivers in Area V were more likely to be cited compared to female drivers. In all areas except one (Area II), male drivers were more likely than female drivers to be arrested, and male drivers in all areas were more likely to be searched compared to female drivers.

Table 5.1: 2006 Stop Outcomes by Race and Gender for Department and Areas

	Drivers	Total # of stops	% drivers warned	% drivers cited	% drivers arrested	% drivers searched
PSP Dept	Caucasian	238,701	26.0	86.7*	1.6*	0.9*
	Black	23,988	25.7	88.2	1.5	3.1
	Hispanic	9,793	26.0	89.4	2.2	3.7
	Male	195,251	25.6	87.3*	1.8*	1.5*
	Female	88,379	25.8	86.8	0.9	0.5
AREA I	Caucasian	86,582	17.9*	92.2	1.5*	0.7*
	Black	11,109	17.4	92.7	1.2	1.9
	Hispanic	4,460	21.7	92.8	2.6	3.4
	Male	74,206	17.8	92.5	1.6*	1.2*
	Female	32,993	17.5	92.1	1.0	0.4
AREA II	Caucasian	27,491	21.4	89.4*	0.9	0.8*
	Black	1,403	17.7	92.7	1.6	3.4
	Hispanic	651	21.0	92.2	1.2	2.9
	Male	20,898	20.9	89.9	1.1	1.2*
	Female	9,602	21.3	89.5	0.6	0.4
AREA III	Caucasian	54,126	30.7	83.9	1.7	0.8*
	Black	3,008	30.3	85.3	1.8	3.7
	Hispanic	500	31.6	85.4	1.8	3.2
	Male	39,875	30.8	84.3	2.0*	1.2*
	Female	19,173	30.3	83.6	1.0	0.5
AREA IV	Caucasian	39,945	37.1	78.1	2.0	1.4*
	Black	2,804	37.6	77.7	2.1	4.7
	Hispanic	955	32.9	79.9	2.8	5.2
	Male	31,393	36.9	78.3	2.4*	2.1*
	Female	14,073	35.7	78.9	1.0	0.7
AREA V	Caucasian	30,409	30.5*	85.3	1.5	1.0*
	Black	5,632	35.8	85.0	1.8	4.2
	Hispanic	3,204	29.7	87.5	1.8	4.0
	Male	28,735	30.5	86.2*	1.8*	2.1*
	Female	12,473	32.0	84.2	0.9	0.7

NOTE: Asterisks indicate statistically significant chi-square associations across three racial groups and two gender groups. * $p < .001$

Table 5.2 displays the differences in stop outcomes by driver race and gender at the troop level for 2006. In regard to the race/ethnicity of the driver, ten troops had statistically significant differences between racial groups for drivers who were cited. In six of these troops, Hispanic drivers had the highest percentage of citations while, in the other four, either Black or Caucasian drivers had the highest percentage of citations. Four troops had statistically significant differences between racial groups for drivers arrested; Hispanic drivers were the most likely to be arrested in all four of those troops. In all troops, minority drivers were significantly more likely to be searched compared to Caucasian drivers.

Table 5.2 also reports differences in stop outcomes by gender at the troop level. Of the 16 troops, nine reported statistically significant differences in the likelihood of male and female drivers receiving citations. For arrests, 14 troops had statistically significant differences; specifically, male drivers were more likely than female drivers to be arrested. Additionally, in all troops males were significantly more likely to be searched compared to female drivers.

Table 5.3 presents similar information at the station level for 2006. In contrast to information provided in Tables 5.1 & 5.2, the racial/ethnic categories presented in Table 5.3 are a simple Caucasian/non-Caucasian dichotomy. The "non-Caucasian" category in this table includes Black, Black Hispanic, White Hispanic, Native American, Middle Eastern, and Asian drivers. A Caucasian/non-Caucasian comparison is used in Table 5.3 because the number of stops of some racial/ethnic groups is too small for individual comparisons at the station level. Table 5.3 indicates that significant differences in stop outcomes exist across racial groups at the station level for 2006. Out of all stations, 31 (34.4%) reported statistically significant differences in the proportion of drivers cited by racial/ethnic group, 11 (12.2%) reported significant differences in the proportion of drivers arrested by racial/ethnic group, and 58 (64.4%) reported significant differences in the proportion of drivers searched by racial/ethnic group.

Table 5.2: 2006 Stop Outcomes by Race and Gender for Troops (p. 1 of 3)

	Drivers	Total # of Stops	% drivers warned	% drivers cited	% drivers arrested	% drivers searched
Area I, Troop H	Caucasian	22,995	21.3	88.6	2.1**	1.3***
	Black	2,190	22.1	88.7	1.9	4.1
	Hispanic	972	23.8	88.5	3.8	4.9
	Male	17,978	21.5	89.0*	2.5***	2.2***
	Female	8,941	21.0	88.0	1.3	0.6
Area I, Troop J	Caucasian	8,803	26.3***	92.0	3.5***	2.7***
	Black	1,099	30.5	92.7	2.8	5.3
	Hispanic	1,043	32.8	93.3	5.7	7.1
	Male	7,729	27.5	92.1	4.4***	4.1***
	Female	3,478	26.6	92.6	1.7	1.4
Area I, Troop L	Caucasian	7,586	31.5	88.1*	1.6	0.6***
	Black	535	31.8	86.0	1.7	3.0
	Hispanic	573	31.9	91.4	1.4	1.7
	Male	6,161	31.9	88.2	1.9***	1.1***
	Female	2,772	29.9	88.5	0.8	0.2
Area I, Troop T	Caucasian	47,198	12.4	94.6	0.8	0.1***
	Black	7,285	13.0	94.4	0.7	0.7
	Hispanic	1,872	11.3	95.3	0.5	1.0
	Male	42,338	12.3	94.7	0.7	0.3***
	Female	17,802	12.0	94.7	0.8	0.1
Area II, Troop F	Caucasian	12,706	22.0***	88.3***	1.0	0.5***
	Black	710	16.2	94.9	1.8	3.0
	Hispanic	237	19.0	94.9	1.3	0.8
	Male	9,614	21.7	89.0	1.2***	0.9***
	Female	4,503	21.5	88.5	0.6	0.2
Area II, Troop P	Caucasian	7,480	25.4	86.5	0.8	0.6***
	Black	173	20.8	89.0	2.3	3.5
	Hispanic	122	27.0	84.4	0.8	5.7
	Male	5,300	24.9	87.0	0.9	0.9**
	Female	2,565	25.7	85.8	0.5	0.3

NOTE: Asterisks identify statistically significant chi-square associations. * $p < .05$ ** $p<.01$ *** $p<.001$

Table 5.2: 2006 Stop Outcomes by Race and Gender for Troops (p. 2 of 3)

	Drivers	Total # of Stops	% drivers warned	% drivers cited	% drivers arrested	% drivers searched
Area I, Troop R	Caucasian	7,305	16.1	94.3**	1.0	1.4***
	Black	520	18.8	91.0	1.2	4.0
	Hispanic	292	20.2	93.2	1.4	3.4
	Male	5,984	16.0	93.8*	1.2**	1.9**
	Female	2,534	16.3	95.1	0.4	1.0
Area I, Troop A	Caucasian	17,806	28.0*	87.0	2.3**	1.2***
	Black	582	32.8	85.6	3.4	5.5
	Hispanic	72	36.1	84.7	6.9	8.3
	Male	12,643	28.3	86.8	2.8***	1.7***
	Female	6,043	28.0	87.2	1.3	0.7
Area I, Troop B	Caucasian	15,821	23.4**	92.1	1.5	0.8***
	Black	1,164	27.3	91.4	1.9	3.2
	Hispanic	101	28.7	91.1	1.0	3.0
	Male	11,715	23.3	92.6***	1.8***	1.2***
	Female	5,726	24.2	91.0	1.0	0.5
Area I, Troop G	Caucasian	20,499	38.6***	74.9***	1.3	0.5***
	Black	1,262	31.9	79.5	1.0	3.4
	Hispanic	327	31.5	83.8	0.9	2.1
	Male	15,517	37.1	76.1	1.5***	0.8***
	Female	7,404	38.2	74.9	0.8	0.3
Area II, Troop C	Caucasian	14,970	34.5***	78.3***	1.1	0.5***
	Black	1,122	26.7	84.0	1.1	2.6
	Hispanic	542	25.6	86.7	1.1	4.2
	Male	12,465	32.6	80.1***	1.2***	1.0***
	Female	5,011	33.8	77.6	0.7	0.4
Area II, Troop D	Caucasian	12,132	42.2***	76.3***	3.2*	3.2***
	Black	1,002	55.1	66.2	4.0	8.6
	Hispanic	199	54.8	60.3	6.0	10.6
	Male	9,307	43.8	74.7*	4.1***	4.6***
	Female	4,332	42.1	76.6	1.5	1.6

NOTE: Asterisks identify statistically significant chi-square associations. * p < .05 ** p<.01 *** p<.001

Table 5.2: 2006 Stop Outcomes by Race and Gender for Troops (p. 3 of 3)

	Drivers	Total # of Stops	% drivers warned	% drivers cited	% drivers arrested	% drivers searched
Area I, Troop E	Caucasian	12,843	35.2**	79.7*	1.8**	0.7***
	Black	680	29.9	84.1	0.9	2.4
	Hispanic	214	30.8	80.8	4.2	2.8
	Male	9,621	35.7***	79.3***	2.1***	1.1***
	Female	4,730	32.1	82.4	1.0	0.3
Area I, Troop K	Caucasian	8,886	39.8***	81.6***	2.0	1.6***
	Black	2,662	44.6	84.4	2.0	5.2
	Hispanic	635	39.1	88.5	3.1	6.8
	Male	8,896	40.3	83.9***	2.3***	3.1***
	Female	3,947	40.9	80.6	1.3	1.5
Area I, Troop M	Caucasian	10,917	33.3*	82.8**	1.6	0.9***
	Black	1,532	36.5	79.2	2.3	3.9
	Hispanic	1,519	34.3	82.6	2.1	4.7
	Male	10,335	32.8***	83.1**	2.1***	2.1***
	Female	4,306	35.9	81.1	0.8	0.5
Area I, Troop N	Caucasian	10,606	19.9	90.9***	1.0	0.6***
	Black	1,438	18.6	92.4	0.8	2.6
	Hispanic	1,050	17.2	94.1	0.6	1.3
	Male	9,504	19.0	91.9*	1.1**	1.1***
	Female	4,220	19.6	90.8	0.6	0.2

NOTE: Asterisks identify statistically significant chi-square associations. * $p < .05$ ** $p<.01$ *** $p<.001$

Table 5.3: 2006 Stop Outcomes By Race for Station (p. 1 of 5)

	Drivers	Total # of Stops	% drivers warned	% drivers cited	% drivers arrested	% drivers searched
AREA I, Troop H						
Carlisle	Caucasian	5,483	19.6	92.8	2.0	1.8***
	Non-Caucasian	996	21.1	92.1	1.6	5.5
Chambersburg	Caucasian	4,684	19.6	89.7	1.6	1.0***
	Non-Caucasian	545	21.7	89.4	2.6	3.9
Gettysburg	Caucasian	2,160	36.9	69.4**	5.4	2.8
	Non-Caucasian	367	34.9	77.7	5.2	3.0
Harrisburg	Caucasian	2,972	20.2**	92.9***	1.0	0.4***
	Non-Caucasian	622	25.6	86.8	1.4	6.1
Lykens	Caucasian	1,091	37.4	77.7	3.8	1.4
	Non-Caucasian	29	51.7	79.3	0.0	0.0
Newport	Caucasian	2,347	16.4	90.6	0.9	1.0***
	Non-Caucasian	252	12.7	92.9	0.4	3.6
York	Caucasian	4,316	17.0	90.1	2.2	0.8**
	Non-Caucasian	1,049	15.5	91.4	2.7	1.9
AREA I, Troop J						
Avondale	Caucasian	2,313	42.2	89.5***	2.6	2.3
	Non-Caucasian	829	39.6	93.5	2.7	2.9
Embreeville	Caucasian	2,598	22.1	95.5	2.7	2.9*
	Non-Caucasian	756	24.7	97.4	2.5	4.4
Ephrata	Caucasian	988	17.7	95.7	0.6	0.4***
	Non-Caucasian	172	22.1	95.3	1.7	4.7
Lancaster	Caucasian	2,918	20.3***	89.7	5.8	3.4***
	Non-Caucasian	634	29.0	87.4	7.7	10.7
AREA I, Troop L						
Frackville	Caucasian	1,381	30.4	88.9**	0.6	0.4
	Non-Caucasian	211	25.6	96.2	0.5	0.0
Hamburg	Caucasian	1,361	26.2	92.4*	0.7	0.0***
	Non-Caucasian	348	21.8	95.7	1.1	1.1
Jonestown	Caucasian	2,111	29.9	86.4*	3.8	1.4***
	Non-Caucasian	471	31.4	82.6	2.3	4.2
Reading	Caucasian	1,328	35.1**	86.4	1.4	0.9
	Non-Caucasian	215	44.2	88.4	0.5	0.5
Schuylkill Haven	Caucasian	1,413	36.4	87.0	0.4	0.2
	Non-Caucasian	90	33.3	91.1	0.0	1.1
AREA I, Troop T						
Bowmansville	Caucasian	4,925	7.9	96.6	0.1	0.1**
	Non-Caucasian	1,447	8.2	97.0	0.1	0.4
Everett	Caucasian	7,386	10.1**	93.9**	0.2	0.1***
	Non-Caucasian	2,641	8.1	95.4	0.2	0.3

NOTE: Asterisks identify statistically significant chi-square associations. * $p < .05$ ** $p<.01$ *** $p<.001$

Table 5.3: 2006 Stop Outcomes By Race for Station (p. 2 of 5)

	Drivers	Total # of Stops	% drivers warned	% drivers cited	% drivers arrested	% drivers searched
AREA I, Troop T						
Gibsonia	Caucasian	5,876	15.1	92.0	4.1	0.3**
	Non-Caucasian	1,175	13.6	92.3	3.6	0.9
Highspire	Caucasian	19	0.0	100.0	0.0	0.0
	Non-Caucasian	5	0.0	100.0	0.0	0.0
King of Prussia	Caucasian	5,229	8.6	94.6	0.1	0.2***
	Non-Caucasian	1,355	9.4	93.9	0.0	0.8
New Stanton	Caucasian	7,842	10.6	94.9	1.1	0.0***
	Non-Caucasian	1,694	10.3	95.2	1.2	0.4
Newville	Caucasian	5,839	27.8	94.9	0.1	0.1***
	Non-Caucasian	1,617	28.2	95.4	0.1	0.7
Pocono	Caucasian	4,570	14.1	93.4	0.1	0.1
	Non-Caucasian	767	14.2	94.0	0.3	0.3
Somerset (T)	Caucasian	5,847	5.3	96.7*	0.1	0.4***
	Non-Caucasian	1,921	6.2	95.7	0.3	1.2
AREA II, Troop F						
Coudersport	Caucasian	1,981	38.6	74.9	1.5	0.3
	Non-Caucasian	44	43.2	86.4	0.0	0.0
Emporium	Caucasian	808	24.3	83.5	0.2	0.7
	Non-Caucasian	11	18.2	100.0	0.0	0.0
Lamar	Caucasian	1,349	12.9	95.6	0.4	0.0*
	Non-Caucasian	314	13.4	97.1	0.6	0.3
Mansfield	Caucasian	1,201	34.6	81.7	0.2	0.1
	Non-Caucasian	120	29.2	86.7	0.0	0.0
Milton	Caucasian	2,285	15.4	96.8**	0.6	0.6*
	Non-Caucasian	377	13.8	99.2	1.3	1.9
Montoursville	Caucasian	1,552	9.3*	93.2	1.8*	1.0***
	Non-Caucasian	168	14.9	94.0	4.2	5.4
Selinsgrove	Caucasian	2,262	11.2	91.5	1.5	0.8***
	Non-Caucasian	199	8.5	92.5	2.0	3.5
Stonington	Caucasian	1,394	38.8	83.6*	0.9	0.6
	Non-Caucasian	55	40.0	94.5	1.8	1.8
AREA II, Troop P						
Laporte	Caucasian	1,186	27.6	84.1	0.2	0.0
	Non-Caucasian	27	14.8	92.6	0.0	0.0
Shickshinny	Caucasian	1,041	22.5	86.5	2.2	0.5
	Non-Caucasian	43	11.6	90.7	0.0	0.0
Towanda	Caucasian	2,550	37.7	79.7	0.7	0.7*
	Non-Caucasian	57	35.1	80.7	0.0	3.5
Tunkhannock	Caucasian	907	26.8	87.9	1.0	0.8
	Non-Caucasian	45	17.8	91.1	2.2	2.2

NOTE: Asterisks identify statistically significant chi-square associations. * p < .05 ** p<.01 *** p<.001

Table 5.3: 2006 Stop Outcomes By Race for Station (p. 3 of 5)

	Drivers	Total # of Stops	% drivers warned	% drivers cited	% drivers arrested	% drivers searched
AREA II, Troop P						
Wyoming	Caucasian	1,800	7.7***	97.0***	0.4**	0.7***
	Non-Caucasian	206	19.4	88.8	1.9	4.9
AREA II, Troop R						
Blooming Grove	Caucasian	1,767	22.6	94.7	0.5	1.1**
	Non-Caucasian	265	23.8	96.2	0.0	3.4
Dunmore	Caucasian	2,571	18.1	91.8	0.7	1.1*
	Non-Caucasian	426	21.1	89.0	0.7	2.6
Gibson	Caucasian	1,367	9.7	95.0	2.6	1.0
	Non-Caucasian	341	7.3	96.2	1.8	1.5
Honesdale	Caucasian	1,659	11.1	97.1	0.4	2.5*
	Non-Caucasian	123	8.9	95.9	0.8	5.7
AREA III, Troop A						
Ebensburg	Caucasian	4,241	18.3	91.2	2.9	0.8***
	Non-Caucasian	187	18.2	92.0	2.1	4.3
Greensburg	Caucasian	5,335	25.8***	90.8***	2.0**	1.8***
	Non-Caucasian	183	40.4	82.0	5.5	5.5
Indiana	Caucasian	4,059	28.3	85.8	2.1*	1.2***
	Non-Caucasian	268	29.1	87.3	4.1	6.0
Kiski Valley	Caucasian	2,165	34.6	83.5	1.2	1.4
	Non-Caucasian	179	36.9	86.6	0.6	2.8
Somerset (A)	Caucasian	2,034	46.6	74.2*	3.2	0.6***
	Non-Caucasian	42	57.1	59.5	0.0	7.1
AREA III, Troop B						
Belle Vernon	Caucasian	1,561	21.1**	94.4	2.1	0.7**
	Non-Caucasian	166	11.4	94.6	1.2	3.0
Pittsburgh	Caucasian	4,060	21.4*	94.3	1.6	0.6*
	Non-Caucasian	599	25.9	93.2	2.0	1.5
Uniontown	Caucasian	4,479	20.7***	89.4	2.0	0.8***
	Non-Caucasian	246	29.7	87.8	2.0	3.3
Washington	Caucasian	3,921	16.7	92.7	0.7	0.6***
	Non-Caucasian	430	19.8	91.6	1.2	3.3
Waynesburg	Caucasian	1,829	50.6	90.4	1.7	1.7
	Non-Caucasian	140	57.1	92.9	0.0	2.9
AREA III, Troop G						
Bedford	Caucasian	2,875	49.7*	67.8**	1.0	0.4***
	Non-Caucasian	285	43.2	76.5	0.7	3.5
Hollidaysburg	Caucasian	2,743	56.3	62.7	1.7	1.5***
	Non-Caucasian	266	57.1	57.9	1.1	9.8
Huntingdon	Caucasian	1,545	45.9	73.6	1.9	0.6**
	Non-Caucasian	45	55.6	73.3	0.0	4.4

NOTE: Asterisks identify statistically significant chi-square associations. * $p < .05$ ** $p<.01$ *** $p<.001$

Table 5.3: 2006 Stop Outcomes By Race for Station (p. 4 of 5)

	Drivers	Total # of Stops	% drivers warned	% drivers cited	% drivers arrested	% drivers searched
AREA III, Troop G						
Lewistown	Caucasian	3,540	49.3	63.1***	1.1	0.3
	Non-Caucasian	311	43.7	73.0	1.3	0.6
McConnellsburg	Caucasian	2,476	24.2***	84.7***	0.8	0.3
	Non-Caucasian	698	14.8	92.0	0.3	0.1
Philipsburg	Caucasian	2,274	41.2*	80.0	1.8	0.1***
	Non-Caucasian	168	32.1	84.5	0.0	2.4
Rockview	Caucasian	5,098	18.7**	87.0**	1.4	0.3***
	Non-Caucasian	597	13.9	91.0	0.8	1.3
AREA IV, Troop C						
Clarion	Caucasian	2,934	41.4***	72.7***	0.9	0.8***
	Non-Caucasian	942	32.6	80.6	0.6	3.0
Clearfield	Caucasian	3,292	18.9**	90.2**	0.9	0.3***
	Non-Caucasian	795	14.5	93.6	1.1	2.8
Dubois	Caucasian	1,699	28.4***	82.5*	0.9	0.5
	Non-Caucasian	420	20.2	87.1	0.5	1.2
Kane	Caucasian	1,417	34.9**	78.8	2.4	1.3
	Non-Caucasian	78	20.5	87.2	0.0	3.8
Punxsutawney	Caucasian	1,633	29.5	82.8	1.0	0.3
	Non-Caucasian	58	19.0	87.9	1.7	0.0
Ridgway	Caucasian	2,420	38.1	74.8	1.2	0.5
	Non-Caucasian	86	39.5	74.4	0.0	1.2
Tionesta	Caucasian	1,662	57.6	61.0	1.1	0.1
	Non-Caucasian	40	45.0	75.0	0.0	0.0
AREA IV, Troop D						
Beaver	Caucasian	2,153	50.4	70.6	1.0	1.2***
	Non-Caucasian	232	55.2	64.7	2.2	4.7
Butler	Caucasian	3,509	32.9	85.5	2.4*	1.5*
	Non-Caucasian	240	30.4	83.3	0.4	3.3
Kittanning	Caucasian	3,077	44.0	69.6*	5.7*	8.9***
	Non-Caucasian	295	47.5	75.3	8.5	16.3
Mercer	Caucasian	1,786	53.4***	71.3***	5.7*	1.5***
	Non-Caucasian	570	64.2	52.8	3.2	6.0
New Castle	Caucasian	1,628	35.4*	82.4	0.8*	0.9***
	Non-Caucasian	151	43.7	84.1	2.6	6.6
AREA IV, Troop E						
Corry	Caucasian	916	43.0	71.0	3.2	0.1
	Non-Caucasian	17	29.4	82.4	0.0	0.0
Erie	Caucasian	2,727	34.1	81.6***	1.0**	1.5***
	Non-Caucasian	362	35.6	74.0	2.5	5.8

NOTE: Asterisks identify statistically significant chi-square associations. * $p < .05$ ** $p<.01$ *** $p<.001$

Table 5.3: 2006 Stop Outcomes By Race for Station (p. 5 of 5)

	Drivers	Total # of Stops	% drivers warned	% drivers cited	% drivers arrested	% drivers searched
AREA IV, Troop E						
Franklin	Caucasian	1,994	57.8***	65.2***	1.3	0.2
	Non-Caucasian	167	38.3	81.4	1.8	0.0
Girard	Caucasian	2,090	27.7*	85.7	2.6	0.4
	Non-Caucasian	238	21.4	88.7	1.3	0.4
Meadville	Caucasian	4,045	25.6*	86.5***	1.6*	0.8
	Non-Caucasian	616	21.8	93.3	0.3	0.6
Warren	Caucasian	1,160	39.9	72.7	2.5	0.9
	Non-Caucasian	23	56.5	65.2	0.0	4.3
AREA V, Troop K						
Media	Caucasian	2,920	40.7	78.2*	2.0	1.9***
	Non-Caucasian	1,160	38.6	81.4	2.6	5.5
Philadelphia	Caucasian	3,672	37.4***	85.0	1.2	1.7***
	Non-Caucasian	2,118	43.5	86.7	1.3	5.1
Skippack	Caucasian	2,326	42.5	80.4***	3.4	1.3*
	Non-Caucasian	649	43.0	90.1	3.1	2.5
AREA V, Troop M						
Belfast	Caucasian	1,726	24.7	86.6	1.7	0.6***
	Non-Caucasian	651	24.0	86.9	2.2	2.2
Bethlehem	Caucasian	1,683	30.6*	86.7	2.1	0.9***
	Non-Caucasian	616	34.9	85.4	3.1	5.2
Dublin	Caucasian	2,526	40.7	84.4*	1.6	1.5***
	Non-Caucasian	318	38.7	88.7	1.9	4.1
Fogelsville	Caucasian	3,758	30.8**	81.5	1.3	0.8***
	Non-Caucasian	1,363	35.1	79.3	1.1	5.1
Trevose	Caucasian	1,344	41.5	74.7	2.1	0.5*
	Non-Caucasian	660	42.3	72.3	2.6	1.7
AREA V, Troop N						
Bloomsburg	Caucasian	1,955	18.2**	88.2***	0.5	0.3*
	Non-Caucasian	480	12.3	94.2	0.2	1.0
Fern Ridge	Caucasian	1,190	11.7	89.9**	4.1*	1.2
	Non-Caucasian	355	11.5	94.4	1.7	2.0
Hazleton	Caucasian	2,697	18.5**	91.7*	0.4	0.6**
	Non-Caucasian	868	14.1	94.1	0.3	1.7
Lehighton	Caucasian	1,834	24.1	91.2	0.9	0.2
	Non-Caucasian	149	19.5	91.3	0.7	0.7
Swiftwater	Caucasian	3,008	22.7	92.2	0.7	0.8***
	Non-Caucasian	1,184	22.2	93.3	0.6	2.0

NOTE: Asterisks identify statistically significant chi-square associations. * p < .05 ** p<.01 *** p<.001

Tables 5.1 - 5.3 illustrate the wide variation in outcomes across racial/ethnic and gender groups at the department, area, troop, and station levels for 2006. It is important to reiterate, however, that the relationships reported in the previous tables are bivariate relationships and thus do not statistically control for other relevant legal and extralegal factors that might influence officer decision-making. *Therefore, the information provided in these tables cannot be used to assess whether or not differences in outcomes across racial/ethnic and gender groups are due to Trooper bias.*

It is plausible that racial/ethnic and gender differences in post-stop outcomes exist due to legal and extralegal reasons other than race, ethnicity, and gender. To explore these possibilities, more advanced statistical analyses that control for other legally relevant variables are presented below. The information reported in Tables 5.1 - 5.3 is included in this report solely to provide details to PSP administrators regarding differences in post-stop outcomes at the department, area, troop, and station levels. Although this information will allow PSP administrators to identify potential problems and target specific troops and stations for policy interventions, it cannot be the sole source of information used to examine whether or not discriminatory practices exist.

MULTIVARIATE ANALYSES

In Tables 5.4 & 5.5, the results of four hierarchical multivariate models are presented. A multivariate statistical model is one that takes many different factors into account when attempting to explain a particular behavior. Unlike a bivariate model, it does not simply assess the relationship between two variables. Rather, a multivariate model examines many variables simultaneously, and therefore provides a more thorough and accurate interpretation of the data. The multivariate analyses to follow examine the associations between drivers' characteristics and two post-stop outcomes (i.e., warnings and citations) when other characteristics likely associated with these outcomes are statistically controlled.

Many factors other than drivers' race/ethnicity are likely to influence officers' decision making once a traffic stop has been made. For example, other driver characteristics (e.g., drivers' gender, age, residency), vehicle characteristics (e.g., registration, number of passengers), stop characteristics (e.g., time of day, day of the week, season, and roadway type), reasons for the stop (speeding, moving violations, equipment violations, etc.), other legal variables (e.g., number of reasons for the stop, evidence found during a search), Trooper characteristics (e.g., sex, race, experience, education, assignment), and community characteristics where the stop occurred (e.g., residential population, poverty, factors related to traffic patterns, etc.) have all been hypothesized to influence post-stop outcomes. Multivariate analyses allow an examination of the effects of each of these predictor variables, while controlling for the influence of the remaining variables. For example, the influence of drivers' race can be examined while holding constant the predictive power of drivers' age, reason for the stop, time of day, etc.

The inclusion of community characteristics in the analyses introduces additional statistical complexity with the use of data at two levels of aggregation. Therefore, the application of a specialized statistical program called hierarchical linear and nonlinear modeling (HLM) is

required.[15] The multivariate analyses examine the following specific variables for their influence over post-stop outcomes (i.e., warnings, citations, searches, arrests):

- Driver characteristics: race/ethnicity (four dichotomous variables: Caucasian, Black, Hispanic, other; Caucasian is the excluded comparison category in the analyses), gender (1 = male), age (in years), county residency where stop occurred (1 = yes), Pennsylvania residency (1 = yes)
- Vehicle characteristics: registration (1 = no registration, 0 = PA or out-of-state registration), number of passengers in the vehicle (range 1-5)
- Stop characteristics: time of day (1 = daytime, 1 = rush hour), day of the week (1 = weekday), season (1 = summer), roadway type (1 = interstate)
- Legal variables: reason for the stop (1 = speeding), number of reasons for the stop (range 1-6), evidence found during a search (evidence = 1)
- Trooper characteristics: gender (1 = male), race (1 = Caucasian), experience (1 = less than 5 years), education (range 1-5), assignment (1 = patrol)
- Community characteristics of the municipality where the stop occurred: total driving-age population (logged), % male in driving-age population, % Black in driving-age population, % Hispanic in driving-age population, average commute (in minutes), and three factor scores measuring the latent variables poverty, residential mobility, and traffic/travel patterns

Table 5.4 presents the results of two Hierarchical Non-Linear Model (HLM), Bernoulli (over-dispersed) analyses predicting warnings and citations of drivers in 2006. Table 5.5 presents results for similar HLM analyses predicting arrests and searches. These models demonstrate what factors likely influence whether or not warnings and citations were issued when other factors are equal. That is, the effects of drivers' race/ethnicity over the likelihood of being issued warnings, citations, arrests or searches were isolated. A statistically significant finding on race/ethnicity would indicate that Black and/or Hispanic drivers were significantly more likely to be to be warned, cited, arrested, or searched compared to Caucasians in similar situations (e.g., traveling in the same locations, on the same type of roadways, during the same time periods, stopped for the same initial reasons, etc.). In addition, the Exp(b) is calculated and reported as a measure of the log odds; this is loosely

[15] Using data at two or more levels of aggregation introduces a statistical dilemma where regression residuals for the Level 1 cases (observations) within the same Level 2 units (municipalities) may be correlated (i.e., are more similar than Level 1 cases taken from independent municipalities). This violates the assumption of independence that underlies most ordinary regression techniques. The implications of violating this assumption are substantial, as dependence can lead to inefficient estimates and biased test statistics, making the analyses appear to have more power than they do (Raudenbush & Bryk, 2002). Hierarchical linear modeling (HLM) is a modeling procedure that can overcome this statistical dilemma (Raudenbush & Bryk, 2002). HLM includes an extra error term, Ui, that reflects the extra variation common to all Level 1 cases within the Level 2 unit, so the Level 1 error term (Rij) can be independent. That is, HLM explicitly models the dependence of the residuals through this error term. For binary outcome variables like the ones utilized here, hierarchical models cannot use the standard Level 1 model which assumes a linear model and normally distributed errors at Level 1, once the additional error term is included (Raudenbush & Bryk, 2002). To account for these characteristics of this type of dependent variable, we employ a nonlinear form of hierarchical modeling that uses a binomial sampling model with a Bernoulli distribution, as opposed to a normal sampling model, and a logit link instead of an identity link (Guo & Zhao, 2000; Raudenbush & Bryk, 2002).

translated into the number of times more likely Black/Hispanic drivers were to receive a particular outcome compared to Caucasians.

Tables 5.4 & 5.5 display the results of four separate hierarchical multivariate models that predict the warnings, citations, arrests, and searches, respectively. For each of these models, numerous independent variables were included that could potentially influence officer actions. As shown in the left hand column, the predictor variables at Level 1 include: 1) driver characteristics, 2) vehicle characteristics, 3) stop characteristics, 4) legal variables, and 5) Trooper characteristics. Community characteristics of the stop location are included as predictor variables at Level 2. It is believed that each of these variables have the potential to influence officer behavior, and therefore must be statistically controlled to examine our variables of interest (i.e., drivers' race/ethnicity).

Each of the independent variables is assessed relative to their effect upon the dependent variable (i.e., warnings and citations). It is important to note, however, that some variables are excluded from the model for comparison purposes. For example, the drivers' race is captured in the model as Black, Hispanic, and "other." The "other" category includes Native American, Asian/Pacific Islander, and Middle Eastern. Caucasian is excluded from the model for comparison purposes. That is, the effect of other race/ethnic variables that are reported in the models are *in comparison to* Caucasians. Thus, the coefficients reported in the models should be interpreted as compared to Caucasians – in other words, the likelihood of Black drivers being issued a citation compared to Caucasian drivers. The other dichotomous variables in the models are simply compared against their opposite (e.g., male drivers are compared to female drivers).

In Tables 5.4 & 5.5, the first column displays the variable coefficient, or predicted log-odds, for each independent variable in that model. The coefficient represents an additive expression of a particular variable. In the "coefficient" column, there are two things to examine: 1) the presence of an asterisk following the coefficient, and 2) the presence of a negative sign preceding the number. The asterisk reveals whether or not a significant relationship exists between the independent variable (e.g., male drivers) and the dependent variable (e.g., issuing a warning). If an asterisk is not present, the relationship is not considered statistically significant. Due to the extremely large sample size at Level 1, (i.e., the large number of traffic stops), the statistical significance of the relationships is assessed at the 0.001 level. The asterisks indicate that the relationships between variables are due to chance less than 0.1% of the time. The sign of the coefficient (i.e., positive or negative) indicates the direction of the relationship. For example, a positive sign on the "driver male" variable would indicate that male drivers were *more* likely than female drivers to receive a particular outcome, while a negative sign would indicate that males were *less* likely than females to receive a particular outcome.

Because the interpretation of log-odds is not intuitively straightforward, this type of coefficient is usually exponentiated to allow for interpretation in terms of odds (Liao, 1994). The second column – the odds ratio – represents this antilog transformation of the coefficient into the multiplicative odds of the outcome variable based on the predictor variable, all being equal. The odds ratio indicates the strength of the relationship. For example, an odds ratio of

3.0 indicates that the presence of the variable (e.g., being a male driver) leads to three times the likelihood of receiving the outcome (e.g., receiving a citation). The strength of the relationship is one of the most important considerations. Even if the relationship between variables is statistically significant, it may not be substantively important due to the large sample size. That is, if there is a large number of traffic stops even the slightest differences might be considered statistically significant, but not substantively important. That is, the strength of the relationship may not be very large, and therefore the odds ratio is important to consider when determining the amount of influence particular factors have over the post-stop outcomes.[16]

Multivariate Findings

Table 5.4 reports results for two-level hierarchical Bernoulli non-linear models predicting the issuance of warnings (Model 1) and citations (Model 2). These multivariate models reported in Table 5.4 & 5.5 assess the relationship between the likelihood of receiving a particular outcome and all other factors based on a multilevel analysis. A multilevel model includes both those factors directly measurable at the traffic stop (i.e., Level 1), and those factors related to the community in which the traffic stop occurred (i.e., Level 2). In all models, the inclusion of the Level 2 factors do not have a substantive impact on understanding the factors associated with that particular outcome. Specifically, adding Level 2 predictors does not add more than 1% of explanatory power in any of the models. For ease of interpretation and in the interest of maintaining parsimonious models, description of the overall model strength will be based on a non-hierarchical multivariate analysis. That is, for each of the traffic stop outcomes, the amount of variance explained (i.e., the strength of the model) will be reported based on an analysis of only Level 1 factors; however, the tables will report the full model (i.e., Level 1 and Level 2).

Warnings

As reported in Section 3, 25.7% of all traffic stops resulted in at least one warning issued to the driver[17]. The warning model is of moderate strength, explaining approximately 19% of the variance in the likelihood of receiving a warning.[18] Table 5.4 reports the specific impact of each of the factors.

As demonstrated in the hierarchical linear model, two racial/ethnic groups (i.e., Hispanic and "other") were significantly *less* likely than Caucasian drivers to be issued warnings. In addition, male drivers, drivers without vehicle registrations, drivers stopped during daylight hours, drivers stopped for speeding, drivers searched and discovered with contraband, and drivers stopped by Troopers with patrol assignments were also significantly *less* likely to receive warnings, compared to Caucasian drivers, female drivers, drivers with valid

[16] For negative relationships, the odds ratio is presented as 1/Exp(b), for easier interpretation.
[17] Multiple outcomes (e.g., warning, citations, and arrests) may occur within a single traffic stop. The analyses reported below examine traffic stops where at least one warning was issued, but other outcomes may or may not have been received.
[18] The model strength is measured as the R-square of a logistic regression model including both Level 1 and 2 predictors.

registration, drivers stopped during evening hours, drivers stopped for reasons other than speeding, drivers not found in possession of contraband, and drivers stopped by Troopers with non-patrol assignments. In contrast, drivers who were older, residents of the county where the stop occurred, residents of Pennsylvania, vehicles carrying a number of passengers, stops occurring on a weekday or interstate highway, stops resulting for multiple reasons, stops initiated by Caucasian Troopers, Troopers with less than 5 years experience, or Troopers with more education were all significantly *more* likely to be issued warnings compared to their counterparts, all else equal.

Focusing specifically on the effects of race/ethnicity, Hispanic drivers were 1.4 times *less* likely than Caucasian drivers to receive warnings during traffic stops. Likewise, Asian, Native American, and Middle Eastern drivers were 1.5 times *less* likely compared to Caucasians drivers to receive warnings.

Citations

Table 5.4 also reports results for the two-level hierarchical Bernoulli non-linear model predicting the issuance of a citation (Model 2). The citation analysis estimates drivers who were issued at least one citation, regardless of any additional outcomes they may have received. During 2006, at least one citation was issued to drivers in 87.2% of the traffic stops. Based on the initial logistics regression analysis, this model explains only a modest amount (approximately 12%) of the variation in the likelihood of receiving citations.

The hierarchical linear model demonstrates that younger drivers, residents of the county where the stop occurred, drivers of vehicles carrying more passengers, drivers stopped on interstates, drivers searched and found with contraband, and drivers stopped by Caucasian Troopers or Troopers with more education were significantly *less* likely to receive citations compared to their counterparts. Conversely, drivers of "other" race/ethnicity, males, drivers stopped during the daytime, drivers stopped during rush hour, drivers stopped for speeding, and drivers stopped for more violations were all *more* likely to receive citations compared to others.

In regard to race specifically, drivers of "other" race/ethnicity were 1.3 times *more* likely to be cited compared to Caucasians. Note however, that Black and Hispanic drivers were *not* significantly more likely than Caucasians to receive citations given similar circumstances.

Table 5.4: HLM Analyses Predicting Troopers' Issuing a WARNING or a CITATION during all traffic stops

Level 1 Variables (N=281,468)	Model 1: Warning		Model 2: Citation	
	Coefficient	Odds Ratio	Coefficient	Odds Ratio
Intercept	-1.01	2.70	1.94	6.93
Driver Characteristics				
Black	0.07	--	-0.08	--
Hispanic	-0.13*	1.14	0.12	1.13
Other Race	-0.14*	1.15	0.29*	1.34
Male	-0.09*	1.10	0.14*	1.15
Age	0.01*	1.01	-0.01*	1.02
County resident	0.10*	1.11	-0.14*	1.15
PA resident	0.11*	1.12	0.01	--
Vehicle Characteristics				
No registration	-0.67*	1.95	0.31	--
Number of Passengers	0.02*	1.02	-0.03*	1.03
Stop Characteristics				
Daytime	-0.17*	1.18	0.50*	1.64
Rush hour	-0.02	--	0.07*	1.07
Weekday	0.11*	1.11	-0.01	--
Summer	0.01	1.01	0.00	--
Interstate	0.26*	1.29	-0.28*	1.32
Legal variables				
Speeding is reason for the stop	-0.71*	2.03	0.99*	2.68
Number of reasons for stop	1.67*	5.33	0.47*	1.59
Evidence found during search	-0.49*	1.63	-1.43*	4.18
Trooper variables				
Male	-0.10	--	-0.06	--
Caucasian	0.18*	1.20	-0.25*	1.28
Less than 5 years experience	0.16*	1.18	0.05	--
Education scale	0.05*	1.05	-0.04*	1.05
Patrol assignment	-0.75*	2.12	1.12*	3.05
Level 2 Variables (Municipalities) (N = 2,254)				
Total Pop ≥15 (Ln)	-0.11*	1.12	0.14*	1.15
% Pop Male ≥15	0.00	--	-0.01	--
% Pop Black ≥15	0.00	--	0.01	--
% Pop Hispanic ≥15	-0.00	--	0.03	--
Poverty Factor	0.00	--	-0.08	--
Resid. Mobility Factor	-0.01	--	-0.01	--
Traffic/Travel Factor	0.05	--	-0.03	--
Average Commute	0.00	--	0.01	--

NOTE: * $p \leq .0001$

The log odds for negative coefficients is calculated as 1/exp(b).

Arrests

Table 5.5 documents the significant predictors of arrests and searches of stopped drivers in 2006. Overall, arrests occurred in only 1.5% of all traffic stops. Initial logistic regression models demonstrate that a more substantive percentage of the variance in the likelihood of arrests (27%) is explained by the model. As expected, the most substantively strong predictor of arrests is the discovery of contraband.

The results show that after controlling for other relevant factors (including the discovery of contraband), Black and Hispanic drivers were *not* significantly more likely to be arrested compared to Caucasian drivers. Drivers of "other" races/ethnicities, however, were significantly *less* likely than Caucasians to be arrested. Specifically, Native American, Asian, and Middle Eastern drivers collectively were 2.1 times *less* likely to be arrested than Caucasians in similar situations.

Likewise, drivers with more passengers, drivers stopped during the daytime, during rush hour, or on a weekday, drivers stopped for speeding, and drivers stopped by Caucasian Troopers were all significantly *less* likely to be arrested compared to others. Conversely, arrests were *more* likely to occur in the following situations: male drivers, older drivers, drivers living in the county where the stop occurred, residents of Pennsylvania, more violations, contraband discovered during search, and stop initiated by Troopers with more education.

Searches

Finally, Table 5.5 reports the significant predictors associated with the likelihood of being searched during a traffic stop. This analysis includes any traffic stop in which the Trooper indicated that a search of the vehicle or occupants was conducted.[19] Based on the initial logistic regression model, nearly 16% of the variation in searches can be explained with the factors included in the statistical model. Unlike the previous models, the discovery of contraband is not included as a predictor variable.

In regard to drivers' race/ethnicity, the findings demonstrate that Black and Hispanic drivers were 2.8 and 2.4 times *more* likely to be searched compared to Caucasian drivers in similar situations. Moreover, other factors that *increased* the likelihood of a search include: male drivers, more reasons (violations) for the stop, male Troopers, and Troopers with less than 5 years experience. Conversely, a search was *less* likely to occur in situations where the driver is a resident of Pennsylvania, stopped during daytime or rush hour, stopped for speeding, or stopped by Troopers with patrol assignments.

Given the racial/ethnic disparities in the rates of searches conducted during traffic stops, searches and seizures are examined in more detail in Section 7 of this report.

[19] The CDR does not differentiate searches of drivers, passengers, or vehicles.

Table 5.5: HLM Analyses Predicting Troopers' ARREST or a SEARCH during all traffic stops

Level 1 Variables (N=281,468)	Model 1: Arrest		Model 2: Search	
	Coefficient	Odds Ratio	Coefficient	Odds Ratio
Intercept	-5.29	0.01	-5.25	0.01
Driver Characteristics				
Black	-0.08	--	1.04*	2.83
Hispanic	0.24	--	0.87*	2.39
Other Race	-0.74*	2.10	-0.21	--
Male	0.46*	1.58	0.95*	2.59
Age	0.01*	1.01	-0.04*	1.04
County resident	0.49*	1.63	0.07	--
PA resident	0.27*	1.31	-0.26*	1.30
Vehicle Characteristics				
No registration	0.16	--	-0.30	--
Number of Passengers	-0.12*	1.13	0.16*	1.17
Stop Characteristics				
Daytime	-1.80*	6.02	-0.55*	1.72
Rush hour	-0.62*	1.87	-0.30*	1.35
Weekday	-0.83*	2.29	-0.02	--
Summer	-0.00	--	-0.06	--
Interstate	0.17	--	-0.05	--
Legal variables				
Speeding is reason for the stop	-1.04*	2.82	-1.28*	3.60
Number of reasons for stop	0.41*	1.51	0.65*	1.91
Evidence found during search	4.44*	84.83	--	--
Trooper variables				
Male	0.35	--	0.54*	1.72
Caucasian	-1.12*	3.07	0.11	--
Less than 5 years experience	0.18	--	0.34*	1.41
Education scale	0.13*	1.13	0.03	--
Patrol assignment	-0.25	--	-0.82*	2.28
Level 2 Variables (Municipalities) (N = 2,245)				
Total Pop ≥15 (Ln)	-0.04	--	0.06	--
% Pop Male ≥15	0.01	--	-0.02	--
% Pop Black ≥15	-0.01	--	0.01	--
% Pop Hispanic ≥15	0.00	--	0.01	--
Poverty Factor	0.09	--	-0.01	--
Resid. Mobility Factor	0.03	--	-0.03	--
Traffic/Travel Factor	-0.02	--	0.04	--
Average Commute	-0.01	--	-0.01	--

NOTE: * $p \leq .0001$
The log odds for negative coefficients is calculated as 1/exp(b).

SECTION SUMMARY

This summary highlights the findings of racial/ethnic disparities in warnings, citations, arrests, and searches issued to drivers in 2006. When reviewing these results, it is important to remember that the bivariate analyses only consider two variables at a time (e.g., the race of the driver and the post-stop outcome). As a result, the interpretation of these findings should be made with caution and cannot determine the existence of racial bias. The multivariate analyses are better suited to make substantive claims about the results of post-stop outcomes due to their consideration of more than one factor simultaneously. Nevertheless, the multivariate analyses are limited by the type and amount of data collected. Thus, multivariate analyses can demonstrate racial/ethnic disparities that exist after statistically controlling for other factors that might influence officer decision making that are measured with these data.

Bivariate Analysis – Differences in Warnings & Citations Across Types of Drivers

- At the department level, Hispanic drivers were the most likely to be given a citation (89.4% of all stops) compared to Black (88.2%) and Caucasian (86.7%) drivers.
- Hispanic drivers were also more likely to be arrested (2.2% of stops) compared to Caucasian (1.6%) and Black (1.5%) drivers.
- Additionally, Hispanic drivers were more likely to be searched (3.7% of stops) compared to Black (3.1%) and Caucasian (0.9%) drivers.
- At the department level, male drivers were more likely to be cited (87.3% of stops), arrested (1.8%), and searched (1.5%) compared to female drivers (86.8% cited, 0.9% arrested, and 0.5% searched).
- These patterns and trends varied somewhat at the area level and more so at the troop and station levels.
- PSP supervisors should review findings at multiple levels within the organization for the best understanding of trends of racial/ethnic disparities in warnings and citations within their jurisdictions.

Multivariate Analyses

- Multivariate statistical models take many different factors into account when attempting to explain a particular behavior. Unlike a bivariate model, they do not simply assess the relationship between two variables. Rather, multivariate models examine many variables simultaneously, and therefore provide a more thorough and accurate interpretation of the data.

- **Warnings**

    - The warning model explains approximately 19% of the variance in the likelihood of receiving warnings during traffic stops.
    - Hispanic and "other" drivers were significantly *less* likely than Caucasian drivers to be issued warnings.

- Specifically, Hispanic drivers were 1.4 times *less* likely than Caucasian drivers to receive warnings during traffic stops not involving arrests. Likewise, Asian, Native American, and Middle Eastern drivers were 1.5 times *less* likely than Caucasians drivers to receive warnings.
- Male drivers, drivers without vehicle registrations, drivers stopped during daylight hours, drivers stopped for speeding, drivers found in possession of contraband, and drivers stopped by Troopers with patrol assignments were significantly *less* likely to receive a warning compared to their counterparts.
- In contrast, drivers who were older, residents of the county where the stop occurred, residents of Pennsylvania, driving vehicles with more passengers, stopped on weekdays, stopped on interstates, stopped for multiple violations, stopped by Caucasian Troopers, stopped by Troopers with less than 5 years experience, or stopped by Troopers with more education were all significantly *more* likely to be issued warnings compared to others.

- **Citations**

  - The citation statistical model explains approximately 12% of the variance in the likelihood of receiving citations during traffic stops.
  - Hispanic and Black drivers were equally likely to receive citations compared to Caucasians given similar circumstances.
  - Asian, Native American, and Middle Eastern drivers, collectively, were 1.3 times *more* likely to be cited compared to Caucasian drivers.
  - Other factors that were associated with the likelihood of receiving a citation included: male drivers, stops occurring during the daytime, stops occurring during rush hour, stops for speeding violations, and stops for multiple violations.
  - Factors associated with a *lower* likelihood of citations included: younger drivers, residents of the county where the stop occurred, vehicles with more passengers, stops occurring on interstates, stops where contraband is discovered, stops initiated by Caucasian Troopers, and stops by Troopers with more education.

- **Arrests**

  - The arrest statistical model explains approximately 27% of the variance in the likelihood of arrests during traffic stops.
  - Black and Hispanic drivers were equally likely to be arrested compared to Caucasians given similar circumstances.
  - Native American, Asian, and Middle Eastern drivers collectively were 2.1 times *less* likely compared to Caucasians to be arrested (in similar situations).
  - Drivers with the following characteristics were significantly *more* likely to be arrested compared to their counterparts: male drivers, older drivers, drivers stopped in the nighttime or during non-rush hour time periods, drivers stopped on the weekends, drivers living in the county where the stop occurred, residents of Pennsylvania, drivers stopped for multiple violations, drivers

stopped for non-speeding violations, drivers discovered with contraband, drivers stopped by Troopers with more education, and drivers stopped by Caucasian Troopers.

- **Searches**

    - The search statistical model explains approximately 16% of the variance in the likelihood of being searched during traffic stops.
    - Black and Hispanic drivers were 2.8 and 2.4 times *more* likely to be searched compared to Caucasian drivers in similar situations.
    - Native American, Asian, and Middle Eastern drivers collectively were equally likely to be searched compared to Caucasians in similar circumstances.
    - Other factors that *increased* the likelihood of being searched include: male drivers, non-PA drivers, drivers stopped in the nighttime or non-rush hour times, drivers stopped for non-speeding reasons, drivers stopped for multiple violations, stops initiated by male Troopers, stops by Troopers assigned to patrol, and stops by Troopers with less than 5 years experience.

6. TREND ANALYSES II: POST-STOP OUTCOMES 2002 - 2006

OVERVIEW

Section 6 reports the rates of post-stop outcomes (e.g., warnings, citations, arrests, searches, and seizures) for all organizational units between 2002 and 2006 (Tables 6.1 & 6.2). Rates of warnings, citations, arrests, searches, and seizures for Caucasian, Black, and Hispanic drivers at the department, area, and troop levels are reported in Tables 6.3 – 6.7 & Figures 6.1 – 6.5. At the station level, post-stop outcomes (e.g., warnings, citations, arrests, and searches) are reported in Tables 6.8 & 6.9 for Caucasians and non-Caucasians. Black, Hispanic, and "other" drivers are collapsed into a non-Caucasian category for comparisons at the station level due to the small number of minorities stopped in some stations.

As noted in Section 4, traffic stops conducted by canine handlers are now included in the stations where the traffic stop occurred, rather than separately in a canine unit. This change from previous reports may slightly inflate the amount of activity occurring at the station level; however, due to the small number of canine handlers and subsequent small number of traffic stops conducted by these officers in comparison to the statewide totals, the differences across reporting years is negligible.

Also, as noted in Section 4, reporting data over time and across organizational units allows for two comparisons: 1) across organizational units, and 2) within organizational units across time. The information in this section is best utilized as a measure of activity across time rather than comparisons across organizational units. By comparing activity within organizational units across time, geographic differences in traffic patterns, driver behaviors, and officer deployment that exist will not influence the analysis. Therefore, the strength of the comparisons reported below is within organizational units across time, to evaluate the continuity or change in behavior of each organizational unit. It is also worth reiterating the reasons for any significant changes in post-stop outcomes over time cannot be determined with the data available. Any significant changes in post-stop outcomes by organizational or geographic areas should be further examined by PSP administrators to determine the likely source of such changes. This report, therefore, represents a tool to facilitate continual review and internal examination of changes in the rates of warnings, citations, arrests, searches, and seizures during traffic stops.

Traffic Stop Outcomes at the Department, Area, & Troop Levels: 2002 – 2006

Tables 6.1 & 6.2 report traffic stop outcomes received by drivers between 2002 and 2006 across the department, area, troop, and station levels. Specifically, Table 6.1 summarizes the percentages of stops that resulted in a warning, citation, arrest, search of the vehicle and/or occupant, and discovery of contraband during those searches at the department, area, and troop levels. Table 6.2 summarizes the same post-stop outcome information at the station level.

Warnings:

As shown in Table 6.1, the percentage of member-initiated traffic stops statewide that resulted in warnings declined across the first three years of data collection, prior to an increase in 2006. Note, however, that the 25.7% of drivers receiving warnings in 2006 is still lower than the initial rate established in 2002 (27.0%). This pattern was generally replicated in Areas I & IV, with the minor exception of a continued decrease in Area I from 2005 to 2006. Areas II & III demonstrated a similar pattern, but had higher rates of warnings in 2006 than in 2002. Area V, however, increased its rate of warnings from 2002 to 2004, experienced a decrease in 2005, and an increase again in 2006; this represents a 4.5% change overall (from a low of 28.0% in 2002 to a high of 32.5% in 2004). The trends found in the five areas were less evident at the troop level. Four of the sixteen troops demonstrated a reduction from 2002 to 2005 as well as an increase in 2006 in the percentage of traffic stops that resulted in warnings; none of these troops had higher rates of warnings overall in 2006 compared to 2003. The percentage of stops resulting in warnings decreased in four troops from 2002 to 2004, and increased both subsequent years; three of the four reported rates in 2006 that were still lower than their 2002 rates. Three troops reported increases in warning rates from 2002 to 2004, a decrease in 2005, and an increase again in 2006; the remaining troops demonstrated greater levels of variation from year to year. The station level trends for traffic stops resulting in warnings demonstrate an even greater degree of variability. Please refer to Table 6.2 for each specific station.

Citations:

From 2002 to 2006, the percentage of traffic stops that resulted in citations steadily increased until 2006, when there was a reported decrease statewide. Starting with a low of 82.8% in 2002, traffic stops resulting in a citation increased to 88.1% in 2005 but fell to 87.2% in 2006. This pattern is fairly consistent at the area level. For example, Area III increased its reported citations by 5.7% (from 82.1% of traffic stops in 2002 to 87.8% in 2005), then dropped to 84.1% in 2006. The only exceptions to this pattern are in Area V, where there was a slight decrease from 2002 (83.9%) to 2004 (82.4%), followed by an increase in 2005 (86.5%), and a decrease in 2006 (85.6%). Additionally, Area I reported an increase in the percent of citations issued every year since data collection began. The troop level generally mirrors the department level trends: seven of sixteen troops reported increases in the level of citations from 2002 to 2005. Troop G, for instance, increased its rate of citations from 75.1% in 2002 to 84.5% in 2005, and then reported a decrease to 75.7% in 2006. In addition, four troops reported a continual increase across all five years of data collection. Table 6.8 reports the station level citation rates across time, which demonstrates more variation than at the other organizational units.

Arrests:

As previously documented in the *2003 - 2004 Final Report*, the arrest and search data were underreported. These reporting discrepancies were addressed in September 2005 by PSP administrators and, subsequently, the rates of arrests, searches, and seizures increased, and in some instances doubling, in 2006. As reported in Table 6.1, across the department, 0.6% of

member-initiated traffic stops in 2002 resulted in arrest, 0.5% in 2003, 0.4% in 2004, 0.8% in 2005, and 1.5% in 2006, which represents nearly a tripling of the 2002 rate. The significant increase in arrests was most prevalent in Areas I & V: the former increased from 0.4% in 2002 to 1.4% in 2006, while the latter increased from 0.5% in 2002 to 1.5% in 2006. Areas II, III, & IV all reported decreases in 2003 compared to 2002, then steady increases each year thereafter. Of the sixteen troops, all reported an overall increase from 2002 to 2006, with only Troop P reporting a decline in arrest rates in 2005 when the data collection change took place. For example, Troop J reported a 0.8% arrest rate in 2002 and a 3.6% rate in 2006. The increases over this time period ranged from 0.5% (in Troops T, R, G, & E) to 2.8% (in Troop J). Table 6.2 demonstrates a similar pattern at the station level both in the percentage of arrests and the trends across four years of data collection. Seventy-three of 90 stations (81%) reported increases in arrest rates from 2005 to 2006, with Gibsonia & Mercer displaying especially significant jumps (0.2% to 4% and 0.9% to 5.1%, respectively). Overall, 69 stations (77%) reported increases in arrest rates from 2002 to 2006.

These reported changes in the rates of arrests over time are likely due to the initial underreporting of traffic stops resulting in arrests on the CDR, rather than changes in trooper behavior.

Searches:

As with arrests, traffic stop data collected prior to September 2005 did not contain information regarding all searches. Specifically, it is believed that searches resulting in seizures were significantly underreported during this initial time period and that the rates in 2006 and subsequent years will more accurately reflect the true rate of these occurrences. Table 6.1 reports the percentage of stops that resulted in searches of the vehicle and/or occupants. Searches occur infrequently and were conducted in 1.2% of all traffic stops statewide in 2006. This rate represents an increase from the previous years, where it ranged from a low of 0.7% in 2003 to 1.1% in 2005. As with the department-wide percentages of searches, most of the areas demonstrated a fairly stable rate of traffic stops resulting in searches until 2005, at which point increases occurred through 2006. The only exception to this pattern is in Area I, which reported an increase in 2005 (1.0% compared to 0.8% in 2004), but no change from this rate in 2006. Minor differences in this pattern were found at the troop and station level: some exceptions were Troop T, which reported no change from 2002 to 2005 and a minor decrease in 2006, as well as Troops H, J, P, & C which reported decreases of 0.3% or less in 2006 from 2005. Thirty-seven of 90 stations (41%) reported stable or increasing search rates from 2004 to 2006 and, specifically, 41 stations (45%) reported increased search rates in 2006. Of note is Tunkhannock, which reported a 0.5% search rate in 2004, a 2.7% rate in 2005, and a 0.8% rate in 2006. Kittanning also increased its search rate more than tenfold across the four years: 0.7% in 2003 compared to 9.6% in 2006 (see Table 6.2 for specific station results).

These reported changes in the rates of searches over time are likely due to the initial underreporting of traffic stops resulting in searches with seizures on the CDR, rather than changes in trooper behavior.

Seizures:

The percentages of searches that resulted in seizures are also reported in Tables 6.1 & 6.2. Seizure rates were calculated by dividing the number of contraband seizures reported by the number of searches reported (i.e., search success, or "hit" rates). As noted previously, the search success rates reported prior to September 2005 are artificially low. As data audits revealed, Troopers did not consistently record information on CDR forms when the member-initiated traffic stop resulted in a search with contraband discovered. The discrepancy in reporting, however, varied across stations. This explains why, statewide, the rate of successful seizures increased nearly 3.4% in 2005 and an additional 3.5% in 2006. Only Areas II & V reported a decrease in successful seizures in 2005, and only Area I reported a decrease in 2006. Area III reported a roughly 6% increase in successful seizures in 2005, and a roughly 10% increase in 2006. The overall upward trend is generally found at the troop and station level. For example, Troop C reported a 15.2% seizure rate in 2002 and a 27.9% rate in 2006. Also of note is that seven of sixteen troops (i.e., Troops L, T, F, P, G, E, & K) reported overall decreases in their seizure rates from 2002 to 2006. Please refer to Table 6.2 for station level trends.

These reported changes in the rates of searches resulting in the discovery of contraband over time are likely due to strictly the initial underreporting of traffic stops resulting in searches with seizures, rather than changes in trooper behavior.

Table 6.1: Traffic Stop Outcomes by Department, Area & Troop – 2002-2006

	% Warnings					% Citations					% Arrested					% Searched					% Seized				
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006
PSP Dept.	27.0	26.2	24.9	24.6	25.7	82.8	84.5	86.4	88.1	87.2	0.6	0.5	0.4	0.8	1.5	0.8	0.7	0.8	1.1	1.2	26.3	25.3	24.0	27.4	30.9
AREA I	19.7	18.3	16.8	17.9	17.7	87.3	88.8	90.9	91.8	92.4	0.4	0.4	0.4	0.6	1.4	0.6	0.6	0.8	1.0	1.0	27.9	29.3	27.0	29.5	27.3
Troop H	24.6	25.2	22.2	23.8	21.3	81.3	81.8	85.5	86.8	88.7	1.0	0.9	0.9	1.2	2.1	1.1	1.1	1.5	1.8	1.7	20.4	27.9	30.2	27.7	26.5
Troop J	29.2	29.5	30.3	25.6	27.3	86.7	88.3	89.7	92.5	92.3	0.8	0.9	0.8	2.1	3.6	1.0	1.5	2.3	3.5	3.3	26.0	29.5	23.1	28.9	29.3
Troop L	31.6	30.2	28.9	28.0	31.3	81.5	83.0	85.9	88.3	88.3	0.8	0.6	0.6	0.8	1.6	0.8	1.0	0.7	0.6	0.8	37.9	28.0	21.3	29.8	16.0
Troop T	14.6	13.4	10.6	12.9	12.2	90.2	91.5	94.2	94.1	94.7	0.2	0.1	0.1	0.2	0.7	0.3	0.3	0.3	0.3	0.2	32.9	31.1	26.6	34.0	30.6
AREA II	20.6	19.5	18.1	18.3	21.0	87.1	89.8	90.6	91.0	89.8	0.4	0.2	0.3	0.6	0.9	0.5	0.4	0.4	0.8	0.9	27.5	19.5	23.7	21.7	28.7
Troop F	18.4	17.6	15.6	16.2	21.6	88.2	90.4	91.2	91.7	88.9	0.3	0.2	0.1	0.4	1.0	0.3	0.3	0.2	0.4	0.7	29.4	24.1	15.7	19.4	28.0
Troop P	27.0	26.1	26.2	26.0	25.2	81.7	84.4	86.0	86.2	86.6	0.6	0.2	0.7	0.6	0.8	0.4	0.5	0.8	1.0	0.7	36.4	12.8	29.9	26.3	19.6
Troop R	20.5	18.1	16.8	15.4	16.1	89.0	92.8	93.2	94.2	94.2	0.4	0.3	0.4	0.8	0.9	0.9	0.6	0.6	1.4	1.6	22.4	19.4	23.7	20.0	32.8
AREA III	30.0	30.1	26.2	27.4	30.4	82.1	83.2	87.7	87.8	84.1	0.8	0.7	0.6	0.9	1.7	0.7	0.6	0.7	0.9	1.0	25.0	28.3	19.6	25.8	35.5
Troop A	33.9	31.3	25.9	27.3	28.2	84.3	85.9	89.9	90.0	86.9	0.9	0.5	0.5	1.1	2.3	0.9	0.4	0.7	1.2	1.4	29.2	24.3	19.5	21.8	39.3
Troop B	23.1	23.4	22.1	24.7	23.6	86.6	87.5	89.7	89.7	92.1	0.7	0.9	0.8	0.9	1.5	0.7	0.8	0.8	1.0	1.0	15.7	23.0	11.0	25.8	33.7
Troop G	35.5	36.1	30.4	29.9	37.5	75.1	76.7	84.1	84.5	75.7	0.8	0.7	0.6	0.8	1.3	0.5	0.6	0.5	0.6	0.7	35.7	37.6	33.3	32.0	30.7
AREA IV	41.3	37.1	34.9	33.8	36.5	72.1	77.1	79.4	81.2	78.5	0.8	0.4	0.4	1.0	1.9	0.9	0.6	0.7	1.4	1.7	27.7	19.2	21.4	33.4	41.1
Troop C	34.5	33.8	31.9	33.0	33.0	79.4	80.5	81.1	80.6	79.4	0.4	0.3	0.3	0.5	1.1	0.6	0.5	0.5	0.9	0.8	15.2	15.2	11.4	15.9	27.9
Troop D	48.4	42.6	39.3	37.1	43.2	65.8	72.5	77.3	79.8	75.3	1.3	0.5	0.5	1.7	3.3	1.2	0.7	1.4	2.8	3.7	23.3	20.6	25.0	40.4	47.2
Troop E	46.7	37.4	34.6	31.3	34.5	65.3	75.7	79.1	83.2	80.3	1.1	0.6	0.4	0.9	1.7	0.9	0.5	0.4	0.5	0.9	49.0	23.8	24.3	32.8	30.9
AREA V	28.0	29.3	32.5	29.9	31.0	83.9	83.6	82.4	86.5	85.6	0.5	0.5	0.5	0.9	1.5	1.3	1.0	0.9	1.4	1.7	23.4	22.7	23.5	21.1	21.9
Troop K	29.7	31.9	35.3	33.6	40.5	84.4	83.4	83.7	84.1	82.8	0.9	1.0	0.9	1.4	2.0	2.4	2.2	1.9	1.7	2.6	28.4	27.5	24.4	29.5	23.0
Troop M	33.5	34.7	40.6	35.9	33.7	78.0	78.4	74.6	82.7	82.5	0.5	0.5	0.4	0.8	1.7	1.2	0.8	0.7	1.6	1.6	18.8	16.5	25.2	15.2	18.9
Troop N	21.7	20.8	19.9	19.8	19.2	88.9	89.5	91.9	93.1	91.5	0.3	0.2	0.4	0.7	0.9	0.5	0.4	0.4	0.7	0.8	16.1	13.8	16.1	25.3	25.0

Table 6.2: Traffic Stop Outcomes by Station – 2002-2006 (p. 1 of 4)

	% Warnings					% Citations					% Arrested					% Searched					% Seized				
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006
AREA I																									
Troop H																									
Carlisle	17.8	17.0	16.0	20.3	19.8	89.2	90.1	91.8	92.4	92.7	0.3	0.0	0.4	1.2	1.9	1.0	0.7	1.3	2.6	2.4	22.7	4.2	13.0	32.6	24.5
Chambersburg	39.5	36.4	28.8	23.9	19.8	68.7	71.1	81.6	86.1	89.7	2.1	2.7	1.5	2.1	1.7	2.7	2.6	3.0	2.8	1.3	12.5	33.3	43.0	40.4	33.3
Gettysburg	46.6	44.3	46.5	38.1	36.7	61.5	62.8	59.5	68.4	70.6	1.0	0.4	0.5	0.9	5.3	0.2	0.3	1.2	1.3	2.8	66.7*	33.3	31.4	11.8	38.0
Harrisburg	18.4	19.3	12.6	17.2	21.1	86.6	88.0	93.4	92.7	91.8	0.2	0.1	0.0	0.3	1.1	0.3	0.5	0.5	1.4	1.4	20.0	0.0	0.0	17.8	11.8
Lykens	33.6	35.8	32.3	30.7	37.8	78.3	81.4	88.2	87.0	77.7	0.7	0.2	0.2	0.9	3.7	0.5	0.7	1.4	0.9	1.3	25.0*	50.0	11.1	7.7	46.7
Newport	17.4	14.1	11.8	17.2	16.1	87.9	89.5	93.5	91.4	90.8	0.3	1.1	0.7	1.2	0.8	0.4	0.3	0.2	1.7	1.3	20.0*	50.0*	25.0*	12.8	9.1
York	17.5	20.0	17.4	25.1	16.7	85.0	84.6	87.4	85.2	90.4	1.9	1.4	1.9	1.3	2.3	1.6	1.5	1.5	0.9	1.0	25.4	35.3	34.7	23.7	27.8
Troop J																									
Avondale	35.5	37.9	34.8	36.2	41.5	95.6	90.8	91.4	92.5	90.5	0.7	0.5	0.4	1.7	2.6	1.0	1.6	2.1	2.9	2.5	18.5	24.5	35.5	25.3	28.2
Embreeville	39.8	31.6	32.7	25.7	22.7	73.9	84.4	87.8	94.2	95.9	0.9	0.7	0.4	1.5	2.7	1.6	1.3	2.3	3.7	3.2	38.2	31.4	19.6	23.9	22.9
Ephrata	16.6	16.0	17.9	21.5	18.4	91.2	93.0	94.4	91.9	95.7	0.6	1.2	0.8	0.7	0.8	0.9	1.1	0.9	0.7	1.0	0.0	37.5	33.3	14.3	0.0
Lancaster	21.9	23.4	27.0	17.6	21.8	85.9	86.8	87.3	91.4	89.3	0.9	1.5	1.6	3.5	6.2	0.8	1.8	3.4	4.8	4.8	28.6	30.8	13.9	34.5	36.1
Troop L																									
Frackville	28.5	35.7	38.8	36.5	29.8	81.3	78.6	84.0	84.1	89.9	1.0	0.7	0.5	0.2	0.6	0.8	1.7	0.7	0.9	0.3	21.4	28.6	42.9	12.5	40.0
Hamburg	37.0	31.5	28.9	35.3	25.3	88.2	90.6	89.8	92.5	93.1	0.6	0.2	0.5	0.2	0.8	0.1	0.0	0.3	0.1	0.2	0.0*	--	0.0	0.0	0.0*
Jonestown	26.7	25.3	23.7	19.3	30.2	81.8	82.1	85.0	88.0	85.6	1.3	0.8	1.1	1.5	3.6	1.8	2.0	1.2	0.6	1.9	47.2	28.8	21.9	30.0	14.3
Reading	20.8	25.9	25.0	27.7	36.4	87.1	83.5	87.9	85.8	86.7	0.5	0.5	0.3	1.2	1.3	0.4	0.4	0.4	1.5	0.8	25.0	20.0	14.3	30.0	7.7
Schuylkill Hvn.	57.4	40.4	36.9	32.1	36.3	62.7	80.5	81.8	87.9	87.3	0.8	0.4	0.4	0.1	0.4	0.5	0.2	0.6	0.5	0.3	50.0	33.3*	22.2	57.1	50.0*
Troop T																									
Bowmansville	11.5	8.1	5.7	9.7	8.0	93.1	96.2	97.9	98.1	96.7	0.1	0.0	0.0	0.1	0.1	0.3	0.1	0.0	0.1	0.2	47.4	16.7	33.3*	40.0*	50.0
Everett	15.9	11.8	12.4	11.6	9.6	90.1	93.6	93.2	93.6	94.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.1	11.8	38.2	18.2	21.1	28.6
Gibsonia	22.6	26.1	13.4	15.4	14.8	83.4	82.5	94.2	92.9	92.0	0.0	0.0	0.0	0.2	4.0	0.2	0.2	0.4	0.6	0.4	0.0	23.5	9.1	24.0	27.0
Highspire	66.7	70.4	25.0	4.4	0.0	33.3	55.6	50.0	95.6	100.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	0.0	0.0	0.0	--	0.0	--	--	--
King of Prussia	19.7	19.4	12.3	14.3	8.8	86.7	87.5	92.2	90.6	94.4	0.1	0.1	0.1	0.1	0.0	0.2	0.1	0.1	0.2	0.3	18.2	44.4	42.9	45.5	36.8
New Stanton	15.6	13.5	15.0	16.1	10.6	90.0	92.1	91.8	93.0	94.9	0.2	0.1	0.1	0.1	1.1	0.2	0.1	0.1	0.3	0.1	22.2	11.1	20.0	13.0	28.6
Newville	13.6	11.5	10.2	17.2	27.9	91.5	92.4	93.4	94.9	95.0	0.0	0.1	0.1	0.1	0.1	0.4	0.5	0.2	0.1	0.3	25.8	24.6	29.2	33.3	0.0
Pocono	16.4	11.7	10.2	10.9	14.1	86.1	91.2	94.7	94.7	93.5	0.1	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	50.0	0.0	0.0	20.0*	20.0
Somerset (T)	7.4	7.2	4.4	5.4	5.5	95.0	94.5	97.2	96.1	96.5	0.3	0.2	0.2	0.4	0.2	0.7	0.7	1.1	1.2	0.6	46.6	42.6	35.1	48.7	35.6

* Five or fewer searches; interpret percentage with caution.

Table 6.2: Traffic Stop Outcomes by Station (p. 2 of 4)

	% Warnings					% Citations					% Arrested					% Searched					% Seized				
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006
AREA II																									
Troop F																									
Coudersport	49.2	52.0	40.9	38.4	38.7	61.3	65.5	70.4	72.4	75.1	0.7	0.4	0.1	0.5	1.4	1.0	1.0	0.1	0.4	0.3	33.3	25.0	0.0	20.0*	66.7
Emporium	37.0	33.8	25.2	24.0	24.2	79.3	82.3	84.3	84.8	83.8	0.0	0.1	0.0	0.0	0.2	0.2	0.1	0.0	0.3	0.7	50.0*	0.0	--	0.0	0.0
Lamar	10.8	10.0	11.1	8.5	13.0	93.3	93.5	93.9	96.6	95.9	0.2	0.0	0.1	0.2	0.4	0.2	0.2	0.2	0.2	0.1	33.3	16.7	33.3	25.0*	0.0*
Mansfield	25.8	23.9	34.4	29.0	34.1	82.3	86.3	78.7	84.8	82.1	0.5	0.2	0.1	0.1	0.2	0.3	0.1	0.3	0.1	0.1	0.0*	0.0	20.0*	0.0	0.0*
Milton	8.4	9.3	6.6	12.3	15.2	96.3	97.7	98.9	97.6	97.2	0.3	0.0	0.0	0.4	0.7	0.3	0.3	0.1	0.2	0.8	42.9	0.0	0.0	20.0*	19.0
Montoursville	10.1	10.4	8.9	8.0	9.8	94.6	94.7	95.1	95.5	93.3	0.2	0.2	0.0	0.7	2.0	0.3	0.4	0.3	0.5	1.4	37.5	29.4	9.5	19.0	37.5
Selinsgrove	7.6	6.1	7.0	5.5	11.0	95.3	97.4	96.4	96.8	91.6	0.2	0.0	0.1	0.5	1.5	0.3	0.1	0.3	0.6	1.0	10.1	16.7	30.0	29.4	33.3
Stonington	45.5	42.4	41.1	45.9	38.9	70.9	78.8	80.4	82.6	84.0	0.3	0.8	0.2	0.3	1.0	0.0	0.2	0.2	0.6	0.7	--	66.7*	0.0	0.0	10.0
Troop P																									
Laporte	39.0	35.0	30.4	25.5	27.3	70.1	80.0	87.2	84.7	84.3	0.8	0.1	1.0	0.3	0.2	0.2	0.1	0.3	0.3	0.0	0.0*	0.0	75.0*	0.0	--
Shickshinny	28.4	24.4	25.1	27.3	22.0	86.6	85.4	83.0	83.2	86.6	0.4	0.7	0.3	0.7	2.1	0.1	0.0	0.3	0.7	0.5	0.0*	--	0.0	25.0	0.0
Towanda	41.7	34.2	24.0	35.1	37.7	66.5	78.4	89.0	83.5	79.7	0.8	0.1	0.4	0.4	0.7	0.7	0.8	1.5	1.0	0.8	50.0	0.0	23.1	17.4	14.3
Tunkhannock	26.4	30.4	49.3	31.2	26.4	84.3	78.8	68.8	82.3	88.1	0.9	0.6	2.0	2.0	1.0	0.4	0.4	0.5	2.7	0.8	100.0*	20.0*	57.1	32.1	12.5
Wyoming	12.3	13.5	12.6	9.2	8.9	93.5	93.7	94.2	95.7	96.2	0.3	0.1	0.2	0.2	0.5	0.4	0.8	1.1	0.8	1.1	12.5	20.0	25.9	38.5	31.8
Troop R																									
Blooming Grv.	23.6	19.1	19.2	18.3	22.8	87.8	93.2	95.4	96.4	94.9	0.4	0.3	0.0	0.4	0.4	1.0	0.5	0.5	1.5	1.4	16.7	38.5	16.7	21.4	20.7
Dunmore	15.8	17.0	16.2	15.7	18.5	92.0	92.9	91.1	93.8	91.4	0.1	0.1	0.1	0.5	0.7	0.7	0.6	0.6	1.0	1.3	15.8	5.6	25.0	6.7	32.5
Gibson	22.2	25.3	17.9	15.2	9.2	91.3	93.4	94.3	94.2	95.2	0.3	0.4	1.3	2.5	2.5	0.8	0.4	0.5	1.8	1.1	10.0	14.3	9.1	28.6	52.6
Honesdale	25.8	14.5	13.8	12.1	10.9	81.5	91.9	92.0	92.8	97.0	0.8	0.3	0.3	0.4	0.4	1.4	0.8	1.0	1.7	2.7	41.2	20.8	35.0	23.5	32.7
AREA III																									
Troop A																									
Ebensburg	19.2	20.3	18.6	19.5	18.3	91.0	87.1	87.4	91.7	91.2	1.0	0.8	1.5	2.2	2.8	0.4	0.4	0.9	1.0	1.0	14.3	43.8	34.5	26.8	32.6
Greensburg	35.0	30.7	26.7	25.3	26.2	89.4	92.0	95.3	91.8	90.5	0.6	0.0	0.0	0.6	2.1	0.6	0.2	0.4	1.5	1.9	35.0	10.0	12.5	15.0	44.8
Indiana	34.6	29.9	22.8	28.1	28.3	78.8	87.6	91.4	90.0	85.9	1.1	0.4	0.2	1.0	2.3	1.2	0.6	0.8	2.0	1.5	30.8	15.0	12.5	26.4	53.1
Kiski Valley	48.6	44.4	31.6	35.6	34.8	76.4	77.5	87.9	89.5	83.7	0.3	0.2	0.1	0.5	1.2	1.0	0.5	0.7	0.7	1.5	13.3	23.1	5.9	10.0	11.4
Somerset (A)	33.1	36.5	34.4	33.5	46.8	79.0	76.5	82.1	84.3	73.9	2.5	1.6	0.8	1.0	3.1	1.7	0.7	1.2	0.6	0.7	38.1	26.7	25.0	35.7	26.7

* Five or fewer searches; interpret percentage with caution.

Table 6.2: Traffic Stop Outcomes by Station (p. 3 of 4)

	% Warnings					% Citations					% Arrested					% Searched					% Seized				
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006
AREA III (cont.)																									
Troop B																									
Belle Vernon	25.6	20.8	22.1	19.6	20.2	92.0	91.5	93.8	95.2	94.4	2.3	2.7	4.5	2.4	2.0	0.2	0.4	0.6	1.5	0.9	33.3	31.3	5.3	22.2	50.0
Findlay	10.8	13.9	14.8	26.7	21.9	95.2	95.3	95.0	91.0	94.2	0.5	0.2	0.0	1.0	1.6	0.2	0.6	0.9	0.9	0.8	9.1	13.3	5.0	27.9	20.0
Uniontown	37.8	41.2	33.9	31.8	21.2	74.0	70.2	76.5	81.2	89.3	0.5	0.8	0.3	0.9	2.0	1.0	1.5	1.7	1.3	1.0	12.1	23.1	13.2	28.2	42.2
Washington	18.4	21.4	16.3	12.4	17.0	87.7	86.3	91.3	93.5	92.6	0.2	0.3	0.0	0.1	0.8	1.0	0.8	0.5	0.3	0.9	16.7	29.3	8.0	28.6	47.4
Waynesburg	40.3	33.3	28.5	36.4	51.1	75.0	84.5	92.7	93.1	90.6	1.3	1.1	0.2	1.0	1.6	1.3	0.7	0.5	1.2	1.8	17.4	25.0	33.3	19.2	14.3
Troop G																									
Bedford	39.1	36.4	34.2	44.0	49.1	72.2	72.6	75.8	75.2	68.6	1.2	1.1	0.8	1.0	1.0	0.2	0.4	0.4	0.4	0.7	33.3*	46.2	21.4	36.4	36.4
Hollidaysburg	52.4	44.8	35.6	33.0	56.4	66.1	74.8	83.8	80.2	62.2	0.9	0.8	1.3	1.6	1.7	0.8	1.9	1.2	1.9	2.2	64.7	45.0	52.6	37.0	25.4
Huntingdon	35.7	37.8	30.9	29.6	46.1	77.4	76.5	84.9	86.2	73.6	3.9	2.9	1.5	1.5	1.9	0.4	0.6	0.5	0.5	0.8	80.0*	42.9	25.0	10.0	50.0
Lewistown	36.6	36.1	34.2	32.0	48.9	72.4	73.6	78.1	83.0	63.9	0.2	0.4	0.3	0.5	1.1	0.4	0.6	0.5	0.6	0.3	44.4	31.6	25.0	15.8	45.5
McConnells.	29.6	34.0	15.1	13.3	22.1	77.0	77.8	92.9	93.8	86.3	0.4	0.2	0.0	0.3	0.7	0.4	0.3	0.5	0.3	0.3	20.0*	42.9	9.1	28.6	25.0
Philipsburg	44.2	49.8	37.0	29.5	40.6	69.7	71.1	86.9	88.5	80.3	0.1	0.1	0.1	0.5	1.6	0.1	0.1	0.1	0.4	0.2	50.0*	0.0	75.0*	40.0	0.0
Rockview	23.6	24.6	23.6	25.9	18.2	83.2	83.9	87.5	86.8	87.4	0.3	0.0	0.1	0.6	1.3	0.7	0.3	0.4	0.2	0.4	10.3	11.1	14.3	42.9	33.3
AREA IV																									
Troop C																									
Clarion	40.0	37.2	38.3	40.2	39.2	73.4	78.5	75.2	77.2	74.6	0.8	0.2	0.1	0.3	0.8	1.3	0.9	0.9	1.7	1.3	15.8	10.7	13.6	9.7	25.5
Clearfield	21.9	25.7	18.9	16.6	18.1	88.9	88.0	94.3	95.2	90.9	0.0	0.0	0.1	0.5	1.0	0.7	0.3	0.5	0.8	0.8	3.8	16.7	8.3	37.9	33.3
Dubois	27.4	21.1	24.0	25.8	26.8	84.1	87.0	85.7	84.3	83.4	0.3	0.0	0.0	0.3	0.8	0.5	0.3	0.5	1.0	0.7	35.3	7.1	6.3	0.0	28.6
Kane	31.6	34.4	32.8	27.5	34.1	90.9	82.8	81.3	83.3	79.3	0.3	1.4	0.8	1.4	2.3	0.9	0.6	0.5	1.5	1.4	0.0	14.3	12.5	27.3	23.8
Punxsutawney	34.2	37.0	36.9	31.1	29.1	80.5	77.0	77.0	81.0	83.0	0.3	0.2	0.3	0.6	1.0	0.3	0.3	0.2	0.3	0.3	12.5	54.5	0.0	16.7	0.0
Ridgway	39.4	40.0	28.0	35.4	38.2	78.8	79.2	85.5	79.2	74.8	0.2	0.3	0.7	0.4	1.2	0.1	0.5	0.3	0.7	0.6	0.0*	8.3	25.0	7.1	35.7
Tionesta	58.4	57.5	59.4	58.7	57.3	55.7	59.5	54.8	58.2	61.3	0.6	0.7	0.4	0.1	1.1	0.2	0.3	0.0	0.1	0.1	50.0*	14.3	0.0	0.0	50.0*
Troop D																									
Beaver	57.7	52.6	44.6	37.7	50.9	53.6	61.6	72.2	78.2	70.1	1.4	0.6	0.4	0.4	1.1	0.3	0.4	0.4	1.1	1.6	14.3	16.7	20.0	26.9	29.7
Butler	40.7	39.2	30.2	28.8	32.8	71.0	75.5	84.1	85.8	85.3	1.6	0.7	0.7	1.1	2.3	0.7	0.6	0.8	0.9	1.6	21.1	24.1	37.1	17.1	33.3
Kittanning	49.9	43.9	41.9	42.7	44.3	67.6	71.1	75.4	74.7	70.0	1.4	0.8	0.7	4.5	5.9	2.2	0.7	1.8	7.1	9.6	26.7	52.6	33.3	51.5	58.5
Mercer	40.1	35.9	44.9	40.0	56.0	80.2	80.6	75.2	83.2	66.8	0.4	0.2	0.3	0.9	5.1	2.7	1.4	2.5	2.3	2.5	25.0	5.4	19.5	19.0	18.3
New Castle	59.1	44.0	38.5	39.6	36.1	51.4	72.0	76.0	74.0	82.6	1.5	0.1	0.1	0.4	1.0	0.5	0.3	1.4	1.0	1.3	0.0	0.0	6.5	11.8	29.2

* Five or fewer searches; interpret percentage with caution.

Table 6.2: Traffic Stop Outcomes by Station (p. 4 of 4)

	% Warnings					% Citations					% Arrested					% Searched					% Seized				
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006
AREA IV (cont.)																									
Troop E																									
Corry	52.5	45.8	41.8	42.5	42.7	61.7	70.5	71.7	71.0	71.2	0.6	0.7	0.3	2.5	3.1	0.3	0.3	0.2	0.1	0.1	50.0*	0.0	0.0	0.0	0.0*
Erie	38.1	26.3	26.4	36.3	34.3	69.9	82.1	83.9	85.9	80.7	0.1	0.0	0.1	0.1	1.1	0.8	0.2	0.3	0.5	2.0	38.9	10.0	0.0	46.2	26.2
Franklin	63.2	61.8	57.2	51.1	56.3	54.9	58.8	64.2	68.2	66.5	0.2	0.6	0.3	0.6	1.3	0.4	0.6	0.4	0.4	0.2	20.0*	25.0	8.3	14.3	50.0*
Girard	42.5	28.8	27.9	30.1	27.1	71.9	84.1	87.6	84.8	86.0	0.3	0.4	0.4	1.0	2.5	0.4	0.5	0.6	0.2	0.4	14.3	14.3	19.0	40.0*	20.0
Meadville	47.9	48.0	32.0	19.7	25.1	61.8	66.6	78.6	89.5	87.4	2.9	1.5	0.7	0.9	1.4	1.8	1.0	0.6	0.7	0.8	62.1	35.7	57.1	25.8	34.3
Warren	57.8	32.1	29.5	30.2	40.2	55.3	78.9	80.9	79.4	72.5	1.5	0.9	0.6	1.6	2.5	0.6	0.8	0.4	1.0	1.0	66.7*	30.0	16.7	50.0	50.0
AREA V																									
Troop K																									
Media	29.9	29.8	37.3	39.3	40.1	81.4	81.0	75.7	75.0	79.1	1.0	1.5	1.4	2.1	2.1	3.0	3.5	3.1	2.7	2.9	28.7	28.2	25.8	36.2	31.9
Philadelphia	20.8	28.8	29.7	26.7	39.6	93.2	87.7	88.2	87.8	85.6	0.7	0.8	0.5	1.1	1.2	1.8	1.5	1.6	1.5	2.9	35.0	31.4	25.0	19.6	11.8
Skippack	38.0	37.4	37.1	36.1	42.6	81.8	82.7	87.8	88.6	82.5	0.9	0.6	0.6	1.1	3.3	1.7	1.2	1.0	1.2	1.6	20.5	20.8	20.0	29.0	40.4
Troop M																									
Belfast	38.5	29.6	32.9	27.0	24.5	74.7	80.6	79.1	85.8	86.7	0.2	0.4	0.3	0.4	1.9	1.2	0.4	0.6	0.9	1.0	7.1	23.1	11.1	11.4	33.3
Bethlehem	31.0	31.6	29.1	30.5	31.7	79.8	80.4	85.8	87.7	86.4	0.5	0.6	0.3	0.4	2.3	1.0	0.9	0.4	1.0	2.0	23.8	30.0	43.8	15.6	14.9
Dublin	44.2	54.7	60.5	49.8	40.5	70.5	67.6	66.1	81.2	84.9	0.7	0.3	0.3	1.0	1.7	0.9	0.6	0.4	1.0	1.8	47.1	13.0	5.6	13.3	28.0
Fogelsville	32.7	32.4	33.9	36.1	31.9	79.5	80.1	77.3	79.5	80.9	0.4	0.4	0.5	1.0	1.2	1.4	0.8	1.4	3.2	1.9	15.8	9.1	21.6	28.6	14.1
Trevose	20.5	19.2	48.8	36.9	41.8	85.8	86.5	61.7	79.5	73.9	0.7	0.8	0.3	1.2	2.2	1.3	1.4	0.8	1.0	0.9	12.5	15.9	48.0	22.2	11.1
Troop N																									
Bloomsburg	23.7	16.1	10.8	12.2	17.0	95.8	97.2	96.6	93.1	89.4	0.2	0.2	0.1	0.2	0.4	0.1	0.0	0.2	0.4	0.5	0.0*	0.0	0.0	8.3	0.0
Fern Ridge	10.0	17.2	9.4	9.3	11.6	93.9	92.7	98.2	96.5	90.9	1.0	0.4	1.6	3.2	3.6	0.3	0.4	0.1	0.6	1.4	20.0*	14.3	0.0	21.2	19.0
Hazleton	24.7	17.6	13.4	15.1	17.5	84.2	88.7	92.4	93.0	92.3	0.2	0.1	0.2	0.3	0.4	0.6	0.3	0.7	1.0	0.9	27.8	22.2	8.3	50.0*	16.1
Lehighton	37.0	35.8	35.2	31.9	23.8	77.5	82.0	88.2	92.9	91.2	0.8	0.1	0.1	0.2	0.9	0.3	0.4	0.1	0.1	0.3	33.3*	18.2	0.0	33.3	60.0
Swiftwater	19.8	19.4	29.6	25.9	22.6	89.0	87.7	85.8	91.6	92.5	0.1	0.1	0.1	0.3	0.7	0.7	0.6	0.7	1.1	1.1	8.8	10.0	29.6	26.0	35.4

* Five or fewer searches; interpret percentage with caution.

Racial/Ethnic Comparison of Stop Outcomes: 2002 – 2006

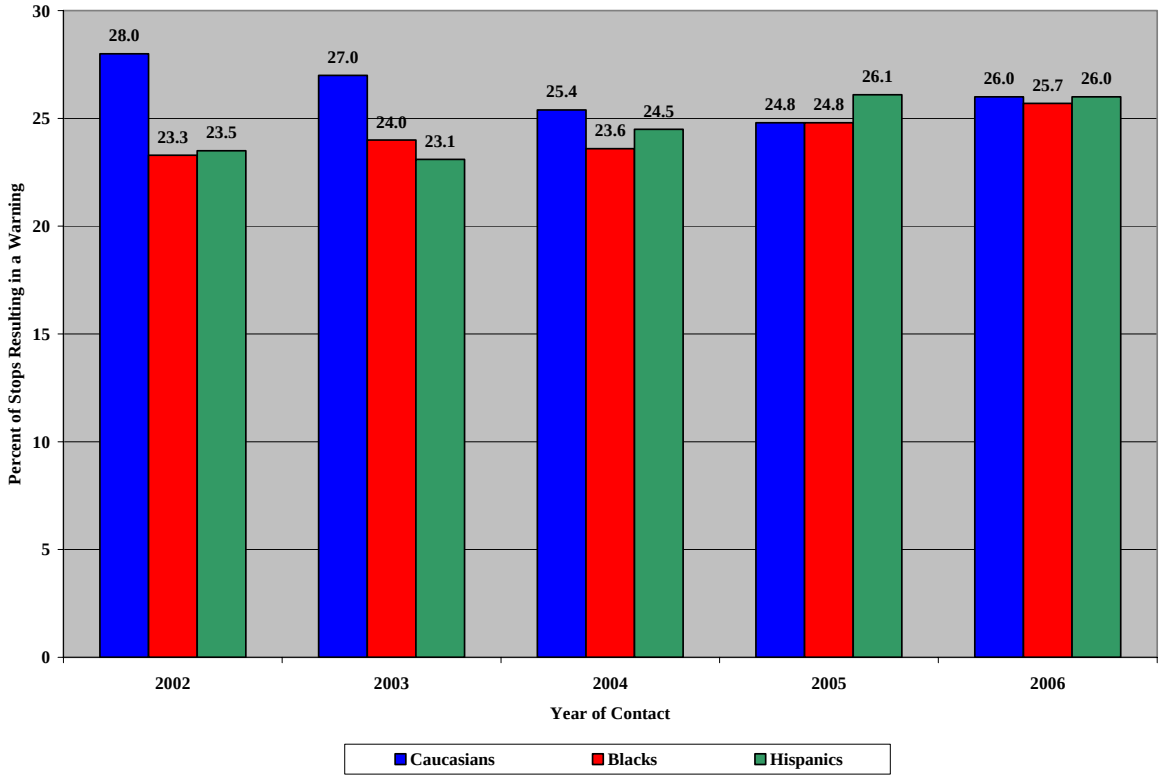
This section focuses specifically on post-stop outcome patterns for specific racial/ethnic groups. Tables 6.3 – 6.7 & Figures 6.1 – 6.5 report the percentage of stops between 2002 and 2006 that resulted in warnings, citations, arrests, searches, and seizures for different minority groups across the department, area, and troop levels. Due to the small number of traffic stops that occurred for some racial/ethnic groups (e.g., Native Americans, Asians, etc.), the descriptive statistics reported below are limited to comparisons of Caucasian, Black, and Hispanic drivers. Information at the station level is not provided for each of these groups because some stations simply initiate too few traffic stops of some minority groups to produce reliable results. Instead, percentages are reported at the station level for Caucasian and all non-Caucasian drivers in Table 6.8. Likewise, percentages of stops that resulted in arrests and searches of Caucasian and non-Caucasian drivers are compared in Table 6.9. Due to the small number of searches and seizures in many stations, search success rates are not reported at the station level. Initially, discussion of the post-stop outcome trends for each racial/ethnic group based on the information in Tables 6.3 – 6.7 will consider the within group trends across time. All percentages reported in the following tables and figures are calculated within each group; in other words, the warning rate for Caucasian drivers is calculated by taking the total number of warnings issued to Caucasian drivers and dividing it by the total number of Caucasian traffic stops. In this manner, the percentages reflect only the outcomes that occur within a specific racial/ethnic group.

Warnings:

Traffic stops resulting in warnings are reported in Table 6.3 and separated by Caucasian, Black, and Hispanic drivers. Across the department, each racial/ethnic group produced a unique pattern. For Caucasian drivers, there was a steady decline between 2002 (28.0% of traffic stops resulting in warnings) and 2005 (24.8%), prior to an increase in 2006 (26.0%). Warnings issued to Black drivers exhibited an opposite pattern: the department reported an increase in warnings every year except 2004. Specifically, the rate of Black drivers receiving warnings in 2002 was 23.3%, and the rate in 2006 was 25.7%. For Hispanic drivers, the trend is somewhat similar to warnings issued to Black drivers. Rates decreased from 23.5% in 2002 to 23.1% in 2003, but steadily increased since then, peaking in the last two years at 26.1% and 26.0%, respectively. Overall, rates of warnings increased for Black and Hispanic drivers, who received more warnings in 2006 compared with the 2002 levels. Caucasian drivers received more warnings in 2006 than in 2005, but this is still a lower percentage of warnings compared to 2002.

These trends are graphically displayed in Figure 6.1 below. Examining the data from 2002 - 2006 in this manner demonstrates that initial racial/ethnic differences in the rates of warnings have been reduced. In 2006, the rates of warnings issued to Caucasian, Black, and Hispanic drivers were virtually equivalent.

Figure 6.1: Racial/Ethnic Composition of Drivers Warned: 2002-2006



As further demonstrated in Table 6.3, greater variation at the area level is demonstrated. For example, the departmental pattern of warnings for Caucasian drivers was generally mirrored in all but Area V, with a steady decrease in warnings until an increase in 2005 (Area I, II, & III) or 2006 (Area IV). For Black drivers, only Area III matched the department trend, while Area I actually displayed fewer warnings issued in 2006 compared to 2002. Rates of Hispanic drivers across the areas were even more varied, likely due to the fewer numbers of drivers in this group. Only Area V demonstrated an identical pattern to that displayed at the department level. For each group's specific trend at the troop level, please refer to Table 6.3.

Table 6.3: Traffic Stop WARNINGS by Department, Area & Troop – 2002-2006

	Caucasian					Black					Hispanic				
	2002	**2003**	**2004**	**2005**	**2006**	**2002**	**2003**	**2004**	**2005**	**2006**	**2002**	**2003**	**2004**	**2005**	**2006**
PSP Dept.	28.0	27.0	25.4	24.8	26.0	23.3	24.0	23.6	24.8	25.7	23.5	23.1	24.5	26.1	26.0
AREA I	20.3	18.8	17.2	17.9	17.9	18.2	17.7	15.8	18.2	17.4	20.9	19.9	19.2	22.2	21.7
Troop H	25.1	25.2	22.5	23.7	21.3	23.6	26.4	20.5	25.4	22.1	18.6	23.9	20.9	26.4	23.8
Troop J	28.8	29.5	29.3	24.9	26.3	33.2	31.2	36.0	27.9	30.5	31.5	32.8	32.6	28.7	32.8
Troop L	32.2	30.6	29.6	28.1	31.5	30.7	32.2	25.6	28.7	31.8	28.0	27.1	28.8	27.7	31.9
Troop T	15.0	13.7	10.8	12.8	12.4	14.0	14.0	11.6	14.2	13.0	14.9	12.1	9.5	14.6	11.3
AREA II	21.6	20.2	18.7	18.9	21.4	13.4	12.5	14.3	14.9	17.7	12.8	16.6	12.3	15.0	21.0
Troop F	19.6	18.5	16.3	16.8	22.0	9.7	10.1	10.9	9.7	16.2	9.0	13.7	8.2	10.8	19.0
Troop P	27.7	26.2	26.4	26.3	25.4	17.0	22.4	21.9	22.9	20.8	16.0	30.0	17.1	17.5	27.0
Troop R	21.2	18.6	17.2	15.5	16.1	19.6	13.5	18.0	18.5	18.8	19.3	17.0	16.3	17.9	20.2
AREA III	30.7	30.6	26.6	27.6	30.7	26.5	29.5	24.4	27.0	30.3	15.5	21.2	19.6	25.2	31.6
Troop A	33.9	31.1	25.7	27.3	28.0	40.7	42.2	34.0	32.5	32.8	23.1	23.8	19.7	39.0	36.1
Troop B	23.1	23.4	22.4	24.5	23.4	25.4	26.2	23.0	28.7	27.3	13.4	21.4	16.7	28.1	28.7
Troop G	37.6	37.5	31.5	30.8	38.6	22.7	26.9	21.6	22.7	31.9	14.9	20.6	21.1	22.5	31.5
AREA IV	43.0	38.7	36.1	34.6	37.1	34.3	30.4	30.6	32.8	37.6	30.9	19.7	27.0	26.3	32.9
Troop C	36.7	36.4	34.3	34.7	34.5	23.3	23.3	22.1	27.4	26.7	26.6	17.6	19.7	24.2	25.6
Troop D	48.7	43.0	39.0	36.7	42.2	50.7	43.7	45.3	44.7	55.1	43.6	27.6	48.7	35.6	54.8
Troop E	48.0	38.3	35.5	32.2	35.2	41.2	31.5	28.2	25.6	29.9	39.2	22.7	28.9	22.6	30.8
AREA V	28.9	29.9	33.4	30.0	30.5	26.7	28.7	32.2	31.2	35.8	26.7	28.3	29.0	30.9	29.7
Troop K	30.0	31.6	35.0	33.7	39.8	29.8	34.4	37.7	34.1	44.6	29.4	36.2	36.9	34.9	39.1
Troop M	34.5	35.8	42.0	35.8	33.3	30.8	30.5	38.4	37.5	36.5	30.6	31.8	34.5	36.8	34.3
Troop N	22.5	21.7	20.8	20.5	19.9	19.1	19.1	18.5	20.1	18.6	21.9	19.9	16.4	18.6	17.2

Citations:

Table 6.4 reports the rate of citations issued to Caucasian, Black, and Hispanic drivers across the department, area, and troop levels. At the department level, the percentage of stops resulting in citations increased for Caucasian drivers from 82.0% in 2002 to 87.8% in 2005, prior to a slight reduction in 2006 to 86.7%. Black drivers experienced a steady increase in citations from 2002 (85.8%) to 2006 (88.2%). A generally increasing trend was also exhibited for Hispanics, although 2006 had slightly fewer citations issued than in 2005; the total increase from 2002 to 2006 is less than 2%. Overall, all groups had higher rates of citations in 2006 compared to their 2002 level.

Figure 6.2 displays the trends for citations issued to Caucasian, Black, and Hispanic drivers between 2002 and 2006. Initially, a noticeable discrepancy was apparent between all three groups, with Hispanic drivers receiving proportionately higher rates of citations compared to Caucasian and Black drivers. This gap closed from 2002 to 2005; in particular, the difference in citation rates between Caucasian and Black drivers was minimal in 2005. However, Hispanic drivers still maintained the highest levels of citations of any race/ethnicity examined. Data collected in 2006 demonstrate that Hispanic drivers are still more likely to receive a citation compared to any other racial/ethnic group. Moreover, the gap between Caucasian and Black drivers reappeared with Black drivers receiving proportionately more citations than Caucasians. There are a number of possible explanations for the disparity in this citation rate (e.g., reason for the initial stop, severity of the traffic offense, etc.), which were examined further in Section 5.

At the area level, three organizational units (Areas II, III, & IV) displayed a pattern of Caucasian citations similar to the department level. For Black drivers, a distinctly different pattern emerged at the area level. Only Area I demonstrated an increase in all four years; moreover, three of the other four areas displayed an overall reduction in their percentages of citations issued to Black drivers. The noticeable difference between the department and area levels is most likely due to the fact that Area I conducts the highest number of stops; thus its behavior has the largest impact on the overall trend across the department. Finally, area level patterns of Hispanic drivers receiving a citation are quite varied and only Area IV mirrors the department level trend. Please refer to Table 6.4 for a detailed report of citations issued to each racial/ethnic group in the specific areas and troops.

Figure 6.2: Racial/Ethnic Composition of Drivers Cited: 2002-2006

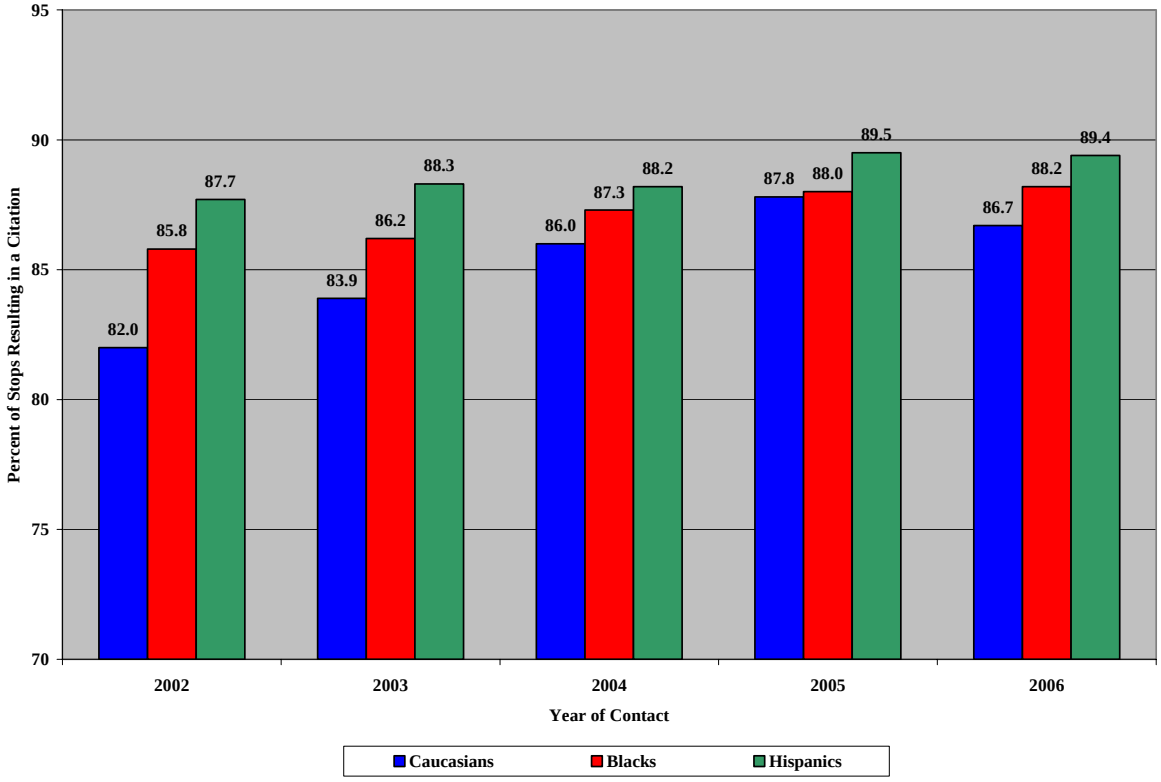


Table 6.4: Traffic Stop CITATIONS by Department, Area & Troop – 2002-2006

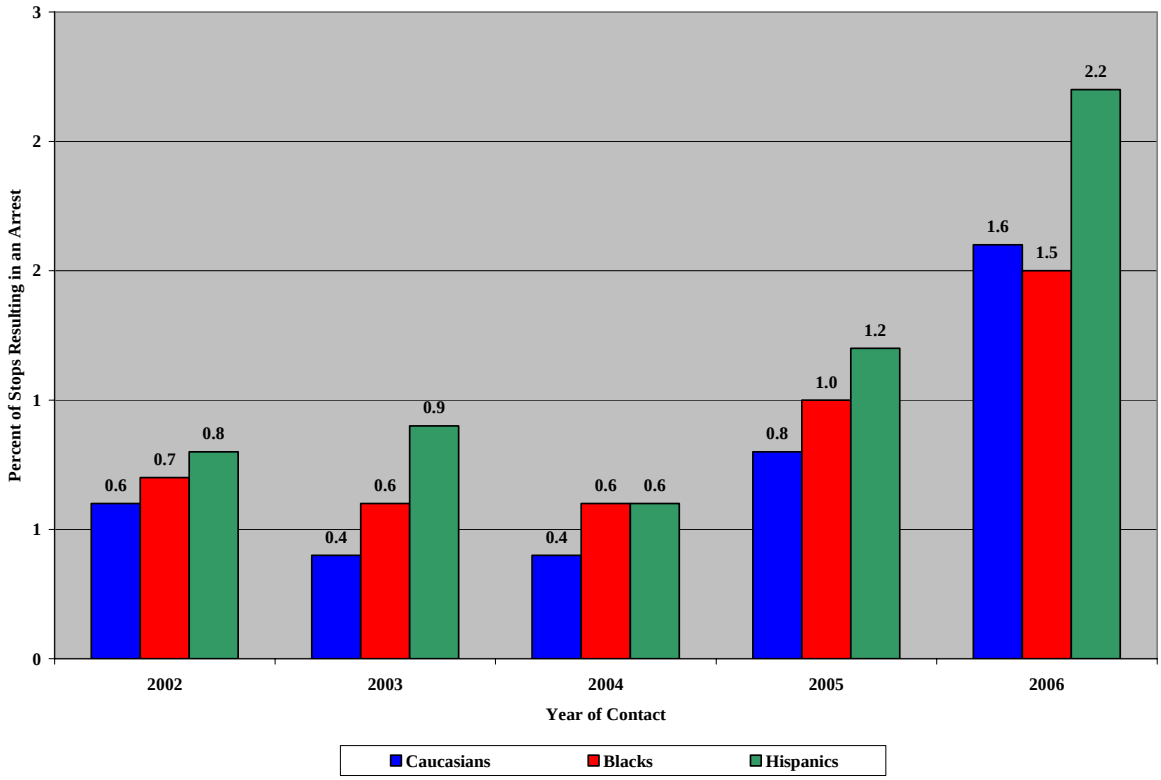
	Caucasian					Black					Hispanic				
	2002	**2003**	**2004**	**2005**	**2006**	**2002**	**2003**	**2004**	**2005**	**2006**	**2002**	**2003**	**2004**	**2005**	**2006**
PSP Dept.	82.0	83.9	86.0	87.8	86.7	85.8	86.2	87.3	88.0	88.2	87.7	88.3	88.2	89.5	89.4
AREA I	86.8	88.4	90.5	91.7	92.2	88.4	89.0	91.1	91.3	92.7	89.4	90.3	92.1	91.5	92.8
Troop H	80.9	81.6	85.1	86.7	88.6	81.6	81.0	87.3	86.9	88.7	87.6	86.3	88.8	87.0	88.5
Troop J	86.8	88.1	89.6	92.4	92.0	83.3	86.1	87.8	90.8	92.7	90.1	92.4	93.1	95.0	93.3
Troop L	80.7	82.6	85.5	88.1	88.1	83.8	81.2	85.2	87.3	86.0	86.2	86.0	87.9	90.9	91.4
Troop T	89.7	91.3	94.2	94.3	94.6	90.8	91.1	92.8	92.8	94.4	90.4	92.2	94.7	92.3	95.3
AREA II	86.4	89.3	90.2	90.6	89.4	92.3	93.9	93.9	93.4	92.7	94.2	93.7	95.0	94.8	92.2
Troop F	87.4	90.0	90.8	91.2	88.3	94.4	94.4	94.8	96.1	94.9	96.8	95.2	96.1	96.4	94.9
Troop P	81.3	84.3	85.8	86.0	86.5	87.4	83.9	90.4	87.1	89.0	90.7	87.5	90.2	88.8	84.4
Troop R	88.7	92.5	92.9	94.2	94.3	89.6	96.4	93.3	92.2	91.0	90.4	93.5	94.7	95.0	93.2
AREA III	81.5	82.8	87.4	87.6	83.9	85.9	85.7	90.4	89.2	85.3	91.5	89.3	93.5	88.8	85.4
Troop A	84.3	85.9	89.9	89.9	87.0	83.5	83.9	89.0	91.0	85.6	87.7	90.5	89.4	80.5	84.7
Troop B	86.5	87.3	89.3	89.7	92.1	87.6	86.7	91.6	89.3	91.4	93.3	90.7	96.4	92.1	91.1
Troop G	73.5	75.5	83.3	83.9	74.9	84.8	85.4	89.6	88.4	79.5	91.5	88.5	93.0	88.6	83.8
AREA IV	70.7	75.8	78.5	80.5	78.1	77.9	83.4	83.2	84.1	77.7	84.5	92.0	85.6	88.2	79.9
Troop C	77.6	78.7	79.4	79.4	78.3	87.1	89.1	88.9	86.5	84.0	90.1	94.4	91.7	87.6	86.7
Troop D	65.4	72.1	77.6	79.8	76.3	65.0	72.7	73.1	77.5	66.2	67.1	83.6	65.6	85.6	60.3
Troop E	64.2	75.1	78.4	82.5	79.7	71.1	82.2	85.2	88.9	84.1	75.0	87.5	86.1	92.7	80.8
AREA V	82.9	82.8	81.6	86.2	85.3	85.4	85.5	83.9	86.1	85.0	86.8	85.9	86.2	88.6	87.5
Troop K	83.9	83.0	83.2	83.3	81.6	85.4	83.8	83.9	85.4	84.4	85.6	84.9	87.0	89.9	88.5
Troop M	77.2	77.6	73.3	82.4	82.8	79.9	81.7	76.8	81.8	79.2	81.5	82.0	81.3	84.7	82.6
Troop N	87.8	88.8	91.6	92.8	90.9	90.0	91.6	91.8	92.1	92.4	92.5	91.5	93.9	95.0	94.1

Arrests:

As noted previously, the percentage of traffic stops resulting in arrests were underreported until September 2005. Thereafter, the rates of arrests, searches, and seizures increased – and in some instances doubled – in 2006 compared to previous years. These sharp fluctuations are evident in the data provided for post-stop outcomes regardless of race/ethnicity in Tables 6.1 & 6.2, but also in Table 6.5 in which racial/ethnic groups are examined independently. As a result of the changes in data collection, the rate of arrest for all racial/ethnic groups across the department increased dramatically in 2006. For example, Caucasian drivers arrested rose to 1.6% of all traffic stops involving Caucasian drivers in 2006, in comparison to 0.8% of all traffic stops of Caucasian drivers in 2005. Within the same time period, Black drivers arrested rose from 1.0% in 2005 to 1.5% in 2006, and Hispanic drivers rose from 1.2% in 2005 to 2.2% in 2006. Increases in arrests for all racial/ethnic groups varied in size by area and troop. Please refer to Table 6.5 for specific rates at the area and troop level.

Figure 6.3 displays the trends for arrests issued to Caucasian, Black, and Hispanic drivers between 2002 and 2006. As discussed, the overall rates of arrest increased noticeably in 2005 and specifically in 2006 due to problems with the data collection in the early years. When the racial/ethnic groups are compared to one another, Hispanic drivers consistently had the highest proportion of arrests compared to Caucasians and Blacks. Specifically, the disparity between Caucasian and Hispanic drivers arrested increased in 2006, while the proportion of Black drivers arrested fell below the proportion of Caucasian drivers arrested.

Figure 6.3: Racial/Ethnic Composition of Drivers Arrested: 2002-2006



Given the limitations of the data collected prior to September 2005, the arrest rate data are more accurately compared across racial/ethnic groups rather than within racial/ethnic groups over time. That is, it is more instructive to note that statewide in 2006, 1.5% and 1.6% of Caucasian and Black drivers stopped were arrested, compared to 2.2% of Hispanic drivers. The specific reasons underlying the higher rates of Hispanic arrests during traffic stops were specifically examined in Section 5 of this final report.

Table 6.5: Traffic Stop ARRESTS by Department, Area & Troop – 2002-2006

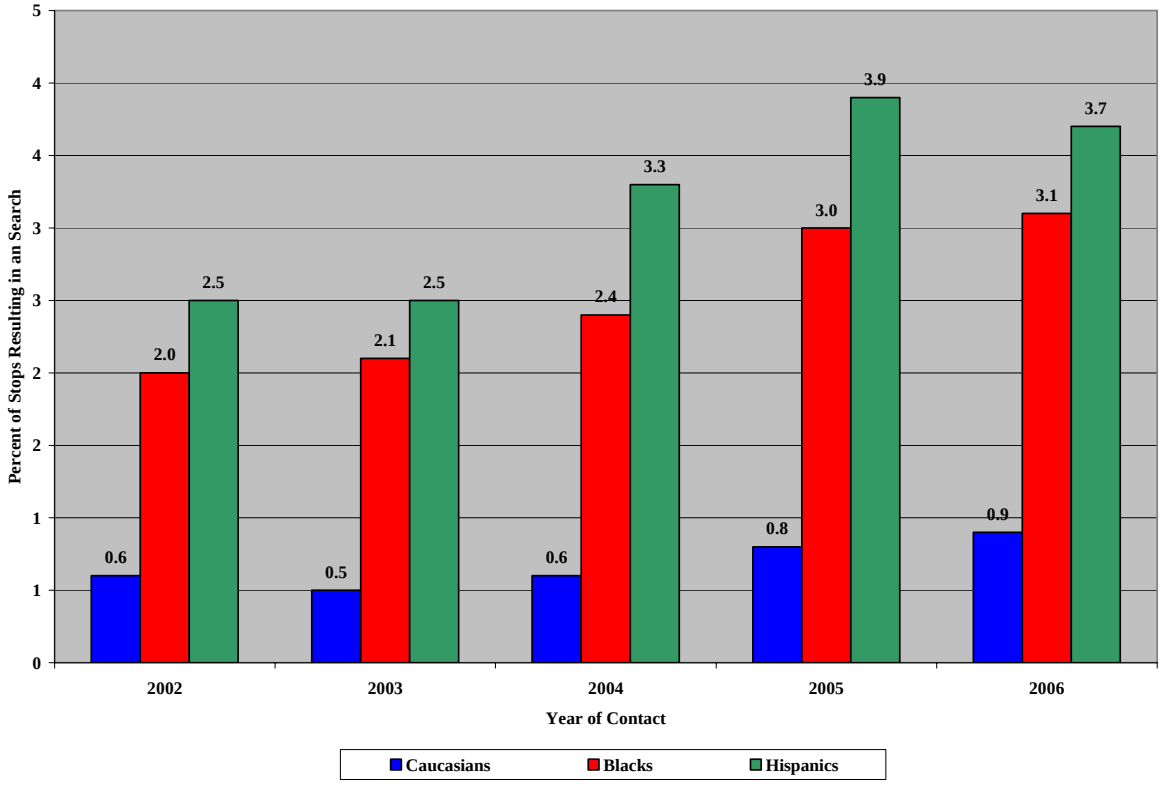
	Caucasian					Black					Hispanic				
	2002	**2003**	**2004**	**2005**	**2006**	**2002**	**2003**	**2004**	**2005**	**2006**	**2002**	**2003**	**2004**	**2005**	**2006**
PSP Dept.	0.6	0.4	0.4	0.8	1.6	0.7	0.6	0.6	1.0	1.5	0.8	0.9	0.6	1.2	2.2
AREA I	0.4	0.3	0.4	0.6	1.5	0.8	0.6	0.5	0.9	1.2	1.1	0.9	0.6	1.5	2.6
Troop H	0.9	0.9	0.9	1.2	2.1	1.9	1.3	1.0	1.2	1.9	2.6	2.0	1.1	2.1	3.8
Troop J	0.6	0.8	0.7	1.9	3.5	1.6	1.2	1.1	2.7	2.8	1.7	0.9	0.9	3.4	5.7
Troop L	0.8	0.5	0.7	0.8	1.6	0.8	1.1	0.5	0.8	1.7	2.0	1.2	0.5	1.3	1.4
Troop T	0.1	0.1	0.0	0.1	0.8	0.8	0.4	0.4	0.5	0.7	0.2	0.5	0.2	0.2	0.5
AREA II	0.3	0.2	0.3	0.6	0.9	0.5	0.2	0.7	0.7	1.6	0.7	0.8	0.7	0.6	1.2
Troop F	0.3	0.1	0.1	0.4	1.0	0.7	0.2	0.2	0.6	1.8	0.9	0.8	0.2	0.4	1.3
Troop P	0.6	0.2	0.6	0.6	0.8	0.7	0.6	1.6	0.6	2.3	1.3	0.0	6.1	2.5	0.8
Troop R	0.3	0.2	0.4	0.8	1.0	0.5	0.2	1.2	0.8	1.2	0.0	1.1	0.0	0.3	1.4
AREA III	0.8	0.7	0.7	0.9	1.7	0.6	0.7	0.5	1.1	1.8	0.4	0.4	0.2	1.3	1.8
Troop A	1.0	0.5	0.5	1.1	2.3	0.3	0.5	0.6	1.2	3.4	0.0	0.0	0.0	0.0	6.9
Troop B	0.8	0.9	0.9	0.9	1.5	0.5	0.7	0.5	1.4	1.9	0.0	0.0	0.0	1.8	1.0
Troop G	0.8	0.7	0.6	0.9	1.3	0.7	0.7	0.4	0.7	1.0	0.6	0.6	0.4	1.2	0.9
AREA IV	0.8	0.5	0.4	1.0	2.0	0.7	0.5	0.4	1.1	2.1	0.6	0.4	0.2	0.6	2.8
Troop C	0.4	0.3	0.3	0.5	1.1	0.1	0.3	0.1	0.3	1.1	0.6	0.0	0.0	0.2	1.1
Troop D	1.3	0.5	0.5	1.6	3.2	2.0	1.0	0.9	2.7	4.0	0.7	0.7	0.0	2.3	6.0
Troop E	1.1	0.6	0.4	1.0	1.8	0.9	0.3	0.4	0.4	0.9	0.0	1.7	1.0	0.0	4.2
AREA V	0.5	0.5	0.5	0.9	1.5	0.6	0.9	0.8	1.3	1.8	0.6	0.9	0.6	1.0	1.8
Troop K	0.9	1.0	0.9	1.2	2.0	1.3	1.3	1.1	2.1	2.0	0.6	2.3	0.7	1.0	3.1
Troop M	0.5	0.4	0.3	0.7	1.6	0.3	1.0	0.9	1.1	2.3	1.0	1.0	0.4	1.2	2.1
Troop N	0.4	0.2	0.4	0.8	1.0	0.0	0.2	0.5	0.4	0.8	0.1	0.1	0.8	0.5	0.6

Searches:

As with arrests, the number of traffic stops resulting in searches was underreported prior to departmental intervention in September 2005. Table 6.6 reports the rate of searches conducted on Caucasian, Black, and Hispanic drivers across the department, area, and troop levels between 2002 and 2006. Across the department, the rate of Caucasian searches only marginally increased from 0.8% in 2005 to 0.9% in 2006, which contributes to an overall increasing trend since 2002. For Black drivers, there was also a slight increase in the rate of searches in 2006 to 3.1% from 3.0% in 2005. This continues the ongoing trend of increases in the rate of Black drivers searched department-wide. Finally, Hispanic drivers reduced their rate of searches in 2006 to 3.7% from a high in 2005 of 3.9%, but the 2006 rate still represents an increase from earlier years.

As reported in Figure 6.4, over the course of the five years analyzed, Hispanic drivers had the highest rates of search compared to other racial/ethnic groups. In addition, Black drivers were searched at higher levels compared to Caucasian drivers. Given the limitations of the data collected prior to September 2005, the search rate data are more accurately compared across racial/ethnic groups rather than within racial/ethnic groups over time. That is, it is more instructive to note that statewide in 2006, only 0.9% of stopped Caucasian drivers were searched, compared to 3.1% of Black drivers and 3.7% of Hispanic drivers. The specific reasons underlying the higher rates of Black and Hispanic searches during traffic stops were more specifically examined in Section 5 of this final report.

Figure 6.4: Racial/Ethnic Composition of Drivers Searched: 2002-2006



The increase in the Caucasian search rate at the department level was reflected in all areas except for Area I in which the rate of searches decreased from 2005. Similarly, for Black drivers, four of the five areas experienced an increase in the rate of searches of Black drivers. Both the Caucasian and Black patterns at the troop level differ from the department trend in Area I, which consistently has the highest amount of Trooper-initiated contacts with citizens. Patterns of searching Hispanic drivers across the area levels varies, with some areas exhibiting a decrease in 2006 (i.e., Area II & III), some staying unchanged (i.e., Area I & V), and Area IV increasing their rate of searching Hispanic drivers. Please refer to Table 6.6 for a description of the troop level patterns of searches for Caucasian, Black, and Hispanic drivers.

Table 6.6: Traffic Stop SEARCHES by Department, Area, & Troop – 2002-2006

	Caucasian					Black					Hispanic				
	2002	**2003**	**2004**	**2005**	**2006**	**2002**	**2003**	**2004**	**2005**	**2006**	**2002**	**2003**	**2004**	**2005**	**2006**
PSP Dept.	0.6	0.5	0.6	0.8	0.9	2.0	2.1	2.4	3.0	3.1	2.5	2.5	3.3	3.9	3.7
AREA I	0.5	0.5	0.6	0.8	0.7	1.2	1.3	1.7	2.0	1.9	1.7	1.8	2.4	3.4	3.4
Troop H	0.9	0.9	1.2	1.5	1.3	1.7	2.9	3.8	3.5	4.1	2.6	2.6	3.5	4.5	4.9
Troop J	0.9	1.3	2.0	2.6	2.7	1.9	2.5	3.5	7.0	5.3	2.3	2.8	4.6	7.1	7.1
Troop L	0.6	0.7	0.4	0.4	0.6	3.1	3.6	3.0	2.6	3.0	2.2	2.5	1.8	1.4	1.7
Troop T	0.2	0.2	0.2	0.2	0.1	0.8	0.8	0.9	0.9	0.7	1.0	1.1	1.2	1.5	1.0
AREA II	0.4	0.4	0.4	0.7	0.8	1.1	0.9	1.7	2.5	3.4	1.0	1.1	1.8	3.0	2.9
Troop F	0.3	0.3	0.2	0.4	0.5	0.7	0.5	1.3	1.0	3.0	0.6	0.5	1.0	0.8	0.8
Troop P	0.4	0.4	0.7	0.9	0.6	0.7	2.3	5.9	4.1	3.5	0.0	3.8	3.7	5.0	5.7
Troop R	0.8	0.6	0.5	1.1	1.4	1.8	1.2	1.1	3.8	4.0	2.4	1.1	2.5	4.3	3.4
AREA III	0.6	0.5	0.6	0.7	0.8	1.6	2.3	2.8	3.5	3.7	2.1	2.3	3.7	3.5	3.2
Troop A	0.8	0.4	0.6	1.1	1.2	2.1	1.4	3.8	4.4	5.5	1.5	1.6	3.0	12.2	8.3
Troop B	0.6	0.6	0.6	0.7	0.8	1.9	3.3	3.4	4.6	3.2	1.5	1.4	3.6	1.8	3.0
Troop G	0.4	0.5	0.4	0.5	0.5	1.0	1.3	1.5	1.9	3.4	2.4	2.8	3.9	3.1	2.1
AREA IV	0.7	0.4	0.6	1.1	1.4	2.1	1.9	2.7	4.6	4.7	3.3	2.1	4.3	5.1	5.2
Troop C	0.4	0.3	0.3	0.6	0.5	2.2	2.0	1.8	3.7	2.6	2.7	1.7	3.2	5.4	4.2
Troop D	1.0	0.5	1.1	2.3	3.2	3.0	2.8	4.8	8.9	8.6	7.9	6.7	9.4	8.0	10.6
Troop E	0.9	0.6	0.3	0.5	0.7	0.9	0.4	1.8	0.4	2.4	1.7	0.6	2.6	1.2	2.8
AREA V	0.9	0.7	0.7	0.8	1.0	3.2	3.3	2.1	3.1	4.2	3.0	2.6	2.1	4.0	4.0
Troop K	1.7	1.4	1.6	1.3	1.6	4.7	5.3	3.0	3.3	5.2	5.4	7.0	4.4	3.6	6.8
Troop M	0.7	0.5	0.5	1.0	0.9	3.7	2.7	2.2	3.4	3.9	3.9	2.3	2.2	5.3	4.7
Troop N	0.4	0.3	0.3	0.5	0.6	0.5	1.1	0.9	2.3	2.6	1.3	0.9	0.8	1.8	1.3

Seizures:

As previously noted, the number of traffic stops resulting in searches and seizures was underreported prior to September 2005. Therefore, the varying rates of contraband seizures over time are likely an artifact of the data and not a true reflection of changes in Trooper behavior. Table 6.7 reports the rate of contraband discovered (i.e., the hit rate) as a result of a search conducted for any reason; that is, these hit rates are based on all searches. The reported percentages represent the searches resulting in contraband seizures, rather than the percentages of all traffic stops resulting in seizures. Across the department, the hit rate for Caucasian drivers increased to 36.4% in 2006 from 30.9% in 2005 and a low of 29.1% in 2003. This reflects an improvement in the search accuracy of Caucasian drivers. Unfortunately, this pattern is not replicated for Black and Hispanic drivers. Specifically, searches resulting in the discovery of contraband were lower for Black drivers in 2006 (25.4%) compared to the previous year (25.7%); however, both years were an improvement on the rates from 2002 through 2004. For Hispanic drivers, the hit rate across the five years varies considerably from a high in 2002 of 17.1% to a low in 2004 of 12.2%. The search success rate in 2006 (13.7%) was lower than in 2005 (15.7%).

Figure 6.5 displays the search success rates for searches conducted on Caucasian, Black, and Hispanic drivers between 2002 and 2006. Consistently, searches of Caucasian drivers produced the highest rate of success compared to Black and Hispanic drivers. Black drivers had between 5 and 10 percent lower hit rates and Hispanic drivers had between 15 and 20 percent lower hit rates compared to Caucasian drivers. That is, searches of Caucasian drivers have consistently been more successful in comparison to searches of minority drivers. Given the limitations of the data collected prior to September 2005, the seizure rate data are more accurately compared across racial/ethnic groups rather than within racial/ethnic groups over time. That is, it is more instructive to note that statewide in 2006, 36.4% of Caucasian drivers searched were found to be in possession of contraband, compared to 25.4% of searched Black drivers, and only 13.7% of searched Hispanic drivers. The specific reasons underlying the lower search success rates for searched Black and Hispanic drivers were more specifically examined in Section 5 of this final report.

At the area level, four of five areas demonstrated an overall increase in search success rates for Caucasian drivers, which mirror the department trend. Area V increased its search success rate from 2005 to 2006, but this is a lower overall rate from the high of 31.5% in 2002. Similar to the patterns in other post-stop outcomes (i.e., arrests and searches), the department level trend for Black drivers' search success rate was highly influenced by the activity in Area I. That is, three of the other five areas showed increases from 2005 to 2006 in the hit rate for Black drivers; however, Area I had a noticeable decrease which is likely responsible for the overall reduction. The variability exhibited in the search success rate for Hispanic drivers across the department is more pronounced at the area level. These rates should be viewed with some caution as the actual number of searches that occur for this racial/ethnic group are infrequent and may cause some of the rates to be slightly unstable. Please refer to Table 6.7 for a report of the hit rates at the troop level for all racial/ethnic groups.

Tables 6.8 & 6.9 report the rates of warnings, citations, arrests, and searches at the station level for Caucasian and non-Caucasian drivers between 2002 and 2006. Due to the large number of stations and the large variability in rates, no discussion is provided on these tables. These tables are provided for review by PSP administrators and supervisors responsible for the trends at each individual station.

Figure 6.5: Racial/Ethnic Composition of Drivers Discovered with Contraband: 2002-2006

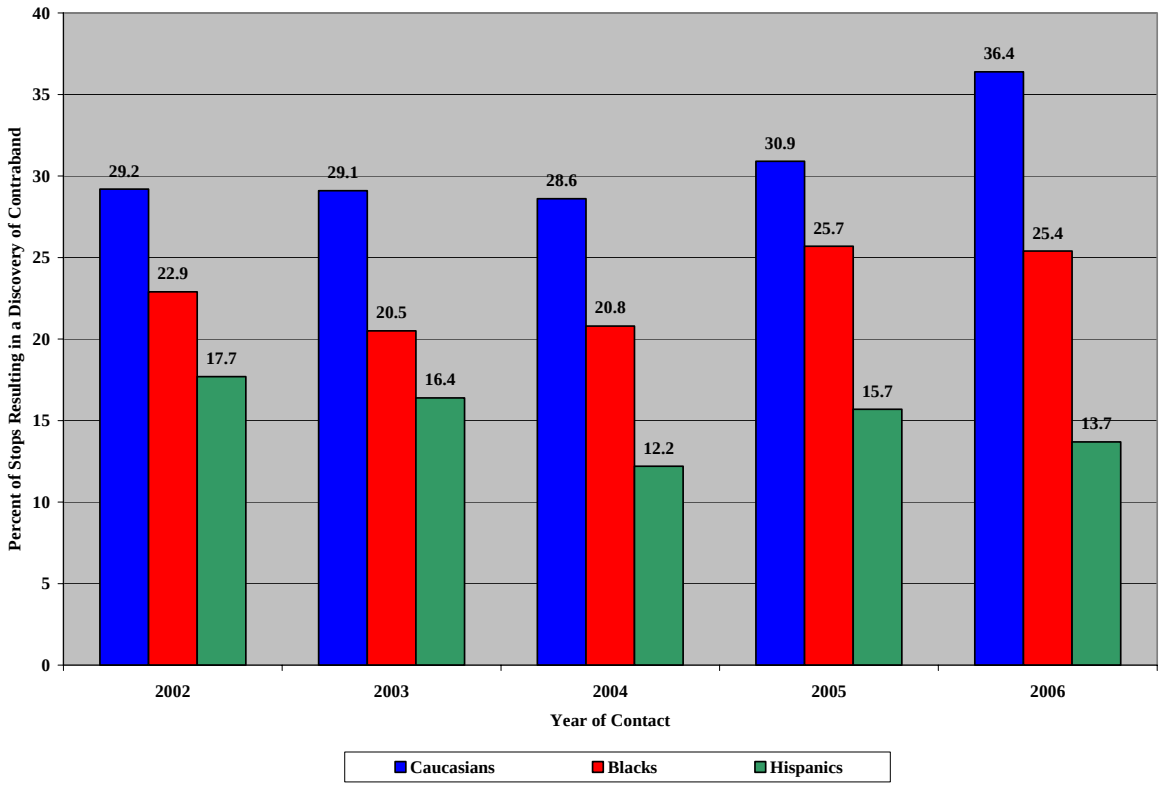


Table 6.7: Traffic Stop SEIZURES by Department, Area & Troop – 2002-2006

	Caucasian					Black					Hispanic				
	2002	**2003**	**2004**	**2005**	**2006**	**2002**	**2003**	**2004**	**2005**	**2006**	**2002**	**2003**	**2004**	**2005**	**2006**
PSP Dept.	29.2	29.1	28.6	30.9	36.4	22.9	20.5	20.8	25.7	25.4	17.1	16.4	12.2	15.7	13.7
AREA I	28.4	33.8	30.6	31.2	32.6	32.7	23.4	25.4	32.3	24.1	20.4	18.9	15.3	22.7	13.9
Troop H	23.2	35.6	35.5	31.2	33.6	16.7	13.9	20.3	22.8	18.9	0.0	0.0	6.5	17.5	6.3
Troop J	24.6	34.3	22.0	26.7	33.3	43.8	9.5	25.0	35.5	22.4	18.8	26.3	27.8	30.3	23.0
Troop L	28.9	30.5	25.0	41.9	16.7	50.0	13.6	29.4	18.8	25.0	66.7	37.5	10.0	11.1	0.0
Troop T	38.0	32.7	29.9	36.6	36.8	29.2	36.4	30.0	41.7	34.6	12.5	13.6	9.5	15.4	5.3
AREA II	26.0	22.1	27.9	23.6	31.2	35.7	6.7	16.7	18.8	25.0	33.3	0.0	6.7	5.3	10.5
Troop F	29.3	25.0	17.6	20.4	27.9	16.7	20.0	15.4	16.7	28.6	100.0*	0.0	0.0	0.0	50.0
Troop P	33.3	15.6	31.4	25.0	18.6	100.0*	0.0	27.3	42.9	50.0	--	0.0	33.3	0.0	0.0
Troop R	19.0	23.5	31.8	24.7	38.5	42.9	0.0	0.0	10.5	14.3	0.0*	0.0	0.0	7.7	10.0
AREA III	27.1	32.5	23.5	27.3	38.5	18.9	21.3	11.8	21.2	27.7	9.1	0.0	0.0	23.5	12.5
Troop A	28.4	26.6	22.1	23.0	39.7	42.9	11.1	11.1	5.3	40.6	0.0*	0.0	0.0	40.0	16.7
Troop B	17.9	27.6	13.2	26.2	36.7	9.5	15.7	7.0	26.7	27.0	0.0*	0.0	0.0	0.0	0.0
Troop G	41.5	41.7	40.8	36.2	38.1	22.2	46.7	26.7	20.0	18.6	12.5	0.0	0.0	20.0	14.3
AREA IV	31.8	21.8	27.3	38.7	45.3	15.7	16.9	15.9	27.0	38.9	13.3	4.3	2.0	4.8	12.0
Troop C	15.1	17.9	14.8	18.5	31.6	10.7	15.2	16.0	15.4	34.5	17.6	0.0	0.0	3.8	17.4
Troop D	24.2	22.1	30.2	44.5	50.8	3.0	21.7	18.2	33.8	43.0	9.1	11.1	4.8	7.1	9.5
Troop E	52.7	25.3	31.5	37.3	34.4	0.0*	0.0	7.7	0.0	25.0	0.0*	0.0	0.0	0.0	0.0
AREA V	31.5	29.2	26.8	27.0	27.7	16.7	16.9	20.6	19.4	18.4	15.5	17.2	19.7	12.5	14.8
Troop K	37.3	36.0	27.7	35.1	30.8	20.5	21.8	16.1	25.5	18.8	11.1	13.3	30.0	14.3	11.6
Troop M	23.7	21.9	27.4	22.1	23.5	11.4	5.1	29.7	11.3	10.2	20.0	23.1	18.4	9.0	18.3
Troop N	26.5	15.2	22.2	26.7	27.0	0.0	11.8	14.3	23.3	29.7	10.0	12.5	0.0	29.4	7.1

* Five or fewer searches; interpret percentage with caution.

Table 6.8: Traffic Stop Warnings & Citations by Station for Caucasian & Non-Caucasian Drivers: 2002-2006 (p. 1 of 4)

	Warnings										Citations									
	2002		2003		2004		2005		2006		2002		2003		2004		2005		2006	
	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.
AREA I																				
Troop H																				
Carlisle	17.9	18.4	17.0	17.6	16.4	13.6	20.1	21.4	19.6	21.1	89.3	88.1	90.1	89.4	91.6	92.4	92.3	93.2	92.8	92.1
Chambers.	40.9	31.3	36.7	34.1	29.2	25.7	23.4	27.4	19.6	21.7	67.6	74.9	70.6	75.6	80.9	87.5	86.1	86.4	89.7	89.4
Gettysburg	48.6	31.4	44.5	43.5	47.0	43.0	39.2	31.9	37.0	34.9	59.4	76.6	61.7	69.9	58.5	66.7	66.8	77.6	69.3	77.7
Harrisburg	18.1	19.5	18.9	21.7	12.5	13.8	16.2	21.9	19.9	25.6	86.9	86.5	88.1	87.2	93.2	94.3	94.0	87.2	93.1	86.8
Lykens	33.8	22.2	36.4	19.4	31.9	43.8	30.4	35.5	37.4	51.7	78.3	88.9	81.3	83.9	88.3	84.4	87.0	83.9	77.7	79.3
Newport	16.8	19.8	14.2	12.0	11.9	9.6	17.0	19.6	16.5	12.7	88.4	83.5	89.5	91.2	93.5	93.4	91.5	90.2	90.6	92.9
York	17.9	14.7	19.6	20.5	17.4	17.1	25.3	24.0	17.0	15.5	84.6	87.8	84.8	85.4	87.2	88.5	84.8	87.6	90.1	91.4
Troop J																				
Avondale	36.1	33.6	38.3	36.6	33.8	37.8	36.6	35.0	42.2	39.6	95.3	96.4	90.6	91.5	91.5	91.1	92.2	93.3	89.4	93.5
Embreeville	40.7	37.1	31.6	31.9	31.9	35.5	23.7	31.5	22.1	24.7	73.1	76.3	84.1	85.4	87.8	87.8	94.9	91.7	95.6	97.4
Ephrata	16.6	16.8	16.4	14.3	18.0	17.4	22.5	16.8	17.6	22.1	91.5	89.7	92.4	95.8	94.1	96.2	90.3	98.5	95.8	95.3
Lancaster	20.5	28.5	23.6	22.5	26.3	31.8	17.4	18.6	20.3	29.0	86.6	82.5	86.8	87.3	87.1	88.2	91.4	91.3	89.7	87.4
Troop L																				
Frackville	29.5	20.5	36.9	24.3	39.9	26.8	36.6	37.0	30.4	25.6	80.3	90.0	77.6	88.6	83.3	91.5	83.6	87.0	88.9	96.2
Hamburg	40.1	28.0	33.8	24.5	30.6	23.5	35.5	34.4	26.3	21.8	86.5	92.9	89.9	92.9	89.0	92.4	91.8	94.7	92.4	95.7
Jonestown	26.8	25.9	25.1	26.2	23.5	24.9	19.3	19.2	29.9	31.4	81.6	82.9	82.3	80.8	85.0	84.8	87.9	89.0	86.4	82.6
Reading	20.0	25.7	24.8	31.5	24.8	26.7	27.0	30.8	35.1	44.2	87.6	84.9	83.8	82.0	88.1	86.6	86.4	82.9	86.5	88.4
Sch. Haven	57.3	59.7	40.0	50.9	37.1	32.7	31.9	34.8	36.4	33.3	62.9	56.7	80.3	83.6	81.5	86.7	88.1	86.1	87.0	91.1
Troop T																				
Bowmans.	11.4	11.8	8.1	8.2	5.5	6.7	8.9	11.9	7.9	8.2	93.1	93.4	96.0	96.6	98.0	97.2	98.6	96.8	96.6	97.0
Everett	16.7	13.3	12.3	10.2	12.9	11.0	12.0	10.6	10.2	8.1	89.8	91.4	93.3	94.7	92.9	94.2	93.5	93.9	93.9	95.4
Gibsonia	23.5	18.5	26.6	24.3	13.2	14.6	15.2	16.7	15.1	13.6	82.8	86.2	82.2	83.6	94.6	92.5	93.1	91.7	91.9	92.3
Highspire	77.8	33.3	70.6	70.0	0.0	100.0	0.0	16.7	0.0	0.0	22.2	66.7	52.9	60.0	50.0	0.0	100.0	83.3	100.0	100.0
K. of Prussia	19.5	20.5	19.7	18.3	12.2	12.6	13.7	16.2	8.6	9.4	86.5	87.7	87.5	87.7	92.2	91.8	90.9	89.2	94.6	93.9
New Stanton	7.4	16.3	13.3	14.6	15.3	13.1	16.0	16.6	10.7	10.3	94.8	89.4	92.2	91.5	91.6	93.0	93.3	91.7	94.9	95.2
Newville	49.2	11.3	11.7	11.1	10.5	8.9	17.5	16.2	27.7	28.2	61.2	92.8	92.3	92.6	93.2	94.1	94.9	95.3	94.9	95.4
Pocono	37.1	14.0	11.7	11.9	10.2	10.3	10.8	11.2	14.1	14.2	79.4	89.6	91.3	90.7	94.7	94.5	94.7	95.2	93.4	94.0
Somerset (T)	15.4	7.2	7.1	8.1	4.3	4.9	4.8	7.4	5.3	6.2	90.1	95.5	94.7	93.5	97.5	96.4	96.5	95.0	96.7	95.7

Table 6.8: Traffic Stop Warnings & Citations by Station for Caucasian & Non-Caucasian Drivers: 2002-2006 (p. 2 of 4)

	Warnings										Citations									
	2002		2003		2004		2005		2006		2002		2003		2004		2005		2006	
	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.
AREA II																				
Troop F																				
Coudersport	14.3	52.2	52.0	53.6	41.2	29.7	38.5	40.9	38.6	43.2	91.1	65.2	65.5	67.9	70.3	75.7	72.4	68.2	74.8	86.4
Emporium	16.8	25.0	33.9	35.7	25.1	33.3	23.8	37.5	26.0	23.9	85.6	83.3	82.3	78.6	84.4	75.0	84.7	100.0	86.7	89.4
Lamar	11.3	9.3	11.0	6.2	12.1	7.7	9.0	7.3	12.8	13.4	92.8	94.8	92.8	96.2	93.0	96.7	96.1	97.7	95.5	97.1
Mansfield	26.3	18.6	24.2	18.2	34.6	32.5	29.7	21.6	33.4	29.2	81.5	92.2	86.3	89.8	78.5	85.5	84.3	89.2	83.0	86.7
Milton	8.9	6.2	9.5	7.7	7.1	3.9	12.7	9.6	15.4	13.8	96.2	96.8	97.6	98.3	98.8	99.6	97.4	99.0	96.8	99.2
Montours.	10.1	9.7	10.1	13.5	8.8	10.6	8.2	4.8	9.3	14.9	94.7	94.5	94.8	93.5	95.2	94.7	95.3	97.8	93.1	94.0
Selinsgrove	8.0	3.6	6.2	4.8	7.2	3.7	5.4	6.1	11.2	8.5	95.2	96.7	97.4	98.3	96.3	97.9	96.9	95.8	91.5	92.5
Stonington	45.3	54.3	42.3	43.9	41.2	40.7	45.9	40.9	38.9	40.0	71.2	62.9	79.0	75.7	80.2	88.9	82.6	86.4	83.5	94.5
Troop P																				
Laporte	39.1	42.9	34.9	37.9	30.7	22.2	25.6	25.0	27.6	14.8	70.4	57.1	80.3	69.0	87.1	88.9	84.6	90.6	84.1	92.6
Shickshinny	28.7	21.7	24.6	16.7	25.6	16.9	27.1	34.8	22.4	11.6	86.7	82.6	85.2	94.4	82.6	89.8	83.0	87.0	86.5	90.7
Towanda	41.9	32.0	34.3	25.0	23.8	39.3	35.2	31.7	37.7	35.1	66.3	72.0	78.4	83.3	89.3	67.9	83.5	81.0	79.7	80.7
Tunkhan.	26.5	26.3	30.1	48.5	49.4	45.9	31.6	18.8	26.8	17.8	83.8	89.5	78.8	72.7	68.7	73.0	82.3	84.4	87.9	91.1
Wyoming	12.8	7.6	13.3	16.0	12.6	13.2	9.2	8.6	7.7	19.4	93.3	95.9	93.9	90.3	94.1	95.8	95.8	94.1	97.0	88.8
Troop R																				
Blooming G.	22.6	29.5	19.6	12.5	19.3	19.0	17.9	21.8	22.6	23.8	88.5	83.6	93.2	96.6	95.4	96.3	96.5	95.9	94.7	96.2
Dunmore	16.7	11.9	17.4	14.1	16.3	16.1	16.3	13.8	18.1	21.1	91.6	93.5	92.7	94.4	91.1	91.2	93.7	94.3	91.8	89.0
Gibson	24.2	14.0	28.1	14.6	19.3	13.8	15.3	15.4	9.8	7.3	90.8	94.1	92.4	97.0	93.5	96.8	94.0	94.6	94.9	96.2
Honesdale	26.2	22.8	14.6	11.1	14.1	9.1	12.2	11.4	11.1	8.9	81.4	82.1	91.7	94.5	91.8	94.5	92.8	92.7	97.1	95.9
AREA III																				
Troop A																				
Ebensburg	19.0	19.1	20.6	16.3	18.8	16.5	19.7	16.9	18.3	18.2	90.8	93.6	86.9	90.4	87.3	90.6	91.6	95.3	91.2	92.0
Greensburg	35.2	33.7	30.7	31.7	26.3	40.0	25.0	34.1	25.7	40.4	89.3	91.4	92.1	90.0	95.4	92.1	92.0	87.1	90.8	82.0
Indiana	34.7	32.6	29.8	33.1	22.9	21.6	28.5	20.9	28.2	29.1	78.8	79.0	87.5	88.2	91.3	93.1	90.0	89.9	85.8	87.3
Kiski Valley	48.3	51.2	43.3	55.1	30.9	39.2	35.2	44.4	34.7	36.9	76.6	73.6	77.3	79.3	88.0	86.2	89.2	93.8	83.5	86.6
Somerset (A)	33.3	32.0	36.5	35.7	34.5	30.2	33.7	19.6	46.5	57.1	78.7	88.0	76.5	73.8	82.1	81.1	84.1	93.5	74.3	59.5

Table 6.8: Traffic Stop Warnings & Citations by Station for Caucasian & Non-Caucasian Drivers: 2002-2006 (p. 3 of 4)

	Warnings										Citations									
	2002		2003		2004		2005		2006		2002		2003		2004		2005		2006	
	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.
AREA III cont.																				
Troop B																				
Belle Vernon	25.9	21.6	21.1	18.4	22.7	17.2	19.9	17.5	21.1	11.4	91.8	93.2	91.2	93.6	93.7	95.1	94.9	97.3	94.4	94.6
Findlay	10.2	15.1	12.9	21.2	14.4	17.6	26.1	31.6	21.4	25.9	95.6	93.7	95.6	93.1	95.0	95.4	91.1	90.7	94.4	93.2
Uniontown	37.4	39.8	41.2	42.8	34.1	31.8	31.3	38.7	20.7	29.7	74.1	75.2	70.4	67.1	76.0	83.1	81.5	77.1	89.4	87.8
Washington	18.4	19.6	21.3	21.9	16.3	16.3	11.9	18.0	16.7	19.8	87.6	89.2	86.4	86.4	91.0	93.9	93.5	92.7	92.8	91.6
Waynesburg	40.4	33.6	34.0	24.5	28.9	23.9	37.3	28.0	50.7	57.1	74.7	83.6	84.0	92.3	92.6	95.0	93.1	93.0	90.4	92.9
Troop G																				
Bedford	40.4	20.9	37.6	21.0	35.5	17.2	45.3	28.4	49.6	43.2	71.3	85.6	71.4	87.8	74.9	87.4	74.4	86.0	67.9	76.5
Hollidays.	53.1	45.8	45.2	38.3	36.0	30.3	33.0	32.9	56.3	57.1	65.7	69.8	74.2	84.5	83.6	85.5	80.7	74.7	62.7	57.9
Huntingdon	35.3	44.0	37.7	42.0	30.8	32.4	29.2	37.5	45.9	55.6	77.5	72.0	76.3	84.0	85.1	80.3	86.2	85.7	73.6	73.3
Lewistown	37.2	26.8	37.2	28.9	34.7	29.5	32.4	27.7	49.3	43.7	71.4	86.6	72.5	81.8	77.2	87.7	82.4	89.6	63.1	73.0
McConnells.	35.2	12.0	37.7	20.7	16.1	11.6	14.6	7.8	24.2	14.8	71.7	93.6	74.5	89.7	91.9	96.9	92.8	98.0	84.7	92.0
Philipsburg	44.9	31.4	50.5	38.0	38.5	21.1	30.9	16.0	41.2	32.1	69.1	79.1	70.5	81.4	86.2	94.0	87.8	95.4	80.0	84.5
Rockview	26.1	12.5	25.7	17.8	24.6	15.9	26.6	21.7	18.8	13.9	81.3	92.0	83.2	88.6	86.8	92.0	86.2	90.4	86.9	91.0
AREA IV																				
Troop C																				
Clarion	44.1	26.6	41.6	22.7	41.3	28.9	42.0	34.9	41.4	32.6	69.5	85.9	75.3	88.9	72.6	83.7	75.6	81.9	72.7	80.6
Clearfield	23.3	16.4	27.4	18.4	20.5	11.1	17.5	12.7	19.0	14.5	87.9	92.7	86.6	94.0	93.8	97.3	94.8	96.8	90.2	93.6
Dubois	29.3	20.0	23.8	11.4	27.0	13.1	27.4	19.8	28.7	20.2	82.6	90.3	85.0	94.5	83.4	94.3	83.2	88.5	82.2	87.1
Kane	33.1	18.0	36.2	34.4	34.6	17.1	29.1	24.6	35.4	20.5	90.2	97.1	81.9	90.2	79.7	93.3	82.2	86.0	78.6	87.2
Punxsutaw.	35.4	19.1	38.0	24.9	38.7	13.0	32.2	13.9	29.5	19.0	79.7	89.9	76.1	88.3	75.7	94.4	80.3	91.7	82.8	87.9
Ridgway	40.1	30.7	39.9	34.5	29.3	13.7	35.8	27.8	38.2	39.5	78.0	86.3	79.7	82.7	84.6	94.6	78.9	83.5	74.7	74.4
Tionesta	58.3	61.8	57.9	42.4	60.4	38.3	59.1	34.3	57.6	45.0	55.8	50.0	59.0	75.8	54.1	72.8	58.1	68.6	61.0	75.0
Troop D																				
Beaver	57.7	59.2	52.7	53.0	44.2	48.9	37.2	44.0	50.4	55.2	53.6	52.9	61.7	60.3	72.5	68.6	78.6	73.3	70.6	64.7
Butler	40.8	37.1	39.6	30.6	30.5	24.9	29.0	25.4	33.0	30.4	70.8	73.6	75.2	82.9	84.0	86.4	85.9	86.0	85.5	83.3
Kittanning	49.9	46.7	44.3	38.5	42.3	37.8	42.1	47.8	44.0	47.5	67.1	77.5	70.4	80.4	75.1	79.6	74.8	74.1	69.6	75.3
Mercer	40.6	38.3	37.2	30.6	44.0	49.3	39.7	41.9	53.4	64.2	81.0	77.6	80.0	82.5	77.2	67.3	83.2	83.3	71.3	52.8
New Castle	58.9	61.3	42.9	55.9	38.1	44.8	39.1	46.9	35.3	43.7	51.4	51.6	72.4	69.5	76.0	76.6	73.7	76.9	82.4	84.1

Table 6.8: Traffic Stop Warnings & Citations by Station for Caucasian & Non-Caucasian Drivers: 2002-2006 (p. 4 of 4)

	Warnings										Citations									
	2002		2003		2004		2005		2006		2002		2003		2004		2005		2006	
	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.
AREA IV cont.																				
Troop E																				
Corry	51.9	85.7	45.4	55.9	42.5	31.4	42.2	60.0	43.0	29.4	61.8	71.4	70.5	70.6	71.0	82.9	71.4	46.7	71.0	82.4
Erie	39.4	29.6	27.1	20.1	26.8	23.9	36.7	32.3	34.1	35.6	68.8	77.9	81.5	87.3	83.7	85.0	85.6	88.5	81.6	74.0
Franklin	63.6	56.0	61.8	64.3	58.1	41.8	53.5	27.0	57.8	38.3	54.1	70.0	59.0	48.2	63.6	74.5	66.3	87.2	65.1	81.4
Girard	43.3	36.5	29.1	26.0	28.3	23.4	30.5	27.8	27.7	21.4	70.9	78.5	83.9	86.6	87.3	90.4	84.0	90.5	85.8	88.7
Meadville	49.7	37.2	49.5	33.5	33.5	20.3	20.4	13.7	25.6	21.8	60.3	70.2	65.2	78.2	77.2	88.9	89.0	92.9	86.5	93.3
Warren	58.2	42.9	32.0	37.5	29.5	26.1	30.4	16.7	39.9	56.5	55.5	42.9	79.1	62.5	80.8	87.0	79.3	83.3	72.6	65.2
AREA V																				
Troop K																				
Media	29.1	32.3	29.3	31.4	36.5	39.7	40.1	37.1	40.7	38.6	81.8	80.2	80.6	82.3	75.0	77.6	73.0	80.3	78.2	81.4
Philadelp.	21.0	21.0	26.9	32.7	29.2	30.5	25.0	30.1	37.3	43.5	92.9	93.5	88.5	85.9	87.4	89.7	87.8	87.7	85.0	86.7
Skippack	38.4	35.8	37.2	38.7	36.6	39.9	36.2	35.9	42.4	43.0	80.9	86.3	82.0	86.5	87.4	89.3	88.2	90.3	80.5	90.1
Troop M																				
Belfast	40.0	33.2	29.8	28.8	32.5	34.5	25.4	31.5	24.8	24.0	73.3	79.8	80.1	82.5	78.4	80.8	86.7	83.3	86.5	86.9
Bethlehem	30.7	31.9	30.8	34.3	29.3	28.1	29.2	33.3	30.4	34.9	80.1	79.0	80.8	80.0	85.3	87.4	86.8	90.5	86.8	85.4
Dublin	43.9	44.9	54.5	56.9	60.9	57.5	50.0	47.7	40.7	38.7	70.5	73.5	67.5	70.4	65.5	71.3	80.5	87.3	84.3	88.7
Fogelsville	34.4	27.6	33.3	29.7	34.8	31.2	35.9	36.9	30.6	35.1	77.9	83.8	79.2	83.2	76.4	80.3	79.1	80.2	81.3	79.3
Trevose	19.1	24.2	19.3	19.3	51.5	40.4	36.5	38.1	41.8	42.3	86.9	83.2	86.6	86.3	58.7	70.8	79.7	79.1	74.6	72.3
Troop N																				
Blooms.	24.0	22.8	16.1	16.0	11.6	8.3	13.4	8.6	18.2	12.3	95.5	96.9	97.1	97.9	96.4	97.3	92.2	96.1	88.2	94.2
Fern Ridge	9.6	10.7	18.0	14.1	9.9	8.2	9.8	7.6	11.6	11.5	93.6	95.6	92.0	94.9	98.2	98.3	95.8	98.4	90.0	94.4
Hazleton	26.6	17.3	19.1	12.7	13.9	12.2	15.6	14.2	18.6	14.1	82.2	91.7	87.3	93.4	92.0	92.9	92.9	92.9	91.7	94.1
Lehighton	38.0	22.7	35.9	34.6	35.4	35.1	31.5	38.4	24.1	19.5	76.7	89.4	81.6	85.2	87.9	90.3	93.2	89.0	91.2	91.3
Swiftwater	19.5	20.0	19.4	19.6	29.6	29.8	26.1	25.5	22.8	22.2	88.5	90.1	87.3	88.7	85.8	85.7	91.1	92.8	92.2	93.3

Table 6.9: Traffic Stop Arrests & Searches by Station for Caucasian & Non-Caucasian Drivers: 2002-2006 (p. 1 of 4)

	Arrests										Searches									
	2002		2003		2004		2005		2006		2002		2003		2004		2005		2006	
	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.
AREA I																				
Troop H																				
Carlisle	0.3	0.4	0.0	0.0	0.3	0.9	1.2	1.4	2.0	1.6	0.9	1.8	0.3	3.7	0.7	4.9	2.1	5.4	1.8	5.5
Chambers.	1.9	3.4	2.7	3.4	1.5	1.7	2.1	1.6	1.6	2.6	2.4	5.3	2.2	5.1	2.6	6.0	2.7	3.2	1.0	3.9
Gettysburg	0.9	2.1	0.4	0.4	0.4	1.1	0.8	1.3	5.4	5.2	0.2	0.0	0.3	0.4	1.1	1.7	1.3	1.3	2.8	3.0
Harrisburg	0.2	0.2	0.1	0.5	0.0	0.0	0.3	0.2	1.0	1.4	0.3	0.2	0.4	1.2	0.3	1.6	0.5	5.5	0.4	6.1
Lykens	0.7	0.0	0.2	0.0	0.2	0.0	0.9	0.0	3.8	0.0	0.6	0.0	0.6	3.2	1.3	6.3	0.8	6.5	1.4	0.0
Newport	0.4	0.0	1.1	0.8	0.7	0.6	1.2	0.9	0.9	0.4	0.5	0.0	0.3	0.0	0.2	0.0	1.4	4.2	1.0	3.6
York	1.6	2.8	1.4	1.9	2.1	1.1	1.2	1.9	2.2	2.7	1.4	2.5	1.4	2.1	1.6	1.3	0.7	1.6	0.8	1.9
Troop J																				
Avondale	0.6	1.1	0.5	0.4	0.3	0.9	1.4	2.5	2.6	2.7	0.8	1.7	1.3	2.3	1.4	3.8	2.0	5.2	2.3	2.9
Embree.	0.7	1.6	0.5	1.2	0.3	0.6	1.3	2.3	2.7	2.5	1.3	2.6	1.1	2.1	1.8	4.4	2.8	6.3	2.9	4.4
Ephrata	0.5	1.4	0.9	2.5	0.6	1.6	0.9	0.0	0.6	1.7	0.8	1.4	0.9	2.5	0.6	2.2	0.1	3.1	0.4	4.7
Lancaster	0.7	1.6	1.6	0.4	1.7	1.0	3.2	5.1	5.8	7.7	0.7	1.4	1.8	2.5	3.4	3.5	3.7	10.1	3.4	10.7
Troop L																				
Frackville	1.0	1.1	0.7	0.7	0.5	1.2	0.3	0.0	0.6	0.5	0.8	0.5	1.7	1.4	0.6	2.4	0.7	2.8	0.4	0.0
Hamburg	0.7	0.3	0.2	0.3	0.6	0.2	0.2	0.2	0.7	1.1	0.0	0.5	0.0	0.0	0.3	0.5	0.1	0.2	0.0	1.1
Jonestown	1.2	1.6	0.6	1.7	1.3	4.8	1.7	0.8	3.8	2.3	0.7	6.4	1.0	6.5	0.3	0.6	0.4	1.6	1.4	4.2
Reading	0.3	1.2	0.5	0.7	0.3	0.3	0.8	3.3	1.4	0.5	0.5	0.0	0.3	0.7	0.3	0.7	0.9	4.6	0.8	0.5
Sch. Haven	0.9	0.0	0.4	1.8	0.5	0.0	0.1	0.0	0.4	0.0	0.6	0.0	0.2	1.8	0.5	1.0	0.4	0.9	0.2	1.1
Troop T																				
Bowmans.	0.0	0.5	0.0	0.0	0.0	0.1	0.0	0.3	0.1	0.1	0.1	0.7	0.1	0.2	0.0	0.1	0.1	0.2	0.1	0.4
Everett	0.2	0.5	0.2	0.6	0.1	0.5	0.1	0.4	0.2	0.2	0.1	0.6	0.2	0.7	0.1	0.8	0.1	0.4	0.1	0.3
Gibsonia	0.0	0.0	0.0	0.2	0.0	0.1	0.1	0.5	4.1	3.6	0.3	0.0	0.1	0.9	0.2	1.3	0.3	2.3	0.3	0.9
Highspire	0.0	0.0*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0*	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0
K. of Prus.	0.1	0.0	0.1	0.2	0.0	0.1	0.1	0.2	0.1	0.0	0.3	0.0	0.1	0.1	0.1	0.3	0.1	0.4	0.2	0.8
N. Stanton	0.3	0.4	0.0	0.2	0.1	0.2	0.1	0.3	1.1	1.2	0.7	0.6	0.1	0.2	0.1	0.2	0.1	1.2	0.0	0.4
Newville	0.7	0.2	0.0	0.4	0.0	0.1	0.1	0.3	0.1	0.1	0.9	1.0	0.2	1.4	0.1	0.8	0.1	0.2	0.1	0.7
Pocono	0.0	0.3	0.0	0.2	0.0	0.0	0.0	0.1	0.1	0.3	0.1	0.3	0.1	0.4	0.0	0.2	0.1	0.1	0.1	0.3
Somerset (T)	0.1	0.3	0.2	0.2	0.2	0.4	0.3	0.6	0.1	0.3	0.2	0.9	0.6	0.8	0.9	1.7	0.9	2.0	0.4	1.2

* Five or fewer searches; interpret percentage with caution.

Table 6.9: Traffic Stop Arrests & Searches by Station for Caucasian & Non-Caucasian Drivers: 2002-2006 (p. 2 of 4)

	Arrests										Searches									
	2002		2003		2004		2005		2006		2002		2003		2004		2005		2006	
	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.
AREA II																				
Troop F																				
Coudersport	0.0	0.0	0.4	0.0	0.1	0.0	0.5	0.0	1.5	0.0	0.2	4.3	1.0	0.0	0.1	0.0	0.4	0.0	0.3	0.0
Emporium	0.0	0.0	0.4	0.5	0.4	0.5	0.8	0.9	1.6	1.4	0.1	0.0	0.5	1.8	0.6	2.1	0.8	2.7	0.9	2.7
Lamar	0.1	0.3	0.0	0.1	0.0	0.4	0.2	0.3	0.4	0.6	0.3	0.2	0.1	0.1	0.1	0.4	0.1	0.9	0.0	0.3
Mansfield	0.6	0.0	0.1	1.1	0.1	1.3	0.1	0.0	0.2	0.0	0.3	0.0	0.1	0.0	0.4	0.0	0.1	0.0	0.1	0.0
Milton	0.2	0.8	0.0	0.0	0.0	0.0	0.4	0.0	0.6	1.3	0.1	0.8	0.2	1.0	0.1	0.2	0.2	0.7	0.6	1.9
Montours.	0.1	0.5	0.1	0.6	0.0	0.0	0.6	1.8	1.8	4.2	0.2	1..4	0.3	0.8	0.2	2.2	0.5	1.3	1.0	5.4
Selinsgrove	0.2	0.0	0.1	0.0	0.1	0.0	0.5	0.0	1.5	2.0	0.3	0.0	0.2	0.0	0.3	0.5	0.6	0.0	0.8	3.5
Stonington	0.3	0.0	0.7	2.4	0.2	0.0	0.3	0.0	0.9	1.8	0.0	0.0	0.2	0.0	0.1	3.7	0.6	0.0	0.6	1.8
Troop P																				
Laporte	0.8	0.0	0.1	0.0	0.9	2.8	0.4	0.0	0.2	0.0	0.2	0.0	0.1	0.0	0.3	0.0	0.3	0.0	0.0	0.0
Shickshinny	0.4	0.0	0.7	0.0	0.3	0.0	0.6	4.3	2.2	0.0	0.1	0.0	0.0	0.0	0.1	3.4	0.6	4.3	0.5	0.0
Towanda	0.9	0.0	0.1	0.0	0.3	3.6	0.4	0.0	0.7	0.0	0.7	0.0	0.7	2.8	1.1	17.9	0.9	1.6	0.7	3.5
Tunkhan.	0.8	1.8	0.6	0.0	1.9	8.1	2.0	3.1	1.0	2.2	0.4	0.0	0.4	0.0	0.5	0.0	2.4	12.5	0.8	2.2
Wyoming	0.3	0.5	0.0	0.6	0.1	1.6	0.2	0.7	0.4	1.9	0.4	0.5	0.6	3.4	0.8	4.2	0.5	3.3	0.7	4.9
Troop R																				
Bloom. Gr.	0.4	0.5	0.2	1.1	0.0	0.0	0.5	0.0	0.5	0.0	0.8	2.2	0.5	0.4	0.4	1.4	1.1	4.1	1.1	3.4
Dunmore	0.1	0.2	0.2	0.0	0.1	0.2	0.5	0.4	0.7	0.7	0.5	1.5	0.6	1.0	0.5	1.1	0.7	2.4	1.1	2.6
Gibson	0.2	0.3	0.4	0.7	1.4	1.1	2.8	1.8	2.7	1.8	1.0	0.3	0.4	0.3	0.6	0.4	1.7	2.4	1.0	1.5
Honesdale	0.7	1.4	0.3	0.7	0.3	0.9	0.3	0.8	0.4	0.8	1.3	2.1	0.7	2.1	0.8	3.6	1.4	6.5	2.5	5.7
AREA III																				
Troop A																				
Ebensburg	1.0	0.9	0.8	0.6	1.5	1.6	2.2	0.7	2.9	2.1	0.3	1.8	0.4	1.2	0.9	2.4	1.0	2.0	0.8	4.3
Greensburg	0.6	0.0	0.0	0.0	0.0	0.0	0.6	0.8	2.0	5.5	0.5	1.8	0.2	0.8	0.3	1.4	1.3	7.6	1.8	5.5
Indiana	1.1	0.0	0.4	0.6	0.2	0.5	0.9	2.2	2.1	4.1	1.3	0.0	0.5	1.7	0.6	4.4	1.9	4.3	1.2	6.0
Kiski Valley	0.4	0.0	0.2	0.4	0.1	0.0	0.5	0.6	1.2	0.6	0.9	2.5	0.4	0.8	0.6	1.6	0.5	4.4	1.4	2.8
Somer. (A)	2.5	0.0	1.6	2.4	0.8	0.0	1.0	0.0	3.2	0.0	1.8	0.0	0.7	2.4	1.0	9.4	0.6	2.2	0.6	7.1

Table 6.9: Traffic Stop Arrests & Searches by Station for Caucasian & Non-Caucasian Drivers: 2002-2006 (p. 3 of 4)

	Arrests										Searches									
	2002		2003		2004		2005		2006		2002		2003		2004		2005		2006	
	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.
AREA III cont.																				
Troop B																				
B. Vernon	2.6	0.0	3.0	0.8	4.9	0.9	2.4	2.4	2.1	1.2	0.1	1.0	0.2	1.8	0.4	2.3	1.1	4.7	0.7	3.0
Findlay	0.4	0.7	0.2	0.3	0.0	0.2	1.0	1.3	1.6	2.0	0.2	0.7	0.4	2.2	0.7	2.1	0.8	1.8	0.6	1.5
Uniontown	0.5	1.0	0.8	1.4	0.2	0.8	0.8	1.9	2.0	2.0	0.8	3.4	1.3	5.4	1.4	6.3	0.8	8.9	0.8	3.3
Washington	0.2	0.0	0.3	0.4	0.0	0.0	0.1	0.2	0.7	1.2	0.8	2.2	0.5	3.2	0.2	2.7	0.2	1.4	0.6	3.3
Waynesburg	1.4	0.0	1.2	0.0	0.2	0.6	1.1	0.0	1.7	0.0	1.4	0.7	0.6	1.4	0.4	1.1	1.1	2.2	1.7	2.9
Troop G																				
Bedford	1.3	0.0	1.2	0.0	0.9	0.0	1.0	1.4	1.0	0.7	0.2	0.0	0.3	1.7	0.4	0.9	0.3	1.4	0.4	3.5
Hollidays.	0.8	1.6	0.7	2.6	1.3	1.3	1.5	2.0	1.7	1.1	0.7	1.6	1.7	5.2	1.1	3.0	1.6	4.8	1.5	9.8
Huntingdon	4.0	4.0	2.8	4.0	1.5	1.4	1.5	1.8	1.9	0.0	0.4	0.0	0.6	4.0	0.3	7.0	0.6	0.0	0.6	4.4
Lewistown	0.2	0.6	0.5	0.4	0.3	0.4	0.5	0.0	1.1	1.3	0.4	0.6	0.6	0.8	0.5	0.9	0.5	2.0	0.3	0.6
McConnells.	0.4	0.6	0.1	0.5	0.1	0.0	0.4	0.0	0.8	0.3	0.1	1.2	0.1	0.9	0.4	1.0	0.3	0.3	0.3	0.1
Philipsburg	0.1	0.0	0.1	0.0	0.2	0.0	0.5	0.4	1.8	0.0	0.1	0.0	0.1	0.0	0.2	0.0	0.3	1.7	0.1	2.4
Rockview	0.4	0.0	0.0	0.1	0.1	0.0	0.7	0.2	1.4	0.8	0.6	1.1	0.2	1.0	0.1	2.0	0.2	1.0	0.3	1.3
AREA IV																				
Troop C																				
Clarion	1.0	0.3	0.3	0.2	0.1	0.2	0.4	0.1	0.9	0.6	0.9	2.9	0.4	2.5	0.4	2.5	0.9	4.3	0.8	3.0
Clearfield	0.0	0.0	0.0	0.0	0.1	0.0	0.4	0.8	0.9	1.1	0.4	1.6	0.2	0.8	0.3	1.1	0.4	2.4	0.3	2.8
Dubois	0.2	0.4	0.1	0.0	0.0	0.0	0.3	0.2	0.9	0.5	0.3	0.8	0.3	0.6	0.1	2.1	0.4	3.1	0.5	1.2
Kane	0.2	0.7	1.6	0.0	0.9	1.0	1.6	0.0	2.4	0.0	0.8	1.4	0.7	0.0	0.6	0.0	1.4	5.3	1.3	3.8
Punxsutaw.	0.3	0.0	0.2	0.5	0.3	0.0	0.6	0.0	1.0	1.7	0.3	0.5	0.3	0.5	0.2	0.0	0.2	1.9	0.3	0.0
Ridgway	0.2	0.0	0.3	0.9	0.8	0.6	0.4	0.0	1.2	0.0	0.1	0.0	0.5	0.9	0.3	1.2	0.6	3.8	0.5	1.2
Tionesta	0.6	0.0	0.8	0.0	0.5	0.0	0.1	0.0	1.1	0.0	0.2	0.0	0.3	3.0	0.1	0.0	0.1	0.0	0.1	0.0
Troop D																				
Beaver	1.5	1.3	0.5	1.7	0.4	0.5	0.4	1.0	1.0	2.2	0.2	1.3	0.3	2.1	0.3	1.6	1.0	2.6	1.2	4.7
Butler	1.6	1.1	0.7	0.8	0.8	0.0	1.1	1.3	2.4	0.4	0.7	0.0	0.5	2.0	0.8	0.5	0.7	2.5	1.5	3.3
Kittanning	1.4	1.7	0.9	0.6	0.7	1.4	4.2	7.6	5.7	8.5	2.1	5.0	0.7	0.6	1.5	6.1	6.4	15.9	8.9	16.3
Mercer	0.3	0.7	0.1	0.4	0.3	0.3	0.7	1.4	5.7	3.2	1.7	6.4	0.7	4.9	1.6	6.2	1.0	7.4	1.4	6.0
New Castle	1.2	5.4	0.1	0.0	0.0	0.7	0.4	0.0	0.8	2.6	0.4	2.2	0.3	0.0	1.1	5.5	0.6	5.4	0.9	6.6

Table 6.9: Traffic Stop Arrests & Searches by Station for Caucasian & Non-Caucasian Drivers: 2002-2006 (p. 4 of 4)

	Warnings										Citations									
	2002		2003		2004		2005		2006		2002		2003		2004		2005		2006	
	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.	Cau.	Non-Cau.
AREA IV cont.																				
Troop E																				
Corry	0.6	0.0	0.7	0.0	0.4	0.0	2.4	6.7	3.2	0.0	0.3	0.0	0.3	0.0	0.2	0.0	0.0	6.7	0.1	0.0
Erie	0.2	0.0	0.1	0.0	0.1	0.2	0.2	0.0	1.0	2.5	0.8	0.7	0.3	0.0	0.2	0.8	0.5	0.4	1.5	5.8
Franklin	0.2	0.0	0.6	0.0	0.2	1.3	0.6	0.7	1.3	1.8	0.4	0.0	0.6	0.0	0.2	4.6	0.3	1.4	0.2	0.0
Girard	0.3	0.5	0.4	0.8	0.4	0.5	1.1	0.3	2.7	1.3	0.4	0.5	0.4	0.6	0.5	1.3	0.2	0.3	0.4	0.4
Meadville	3.2	1.2	1.7	0.0	0.8	0.0	1.0	0.2	1.6	0.3	2.0	1.2	1.1	0.4	0.6	0.8	0.8	0.2	0.8	0.6
Warren	1.5	0.0	0.9	6.3	0.6	0.0	1.6	0.0	2.5	0.0	0.6	0.0	0.8	0.0	0.3	4.3	0.9	8.3	0.9	4.3
AREA V																				
Troop K																				
Media	1.0	1.1	1.3	2.1	1.3	1.7	1.9	2.6	1.9	2.6	2.1	5.5	2.3	7.3	2.7	4.2	2.0	4.5	1.9	5.5
Philadel.	0.5	1.0	0.8	0.7	0.5	0.6	0.9	1.5	1.2	1.3	1.5	2.5	0.8	2.7	1.4	1.9	0.9	2.4	1.7	5.1
Skippack	0.9	0.9	0.7	0.3	0.7	0.1	1.0	1.6	3.4	3.1	1.2	3.7	0.8	3.2	0.8	2.1	1.0	1.9	1.3	2.5
Troop M																				
Belfast	0.2	0.6	0.4	0.3	0.4	0.1	0.5	0.4	1.7	2.2	0.5	3.6	0.1	1.7	0.5	0.8	0.6	2.0	0.6	2.2
Bethlehem	0.6	0.3	0.6	0.7	0.2	0.6	0.3	0.7	2.1	3.1	0.7	2.6	0.7	1.5	0.2	0.8	0.5	2.6	0.9	5.2
Dublin	0.8	0.0	0.2	0.9	0.3	0.5	0.8	2.7	1.6	1.9	0.9	0.7	0.4	1.9	0.4	0.5	0.9	2.4	1.5	4.1
Fogelsville	0.4	0.4	0.2	0.9	0.5	0.6	1.0	1.1	1.3	1.1	0.6	3.8	0.3	2.3	0.6	3.9	1.7	7.5	0.8	5.1
Trevose	0.6	0.8	0.7	1.1	0.2	0.6	1.2	1.2	2.0	2.6	0.8	2.5	0.9	2.6	0.5	1.5	0.8	1.6	0.5	1.7
Troop N																				
Bloomsb.	0.1	0.2	0.3	0.0	0.0	0.2	0.2	0.2	0.5	0.2	0.1	0.2	0.0	0.1	0.2	0.3	0.3	1.1	0.3	1.0
Fern Ridge	1.0	0.3	0.4	0.5	1.5	2.1	3.8	1.6	4.1	1.7	0.3	0.6	0.2	1.3	0.1	0.1	0.7	0.4	1.2	2.0
Hazleton	0.3	0.0	0.1	0.0	0.1	0.3	0.5	0.0	0.4	0.3	0.6	0.9	0.3	0.5	0.6	1.3	0.8	2.0	0.6	1.7
Lehighton	0.8	1.5	0.1	0.6	0.1	0.0	0.2	0.0	0.9	0.7	0.4	0.0	0.4	0.6	0.0	0.5	0.0	1.2	0.2	0.7
Swiftwater	0.2	0.0	0.1	0.1	0.2	0.0	0.2	0.6	0.7	0.6	0.5	1.2	0.4	1.2	0.5	1.2	0.5	2.6	0.8	2.0

SUMMARY

Post-Stop Outcomes

- Department-wide between 2002 and 2006, the rates of drivers warned declined across the first four years of data collection (from 27.0% in 2002 to 24.6% in 2005), prior to rising to 25.7% in 2006.

- Demonstrating an inverse relationship to warnings, the citation rate increased during the same time period, from a low of 82.8% in 2002 to 88.1% in 2005, before a small decline to 87.2% in 2006.

- During the same time period, arrests, searches, and the discovery of contraband all demonstrated increases in 2006. The 2006 arrest rate (1.5%) nearly doubled from 2005 (0.8%), and nearly tripled from 2002 (0.6%). The 2006 search rate (1.2%) only increased slightly from 2005 (1.1%), but has risen from 0.8% in 2002. Finally, the seizure rate has steadily increased since 2004 to a high of 30.9% in 2006, after an initial decline from 2002 to 2004. It is important to remember, however, that the research team believes the data reported for these more serious outcomes were being underreported before being corrected by PSP administrators in September 2005.

- Similar to the patterns for traffic stops, post-stop outcomes varied more noticeably at increasingly specific organizational units (i.e., areas, troops, and stations).

- It is also important to examine trends in traffic stop outcomes across racial/ethnic groups:

  Warnings

  - Warnings issued to Caucasians declined between 2002 (28.0% of traffic stops) and 2005 (24.8%), prior to an increase in 2006 (26.0%).
  - Black drivers exhibited an opposite pattern, with a slight decrease in warnings only in 2004. Specifically, the rate of Black drivers receiving a warning increased to a high in 2006 of 25.7% from a low in 2002 of 23.3%.
  - For Hispanic drivers, the trend has been steadily increasing since 2003 (23.1%) and peaked in the last two years at 26.1% and 26.0%, respectively.
  - Initial differences in the rate of warnings for each racial/ethnic group have greatly diminished over time, as the rate of warnings in 2006 was nearly equivalent for Caucasians, Blacks, and Hispanics.

Citations

- Across all five years, Caucasians were consistently the least cited racial/ethnic group, although that gap – particularly between Caucasians and Blacks – narrowed considerably in 2005 (87.8% and 88.0%, respectively) before widening again in 2006 (86.7% and 88.2%).
- Hispanics are consistently the most cited racial/ethnic group (89.4% in 2006).

Arrests

- Hispanic drivers consistently have the highest proportion of arrests compared to Caucasians and Blacks. Specifically, in 2006, the gap between Caucasian and Hispanic drivers arrested increased, while the proportion of Black drivers arrested fell below the proportion of Caucasian drivers arrested.
- Furthermore, due to the corrections in data collection for arrests, searches, and seizures previously mentioned, the rate of arrest for all racial ethnic groups increased dramatically from 2005 to 2006 (e.g., 0.8% to 1.6% for Caucasians, 1.0% to 1.5% for Blacks, and 1.2% to 2.2% for Hispanics).

Searches

- Between 2002 and 2006, Hispanic drivers had the highest rate of searches compared to other racial/ethnic groups.
- Black drivers were also searched at levels much higher than Caucasian drivers.
- Increases in the rate of searches for all racial/ethnic groups were evident between 2002 and 2006.

Seizures

- Consistently, searches of Caucasian drivers produced the highest rate of success compared to Black and Hispanic drivers.
- Between 2002 and 2006, Black drivers had between 5 and 10 percent lower hit rates and Hispanic drivers had between 15 and 20 percent lower hit rates compared to Caucasian drivers.

There are a number of possible explanations for these racial disparities in post-stop outcomes. The rates presented in this section are simply descriptive and do not take into account other legitimate factors that may contribute to these racial/ethnic differences. As a result, any interpretation of these findings must be made with caution.

7. SEARCH AND SEIZURE

OVERVIEW

The material presented in this section focuses specifically on motor vehicle and person searches conducted during traffic stops, and subsequent seizures of contraband. As reported in Section 5, searches are the only post-stop outcomes conducted by PSP troopers that have unexplained racial and ethnic disparities. After statistically controlling for some of the other relevant legal and extralegal factors, Black and Hispanic drivers were approximately 2.8 and 2.4 times more likely than Caucasians to be searched. The purpose of the analyses presented in this section is to further examine searches and seizures conducted by PSP troopers. The descriptive statistics for the search and seizure rates of the department, areas, troops, and stations are presented in an earlier section of this report (see Section 3, Table 3.10).

Section 7 begins with Table 7.1 documenting the different types of searches conducted at the department, area, and troop levels. Table 7.2 reports the same information at the station level. For additional analyses, the types of searches are collapsed into three categories: Type I (mandatory), Type II (probable cause/reasonable suspicion), and Type III (consent). Using these three search types, Table 7.3 documents the search rates for different types of drivers and troopers.

Tables 7.4 & 7.5 report the different types of contraband seized by department, area, troop (Table 7.4), and station (Table 7.5). Thereafter, the search success rates are explored in detail. Specifically, Table 7.6 reports the search success rates for different types of searches at the department and area level. Likewise, Table 7.7 displays the search success rates by department and area for the three collapsed search type categories. Table 7.8 reports the results of the outcome test for probable cause/reasonable suspicion searches only, and includes probable cause/reasonable suspicion search success rates by driver and trooper characteristics. Table 7.9 reports the racial/ethnic composition of probable cause/reasonable suspicion search success rates by reason for the search.

Finally, Section 7 presents a series of analyses focused specifically on consent searches. Initially, descriptive analyses document the percent of stops where consent to search is requested, the percent of drivers who give consent, the percent of searches conducted based solely on consent, and the percent of drivers searched for additional reasons after declining a consent search. Thereafter, bivariate crosstabulation analyses, presented in Tables 7.10 – 7.12, examine driver and Trooper differences in requests for consent, granting/obtaining consent to search, and consent search success rates. This section concludes with a summary of the main findings on PSP's search and seizure rates.

SEARCH RATES

As reported in Section 5, approximately 1% of all member-initiated traffic stops during the one-year period under review resulted in a search of the vehicle and/or driver. Given the infrequency with which PSP Troopers conduct searches, it may seem unusual that an entire section of this report is dedicated to exploring searches and seizures. The physical and psychological intrusion of a person or vehicle search, however, merits further exploration despite the small percentage of officer-initiated traffic stops that involve such police action. Although searching drivers is a

statistically infrequent event, it is a highly visible form of coercive police action that merits further scrutiny.

TYPES OF SEARCHES

Table 7.1 documents the number of searches and the percentage of searches for each reason indicated on the Contact Data Report (e.g., incident to arrest, inventory, warrant, plain view, Canine alert, drug odor, consent, reasonable suspicion/probable cause, and other) by department, area, and troop. Troopers may have indicated that a search was conducted for multiple reasons. As a result, the sum of percentages across search categories reported in Table 7.1 may exceed 100%. In addition, the last column in Table 7.1 indicates the percentage of searches that were conducted based *only* on drivers' consent. That is, this column partially duplicates information provided in the "consent" column, but excludes searches that were conducted based on consent in addition to any other reason. Although specific information regarding the reason for the search is provided at the station level in Table 7.2, the small number of searches conducted in many stations means these percentages need to be interpreted with caution.

As shown in Table 7.1, 68.5% of drivers gave their consent to be searched at the department level in 2006. A smaller percentage of searched drivers, however, were searched based *solely* on consent (41.8%). This is consistent with data from previous years that also indicated consent was the most common reason for a search. The second most frequently recorded reason for a search was the odor of drugs (17.5%), followed by incident to arrest (13.7% of searches), inventory (13.5%), plain view (9.2%), reasonable suspicion or probable cause (8.9%), Canine alerts (1.7%), and search warrant (1.3%). For 7.0% of searches, the "other" category was indicated as the reason for the search.

Table 7.1 also illustrates the different reasons for searches across areas and troops. As shown in this table, the reasons for searches differed somewhat across areas and troops. For example, 79.7% of searches conducted in Area IV were based on consent, compared to only 56.7% of searches conducted in Area V. Similar variation in reasons for searches is evident at the station level (shown in Table 7.2) but, again, comparisons of the percentages in this table should be interpreted cautiously due to the small number of searches in many stations.

Table 7.1: Reasons for Search by Department, Area and Troop

	# of Searches	% Incident to Arrest	% Inventory	% Search Warrant	% Plain View	% Canine Alert	% Drug Odor	% Consent	% Prob. Cause/ Reas. Susp.	% Other	% Consent Only
PSP Dept.	3,364	13.7	13.5	1.3	9.2	1.7	17.5	68.5	8.9	7.0	41.8
AREA I	1,035	13.1	16.5	1.0	9.7	1.6	19.0	66.3	9.8	8.9	36.2
Troop H	445	17.1	4.5	0.4	9.4	1.1	24.7	71.5	14.4	12.8	38.0
Troop J	368	10.6	39.9	0.3	12.0	0.3	12.5	53.8	6.5	4.1	27.7
Troop L	75	24.0	1.3	0.0	0.0	6.7	12.0	74.7	2.7	9.3	49.3
Troop T	147	2.0	2.0	4.8	9.5	4.1	21.8	77.6	7.5	8.8	45.6
AREA II	286	12.2	2.1	0.7	5.2	0.3	15.0	74.1	5.2	10.5	50.7
Troop F	93	24.7	1.1	2.2	6.5	0.0	20.4	67.7	7.5	14.0	31.2
Troop P	56	14.3	0.0	0.0	12.5	1.8	17.9	57.1	7.1	16.1	41.1
Troop R	137	2.9	3.6	0.0	1.5	0.0	10.2	85.4	2.9	5.8	67.9
AREA III	581	12.2	2.2	2.1	10.8	1.7	16.0	68.8	7.2	6.0	50.8
Troop A	262	13.4	2.3	1.5	14.1	1.9	18.3	65.3	10.7	6.1	43.5
Troop B	169	13.6	1.8	1.8	8.9	1.2	18.9	69.8	3.6	3.6	55.0
Troop G	150	8.7	2.7	3.3	7.3	2.0	8.7	74.0	5.3	8.7	58.7
AREA IV	767	13.0	2.0	2.0	11.6	2.5	22.0	79.7	14.1	6.3	49.2
Troop C	140	7.9	0.0	0.7	7.1	2.1	7.9	78.6	5.0	15.7	55.0
Troop D	504	13.1	3.0	2.0	13.7	1.8	26.6	83.3	18.1	3.0	49.4
Troop E	123	18.7	0.0	3.3	8.1	5.7	19.5	65.9	8.1	8.9	41.5
AREA V	689	17.3	36.3	0.7	5.8	1.5	12.3	56.7	4.6	4.4	31.1
Troop K	335	18.2	62.7	0.3	5.7	0.0	10.4	40.9	3.3	2.1	13.1
Troop M	238	15.5	16.4	1.7	7.1	3.8	10.9	71.0	6.7	6.7	47.9
Troop N	116	18.1	0.9	0.0	3.4	0.9	20.7	73.3	4.3	6.0	48.3

Table 7.2: Reasons for Search by Station (p. 1 of 4)

	# of Searches	% Incident to Arrest	% Inventory	% Search Warrant	% Plain View	% Canine Alert	% Drug Odor	% Consent	% Prob. Cause/ Reas. Susp.	% Other	% Consent Only
AREA I											
Troop H											
Carlisle	155	10.3	7.1	0.0	5.8	0.0	23.2	80.6	9.0	14.8	34.2
Chambersburg	66	3.0	0.0	3.0	6.1	3.0	15.2	86.4	7.6	4.5	65.2
Gettysburg	71	62.0	2.8	0.0	22.5	0.0	64.8	28.2	50.7	4.2	11.3
Harrisburg	51	5.9	2.0	0.0	3.9	5.9	5.9	68.6	13.7	45.1	17.6
Lykens	15	0.0	0.0	0.0	26.7	0.0	40.0	80.0	6.7	6.7	40.0
Newport	33	6.1	0.0	0.0	0.0	0.0	3.0	90.9	0.0	6.1	84.8
York	54	16.7	11.1	0.0	13.0	0.0	14.8	72.2	1.9	3.7	40.7
Troop J											
Avondale	78	17.9	37.2	0.0	7.7	0..0	7.7	48.7	3.8	5.1	30.8
Embreeville	109	8.3	57.8	0.0	10.1	0.0	11.9	39.4	1.8	0.0	29.4
Ephrata	12	0.0	0.0	0.0	8.3	0.0	0.0	91.7	33.3	8.3	41.7
Lancaster	169	9.5	32.5	0.6	15.4	0.6	16.0	62.7	8.9	5.9	24.3
Troop L											
Frackville	5	20.0	0.0	0.0	0.0	0.0	20.0	80.0	0.0	20.0	40.0
Hamburg	4	0.0	0.0	0.0	0.0	0.0	25.0	50.0	0.0	0.0	25.0
Jonestown	49	26.5	0.0	0.0	0.0	10.2	8.2	71.4	4.1	10.2	51.0
Reading	13	30.8	7.7	0.0	0.0	0.0	23.1	84.6	0.0	7.7	38.5
Schuylkill Haven	4	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Troop T											
Bowmansville	10	10.0	0.0	0.0	40.0	0.0	60.0	80.0	0.0	10.0	30.0
Everett	14	0.0	0.0	7.1	7.1	7.1	50.0	85.7	42.9	0.0	28.6
Gibsonia	27	3.7	3.7	3.7	7.4	7.4	11.1	85.2	0.0	0.0	70.4
Highspire	0	--	--	--	--	--	--	--	--	--	--
King of Prussia	19	5.3	0.0	0.0	5.3	0.0	26.3	52.6	5.3	5.3	26.3
New Stanton	7	0.0	0.0	0.0	28.6	0.0	28.6	71.4	0.0	0.0	42.9
Newville	20	0.0	10.0	0.0	0.0	0.0	15.0	90.0	15.0	30.0	30.0
Pocono	5	0.0	0.0	0.0	0.0	0.0	0.0	60.0	0.0	0.0	60.0
Somerset (T)	45	0.0	0.0	11.1	8.9	6.7	13.3	77.8	2.2	11.1	53.3

Table 7.2: Reasons for Search by Station (p. 2 of 4)

	# of Searches	% Incident to Arrest	% Inventory	% Search Warrant	% Plain View	% Canine Alert	% Drug Odor	% Consent	% Prob. Cause/ Reas. Susp.	% Other	% Consent Only
AREA II											
Troop F											
Coudersport	6	33.3	0.0	0.0	33.3	0.0	33.3	100.0	33.3	33.3	0.0
Emporium	6	0.0	0.0	0.0	0.0	0.0	0.0	83.3	0.0	83.3	16.7
Lamar	1	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0
Mansfield	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Milton	21	38.1	4.8	0.0	0.0	0.0	14.3	76.2	14.3	0.0	28.6
Montoursville	24	8.3	0.0	0.0	12.5	0.0	29.2	75.0	4.2	16.7	41.7
Selinsgrove	24	29.2	0.0	4.2	4.2	0.0	8.3	54.2	4.2	8.3	41.7
Stonington	10	40.0	0.0	10.0	0.0	0.0	50.0	40.0	0.0	0.0	10.0
Troop P											
Laporte	0	--	--	--	--	--	--	--	--	--	--
Shickshinny	5	0.0	0.0	0.0	0.0	0.0	100.0	20.0	0.0	0.0	0.0
Towanda	21	9.5	0.0	0.0	4.8	0.0	4.8	76.2	4.8	4.8	71.4
Tunkhannock	8	12.5	0.0	0.0	0.0	0.0	0.0	87.5	0.0	12.5	75.0
Wyoming	22	22.7	0.0	0.0	27.3	4.5	18.2	36.4	13.6	31.8	9.1
Troop R											
Blooming Grove	29	10.3	6.9	0.0	6.9	0.0	6.9	75.9	6.9	6.9	55.2
Dunmore	40	0.0	0.0	0.0	0.0	0.0	10.0	97.5	0.0	0.0	87.5
Gibson	19	0.0	0.0	0.0	0.0	0.0	36.8	84.2	0.0	5.3	52.6
Honesdale	49	2.0	6.1	0.0	0.0	0.0	2.0	81.6	4.1	10.2	65.3
AREA III											
Troop A											
Ebensburg	43	4.7	0.0	2.3	14.0	2.3	11.6	74.4	9.3	2.3	55.8
Greensburg	105	8.6	1.0	1.0	8.6	1.9	20.0	80.0	8.6	2.9	60.0
Indiana	64	14.1	6.3	3.1	12.5	0.0	20.3	51.6	17.2	7.8	34.4
Kiski Valley	35	40.0	2.9	0.0	31.4	2.9	8.6	31.4	0.0	5.7	11.4
Somerset (A)	15	6.7	0.0	0.0	20.0	6.7	40.0	73.3	26.7	33.3	6.7

Table 7.2: Reasons for Search by Station (p. 3 of 4)

	# of Searches	% Incident to Arrest	% Inventory	% Search Warrant	% Plain View	% Canine Alert	% Drug Odor	% Consent	% Prob. Cause/ Reas. Susp.	% Other	% Consent Only
AREA III (cont.)											
Troop B											
Belle Vernon	16	6.3	0.0	0.0	25.0	0.0	18.8	68.8	0.0	6.3	56.3
Findlay	35	22.9	2.9	0.0	2.9	2.9	28.6	62.9	5.7	8.6	37.1
Uniontown	45	8.9	4.4	4.4	11.1	0.0	26.7	60.0	4.4	0.0	48.9
Washington	38	2.6	0.0	2.6	10.5	2.6	13.2	84.2	5.3	0.0	71.1
Waynesburg	35	25.7	0.0	0.0	2.9	0.0	5.7	74.3	0.0	5.7	62.9
Troop G											
Bedford	22	4.5	9.1	4.5	18.2	0.0	0.0	68.2	22.7	31.8	31.8
Hollidaysburg	67	4.5	1.5	1.5	4.5	1.5	3.0	86.6	3.0	4.5	80.6
Huntingdon	12	16.7	0.0	8.3	8.3	0.0	25.0	66.7	0.0	16.7	33.3
Lewistown	11	27.3	0.0	18.2	9.1	0.0	9.1	45.5	0.0	0.0	27.3
McConnellsburg	8	12.5	0.0	0.0	12.5	0.0	12.5	62.5	12.5	12.5	50.0
Philipsburg	6	0.0	16.7	0.0	0.0	0.0	16.7	66.7	0.0	0.0	66.7
Rockview	24	12.5	0.0	0.0	4.2	8.3	20.8	66.7	0.0	0.0	50.0
AREA IV											
Troop C											
Clarion	51	5.9	0.0	2.0	9.8	2.0	9.8	76.5	5.9	23.5	45.1
Clearfield	33	3.0	0.0	0.0	6.1	3.0	9.1	97.0	3.0	0.0	75.8
Dubois	14	7.1	0.0	0.0	0.0	0.0	0.0	64.3	7.1	57.1	35.7
Kane	21	23.8	0.0	0.0	4.8	0.0	4.8	66.7	0.0	4.8	57.1
Punxsutawney	5	0.0	0.0	0.0	0.0	20.0	0.0	60.0	20.0	0.0	60.0
Ridgway	14	7.1	0.0	0.0	14.3	0.0	7.1	78.6	7.1	7.1	57.1
Tionesta	2	0.0	0.0	0.0	0.0	0.0	50.0	100.0	0.0	0.0	50.0
Troop D											
Beaver	37	5.4	2.7	0.0	2.7	0.0	29.7	83.8	0.0	0.0	59.5
Butler	60	6.7	1.7	1.7	10.0	0.0	16.7	81.7	5.0	3.3	58.3
Kittanning	323	15.2	3.4	2.2	16.7	2.2	30.0	86.1	24.5	1.9	47.7
Mercer	60	16.7	1.7	3.3	1.7	3.3	20.0	76.7	10.0	3.3	50.0
New Castle	24	4.2	4.2	0.0	29.2	0.0	16.7	66.7	12.5	20.8	33.3

Table 7.2: Reasons for Search by Station (p. 4 of 4)

	# of Searches	% Incident to Arrest	% Inventory	% Search Warrant	% Plain View	% Canine Alert	% Drug Odor	% Consent	% Prob. Cause/ Reas. Susp.	% Other	% Consent Only
AREA IV (cont.)											
Troop E											
Corry	1	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Erie	61	1.6	0.0	1.6	4.9	8.2	11.5	90.2	4.9	14.8	60.7
Franklin	4	0.0	0.0	0.0	25.0	0.0	25.0	50.0	0.0	0.0	0.0
Girard	10	0.0	0.0	10.0	10.0	0.0	20.0	40.0	0.0	10.0	40.0
Meadville	35	54.3	0.0	2.9	5.7	5.7	31.4	34.3	14.3	2.9	20.0
Warren	12	16.7	0.0	8.3	25.0	0.0	25.0	66.7	16.7	0.0	25.0
AREA V											
Troop K											
Media	119	17.6	60.5	0.8	7.6	0.0	15.1	32.8	3.4	1.7	16.0
Philadelphia	169	13.0	75.1	0.0	0.6	0.0	3.6	48.5	1.2	3.0	9.5
Skippack	47	38.3	23.4	0.0	19.1	0.0	23.4	34.0	10.6	0.0	19.1
Troop M											
Belfast	24	45.8	29.2	8.3	12.5	8.3	12.5	58.3	12.5	8.3	25.0
Bethlehem	47	2.1	14.9	0.0	4.3	2.1	6.4	83.0	2.1	0.0	68.1
Dublin	50	20.0	6.0	2.0	14.0	0.0	20.0	70.0	10.0	6.0	42.0
Fogelsville	99	12.1	16.2	1.0	5.1	6.1	8.1	74.7	6.1	8.1	51.5
Trevose	18	16.7	33.3	0.0	0.0	0.0	11.1	38.9	5.6	16.7	22.2
Troop N											
Bloomsburg	11	9.1	0.0	0.0	0.0	0.0	9.1	90.9	9.1	0.0	81.8
Fern Ridge	21	47.6	0.0	0.0	4.8	0.0	19.0	52.4	4.8	0.0	28.6
Hazleton	31	6.5	0.0	0.0	3.2	0.0	16.1	83.9	3.2	9.7	58.1
Lehighton	5	0.0	0.0	0.0	40.0	0.0	20.0	60.0	0.0	40.0	20.0
Swiftwater	48	16.7	2.1	0.0	0.0	2.1	27.1	72.9	4.2	4.2	45.8

While examining the specific reasons for a search is instructive, this information is better analyzed when collapsed into discrete categories, or types of searches. For the analyses reported in Table 7.3 below, searches were divided into three categories based on the presumed level of officer discretion for different situations. The first search category (Type I) includes searches that are required by PSP policy and are therefore mandatory for officers to perform. Type I searches include searches incident to arrest, searches based on a pre-existing warrant, and inventory searches. The second search category (Type II) includes searches that are not mandatory but, rather, are based on suspicion and officer discretion. Specifically, Type II searches include plain view searches, canine alert searches, drug odor searches, reasonable suspicion, probable cause, and "other" unspecified reasons. The third search category (Type III) includes searches that are based solely on consent.[20] If a search was based on multiple reasons, it was assigned to the search category with the least officer discretion (e.g., if a search is based on a canine alert [Type II] and consent [Type III], it was defined as a Type II search). Therefore, the analyses below examining the success rates for Type I, II, and III searches are mutually exclusive.

The influences of drivers' characteristics and Troopers' characteristics are examined within these three categories of searches and are reported in Table 7.3. The results indicate that although there are slight differences in the percentages of search types across racial/ethnic and gender groups, these differences are not statistically significant. That is, of the drivers who are searched, the reasons for those searches are essentially the same across racial/ethnic and gender groups. **Therefore, although Blacks and Hispanics were significantly more likely to be searched overall, they are not significantly more likely to be searched for any particular reason.** A significantly larger percentage of drivers 25 years old or younger were searched for probable cause/reasonable suspicion reasons, but a smaller percentage was searched for mandatory reasons, compared to drivers over 25 years old. The use of solely consent searches (Type III), however, did not significantly vary by drivers' age. There were also significant differences in the types of searches conducted for Pennsylvania and non-Pennsylvania residents. A considerably larger percentage of Pennsylvania residents were searched for mandatory (Type I) reasons compared to non-residents, but larger percentages of non-Pennsylvania residents were searched for probable cause/reasonable suspicion and consent reasons.

There were also differences in the reasons for a search based on some Troopers' characteristics. It is important to note, however, that there were no statistically significant differences in the percentages of searches conducted for mandatory, probable cause/reasonable suspicion, and consent reasons based on Troopers' race. There were differences in mandatory (Type I) and probable cause/reasonable suspicion (Type II) searches across Troopers' gender, experience, and education. More specifically, female Troopers were significantly more likely to conduct searches for mandatory reasons compared to male Troopers. In addition, more experienced Troopers were more likely to conduct probable cause/reasonable suspicion searches and less likely to conduct mandatory searches compared to Troopers with less than five years of experience. Finally, Troopers with more education were significantly more likely to conduct mandatory searches and less likely to

[20] Type II and III categories have been slightly changed from previous reports. In the current report, only searches based solely on consent are captured as Type III searches.

conduct probable cause/reasonable suspicion searches compared to Troopers with less education. The reasons for these differences may be assignment based.

Table 7.3 Reasons for Search (by search type) by Driver and Trooper Characteristics

	Total # of Searches	Type I: % Mandatory Searches	Type II: % Probable Cause/Reasonable Suspicion Searches	Type III: % Consent Searches
All Drivers	3,364	27.0	30.3	42.7
By Drivers' Characteristics				
Caucasian Driver	2,140	27.2	30.4	42.3
Black Driver	724	27.5	31.8	40.7
Hispanic Driver	355	27.0	28.2	44.8
Male Driver	2,848	30.8	30.3	43.3
Female Driver	445	26.4	30.3	38.9
Driver 25 years old or under	1,540	22.4***	34.7***	42.9
Driver over 25 years old	1,751	31.0	26.4	42.6
Driver PA Resident	2,570	31.0***	29.8	39.2***
Driver Non-PA Resident	726	12.9	32.1	55.0
By Troopers' Characteristics				
Caucasian Trooper	3,079	27.1	29.9	43.0
Non-Caucasian Trooper	196	24.5	36.2	39.3
Male Trooper	3,207	26.7*	30.3	43.0
Female Trooper	68	39.7	26.5	33.8
<5 years experience	1,767	30.8***	26.5***	42.7
>5 years experience	1,508	22.3	34.7	43.0
No College	897	24.9**	33.6**	41.6
2 Year Degree	903	24.1	30.3	45.5
4 Year Degree	1,475	29.9	28.2	41.9

NOTE: * $p < .05$, ** $p < .01$, *** $p < .001$

TYPES OF SEIZURES

Table 7.4 documents the types of evidence and/or contraband confiscated during searches conducted by PSP Troopers. In 2006, there were 1,040 seizures of contraband resulting from the 3,364 searches (30.9% of searches resulted in the discovery of contraband). A majority of the contraband seized was drugs (74.2%). Approximately 14.0% of the evidence seized was unspecified and categorized as "other." Note that a single search could produce multiple types of contraband seized; therefore, the sum of the columns in Table 7.4 may exceed 100%. Table 7.4 also documents the differences in the types of evidence seized across areas and troops. The trend displayed at the department level was fairly consistent across the area and

troop level. More fluctuation was evident at the station level (shown in Table 7.5), particularly in locations where the number of seizures that occurred is very small.

Table 7.4: Types of Evidence Seized by Department, Area and Troop

	# of Seizures	% Cash	% Drugs	% Vehicle	% Weapons	% Stolen Prop.	% Alcohol	% Other
PSP Dept.	1,040	7.7	74.2	5.0	6.8	1.6	13.3	14.0
AREA I	283	7.8	70.0	4.2	7.8	0.4	17.7	12.0
Troop H	118	7.6	68.6	5.9	10.2	0.8	20.3	11.0
Troop J	108	2.8	74.1	0.9	2.8	0.0	19.4	11.1
Troop L	12	8.3	66.7	16.7	16.7	0.0	0.0	16.7
Troop T	45	20.0	64.4	4.4	11.1	0.0	11.1	15.6
AREA II	82	6.1	76.8	4.9	8.5	2.4	12.2	11.0
Troop F	26	7.7	57.7	3.8	19.2	7.7	19.2	19.2
Troop P	11	9.1	72.7	18.2	9.1	0.0	18.2	9.1
Troop R	45	4.4	88.9	2.2	2.2	0.0	6.7	6.7
AREA III	206	6.3	75.7	5.3	5.8	1.9	15.5	10.2
Troop A	103	8.7	73.8	6.8	3.9	1.9	15.5	14.6
Troop B	57	5.3	82.5	0.0	10.5	1.8	10.5	1.8
Troop G	46	2.2	71.7	8.7	4.3	2.2	21.7	10.9
AREA IV	315	7.3	76.2	3.2	5.1	1.0	10.5	19.4
Troop C	39	12.8	51.3	7.7	0.0	0.0	10.3	41.0
Troop D	238	5.9	83.6	2.9	5.9	1.3	9.2	13.9
Troop E	38	10.5	55.3	0.0	5.3	0.0	18.4	31.6
AREA V	151	11.3	74.8	9.9	9.3	4.6	8.6	12.6
Troop K	77	7.8	67.5	7.8	9.1	6.5	10.4	15.6
Troop M	45	17.8	77.8	17.8	13.3	4.4	8.9	13.3
Troop N	29	10.3	89.7	3.4	3.4	0.0	3.4	3.4

Table 7.5: Types of Evidence Seized by Station (p. 1 of 3)

	# of Seizures	% Cash	% Drugs	% Vehicle	% Weapons	% Stolen Prop.	% Alcohol	% Other
PSP Dept.								
AREA I								
Troop H								
Carlisle	38	5.3	81.6	0.0	2.6	0.0	7.9	21.1
Chambersburg	22	9.1	90.9	9.1	9.1	4.5	9.1	0.0
Gettysburg	27	0.0	44.4	3.7	22.2	0.0	37.0	7.4
Harrisburg	6	33.3	66.7	16.7	16.7	0.0	0.0	16.7
Lykens	7	0.0	42.9	0.0	14.3	0.0	57.1	0.0
Newport	3	33.3	100.0	33.3	0.0	0.0	0.0	0.0
York	15	13.3	53.3	13.3	6.7	0.0	33.3	13.3
Troop J								
Avondale	22	4.5	54.5	0.0	4.5	0.0	36.4	18.2
Embreeville	25	4.0	84.0	0.0	8.0	0.0	16.0	4.0
Ephrata	0	--	--	--	--	--	--	--
Lancaster	61	1.6	77.0	1.6	0.0	0.0	14.8	11.5
Troop L								
Frackville	2	0.0	50.0	0.0	50.0	0.0	0.0	0.0
Hamburg	0	--	--	--	--	--	--	--
Jonestown	7	14.3	85.7	14.3	14.3	0.0	0.0	14.3
Reading	1	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Schuylkill Haven	2	0.0	50.0	50.0	0.0	0.0	0.0	0.0
Troop T								
Bowmansville	5	0.0	80.0	0.0	0.0	0.0	40.0	20.0
Everett	4	0.0	100.0	0.0	0.0	0.0	0.0	0.0
Gibsonia	10	20.0	80.0	10.0	0.0	0.0	20.0	0.0
Highspire	--	--	--	--	--	--	--	--
King of Prussia	7	0.0	42.9	0.0	42.9	0.0	0.0	28.6
New Stanton	2	0.0	50.0	0.0	0.0	0.0	50.0	0.0
Newville	0	--	--	--	--	--	--	--
Pocono	1	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Somerset (T)	16	37.5	56.3	6.3	12.5	0.0	0.0	25.0

Table 7.5: Types of Evidence Seized by Station (p. 2 of 3)

	# of Seizures	% Cash	% Drugs	% Vehicle	% Weapons	% Stolen Prop.	% Alcohol	% Other
AREA II								
Troop F								
Coudersport	4	0.0	50.0	0.0	50.0	50.0	50.0	50.0
Emporium	0	--	--	--	--	--	--	--
Lamar	0	--	--	--	--	--	--	--
Mansfield	0	--	--	--	--	--	--	--
Milton	4	25.0	50.0	25.0	0.0	0.0	0.0	0.0
Montoursville	9	0.0	77.8	0.0	0.0	0.0	22.2	0.0
Selinsgrove	8	0.0	50.0	0.0	37.5	0.0	12.5	25.0
Stonington	1	100.0	0.0	0.0	0.0	0.0	0.0	100.0
Troop P								
Laporte	--	--	--	--	--	--	--	--
Shickshinny	0	--	--	--	--	--	--	--
Towanda	3	0.0	0.0	0.0	0.0	0.0	66.7	33.3
Tunkhannock	1	0.0	100.0	0.0	0.0	0.0	0.0	0.0
Wyoming	7	14.3	100.0	28.6	14.3	0.0	0.0	0.0
Troop R								
Blooming Grove	6	0.0	50.0	0.0	0.0	0.0	33.3	50.0
Dunmore	13	15.4	100.0	0.0	0.0	0.0	0.0	0.0
Gibson	10	0.0	90.0	0.0	10.0	0.0	10.0	0.0
Honesdale	16	0.0	93.8	6.3	0.0	0.0	0.0	0.0
AREA III								
Troop A								
Ebensburg	14	14.3	57.1	7.1	7.1	7.1	28.6	7.1
Greensburg	47	6.4	70.2	2.1	4.3	0.0	14.9	14.9
Indiana	34	8.8	88.2	5.9	2.9	0.0	8.8	11.8
Kiski Valley	4	25.0	50.0	50.0	0.0	25.0	25.0	25.0
Somerset (A)	4	0.0	75.0	25.0	0.0	0.0	25.0	50.0
Troop B								
Belle Vernon	8	12.5	100.0	0.0	0.0	0.0	0.0	12.5
Findlay	7	14.3	57.1	0.0	14.3	14.3	28.6	0.0
Uniontown	19	5.3	89.5	0.0	10.5	0.0	5.3	0.0
Washington	18	0.0	83.3	0.0	16.7	0.0	5.6	0.0
Waynesburg	5	0.0	60.0	0.0	0.0	0.0	40.0	0.0
Troop G								
Bedford	8	0.0	75.0	12.5	0.0	0.0	25.0	0.0
Hollidaysburg	17	0.0	82.4	5.9	0.0	5.9	23.5	0.0
Huntingdon	6	0.0	83.3	0.0	0.0	0.0	16.7	16.7
Lewistown	5	20.0	40.0	20.0	20.0	0.0	20.0	20.0
McConnellsburg	2	0.0	0.0	0.0	50.0	0.0	100.0	0.0
Philipsburg	0	--	--	--	--	--	--	--
Rockview	8	0.0	75.0	12.5	0.0	0.0	0.0	37.5

Table 7.5: Types of Evidence Seized by Station (p. 3 of 3)

	# of Seizures	% Cash	% Drugs	% Vehicle	% Weapons	% Stolen Prop.	% Alcohol	% Other
AREA IV								
Troop C								
Clarion	13	15.4	53.8	15.4	0.0	0.0	15.4	30.8
Clearfield	11	18.2	72.7	9.1	0.0	0.0	0.0	27.3
Dubois	4	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Kane	5	20.0	40.0	0.0	0.0	0.0	0.0	60.0
Punxsutawney	0	--	--	--	--	--	--	--
Ridgway	5	0.0	60.0	0.0	0.0	0.0	40.0	20.0
Tionesta	1	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Troop D								
Beaver	11	0.0	81.8	9.1	0.0	0.0	9.1	45.5
Butler	20	10.0	55.0	0.0	15.0	0.0	10.0	35.0
Kittanning	189	6.3	88.4	3.2	5.3	1.1	7.9	9.5
Mercer	11	0.0	72.7	0.0	0.0	9.1	27.3	18.2
New Castle	7	0.0	57.1	0.0	14.3	0.0	14.3	14.3
Troop E								
Corry	0	--	--	--	--	--	--	--
Erie	16	12.5	81.3	0.0	12.5	0.0	18.8	18.8
Franklin	2	0.0	50.0	0.0	0.0	0.0	50.0	0.0
Girard	2	0.0	50.0	0.0	0.0	0.0	50.0	0.0
Meadville	12	8.3	25.0	0.0	0.0	0.0	8.3	58.3
Warren	6	16.7	50.0	0.0	0.0	0.0	16.7	33.3
AREA V								
Troop K								
Media	38	7.9	68.4	10.5	13.2	10.5	7.9	13.2
Philadelphia	20	10.0	50.0	5.0	10.0	0.0	20.0	20.0
Skippack	19	5.3	84.2	5.3	0.0	5.3	5.3	15.8
Troop M								
Belfast	8	37.5	62.5	25.0	37.5	25.0	25.0	25.0
Bethlehem	7	0.0	85.7	14.3	28.6	0.0	0.0	0.0
Dublin	14	28.6	85.7	14.3	0.0	0.0	7.1	21.4
Fogelsville	14	7.1	78.6	14.3	7.1	0.0	7.1	0.0
Trevose	2	0.0	50.0	50.0	0.0	0.0	0.0	50.0
Troop N								
Bloomsburg	0	--	--	--	--	--	--	--
Fern Ridge	4	25.0	100.0	0.0	0.0	0.0	0.0	0.0
Hazleton	5	20.0	80.0	20.0	0.0	0.0	0.0	0.0
Lehighton	3	33.3	66.7	0.0	33.3	0.0	33.3	0.0
Swiftwater	17	0.0	94.1	0.0	0.0	0.0	0.0	5.9

NOTE: Highspire and Laporte had 0 searches.

SEARCH SUCCESS RATES

As described in previous final reports, the discovery of contraband during person and vehicle searches is an important outcome to consider when examining potential bias by police officers. Often referred to as search "success rates," or "hit rates" (i.e., the percent of searches conducted that produce contraband and/or resulted in arrest), some researchers use the "outcome test" to identify racial and ethnic disparities by examining differential outcomes in search success rates (Knowles, Persico, & Todd, 2001; Ayres, 2001). Originally applied by Becker (1957) to examine economic disparate treatment of minorities, the basic notion of the outcome test is to analyze whether outcomes are systematically different across groups. Ayres (2001) has argued that the "outcome test" can be used to successfully examine racial disparities in police practices, including searches. When applied to police searches, the outcome test is essentially a comparison of the successfulness of those searches, or a statistical comparison of the percentage of searches that result in seizures across racial/ethnic groups. Racial/ethnic comparisons of hit rates are calculated by dividing the percent of searches in which officers seize some type of contraband (e.g, drugs, illegal weapons, etc.) by the number of total searches (Fridell, 2004; Ramirez et al., 2000). It is hypothesized that if drivers are searched strictly based on legal factors and suspicions unrelated to race, one would expect similar percentages of searches resulting in seizures across racial groups.

Some scholars and police officials have argued that searches of minorities are more likely to produce contraband compared to searches of Caucasians (Knowles et al., 2001). Others have argued that minority citizens are not more likely to be carrying contraband, and that a comparison of search success rates shows that racial profiling policies are ineffective (Cole, 1999; Harris, 2002). The application of the outcome test to police searches is based on the notion that if officers are profiling minority drivers based on racial prejudice, they will continue to search minorities even when the returns (i.e., the discovery of contraband) are smaller for minorities than the returns for searching Caucasians (Anwar & Fang, 2006). Conversely, if no bias exists, over a period of time a state of equilibrium will be achieved in which the police will search racial groups proportionate to their actual possession of contraband. The need to include multiple variables (i.e., multivariate model) is removed by reliance on the principle of equilibrium.

As with other analytical techniques, limitations exist which limit the conclusions that can be drawn from the outcome test (Engel, 2008; Engel & Tillyer, 2008). The outcome test is only appropriate for an analysis of traffic stops that result in a probable cause/reasonable suspicion search; therefore, mandatory and consent searches should not be considered. In addition, any racial/ethnic disparities in hit rates discovered using this method do not necessarily imply officer bias. Notwithstanding the limitations of the outcome test, it does provide an alternative method to assess post-stop outcomes. Nevertheless, it is recommended that no definitive conclusions about racial bias be drawn from these comparisons based on the limitations of this technique (for details, see Engel, 2008; Engel & Tillyer, 2008).

Search Success Rates by Reason for Search

Prior to examining search success rates by race/ethnicity, this section documents the variation in search success rates by the reason for search. Based on PSP policies, Troopers have little discretion over some types of searches (e.g., inventory searches, searches incident to arrest, searches based on a preexisting warrant). Furthermore, it is likely that different reasons for searches might lead to varying search success rates. Table 7.6 explores this possibility. Specifically, Table 7.6 illustrates the overall search success rate, and the success rates for each specific type of search at both the department and area levels. Department-wide, the overall search success rate is 30.9%; that is, 30.9% of searches conducted during member-initiated traffic stops result in the discovery of contraband. This rate, however, varies dramatically across search types, as exemplified by the range from 88.6% for search warrant searches to 19.6% for inventory searches. Searches based on inventory and "other" unspecified reason were the least likely to be successful in terms of discovering contraband, with success rates at 19.6% and 14.8%, respectively. Searches likely to be moderately successful included: consent (30.2%), incident to arrest (32.9%), reasonable suspicion/probable cause (55.5%), and odor of drugs or alcohol (59.2%). Note, however, that when searches conducted solely based on consent are examined, the hit rates decreases to 21.6%. Not surprisingly, searches based on search warrants (88.6%), plain view (85.7%) and canine alerts (63.2%) were the most likely to be successful in terms of seizing contraband. These patterns remain relatively consistent across geographical areas within the department.

Table 7.6: Search Success Rates by Reasons for Search for Department and Areas

	Overall Search Success Rate	Incident to Arrest Success Rate	Inventory Success Rate	Search Warrant Success Rate	Plain View Success Rate	Canine Alert Success Rate	Drug Odor Success Rate	Consent Success Rate	Probable Cause/ Reasonable Suspicion Success Rate	Other Reason Success Rate	Consent Only Success Rate
PSP Dept.	30.9	32.9	19.6	88.6	85.7	63.2	59.2	30.2	55.5	14.8	21.6
AREA I	27.3	27.2	17.5	80.0	83.0	64.7	53.8	26.4	34.7	7.6	17.9
AREA II	28.7	20.0	33.3	100.0*	80.0	0.0*	51.2	29.7	46.7	13.3	25.5
AREA III	35.5	38.0	15.4	100.0	77.8	80.0	66.7	30.0	61.9	20.0	22.4
AREA IV	41.1	42.0	53.3	86.7	92.1	78.9	63.9	41.6	75.9	20.8	29.2
AREA V	21.9	32.8	18.8	80.0*	92.5	20.0	57.6	19.4	46.9	23.3	11.2

NOTE: Search success rates are measured as the percent of searches that resulted in a seizure of contraband; thus all search success rate entries in the table are percentages.
* Five or fewer searches conducted for this reason; interpret percentage with caution.

Information regarding the search success rates of different types of searches is further summarized below. In Table 7.7, search success rates for each type of search (collapsed by level of officer discretion) are displayed. Again, types of searches are classified as follows: Type I includes mandatory searches that are required by PSP policy (searches incident to arrest, searches based on a pre-existing warrant, and inventory searches), Type II includes searches that are not mandatory but, rather, are based on officer discretion (plain view searches, canine alert searches, drug odor searches, and reasonable suspicion or probable cause searches), and Type III includes searches that are based only on consent. As illustrated in this table, Type II probable cause/reasonable suspicion searches were the most successful in terms of recovering contraband, while Type III consent searches were the least successful. Specifically, across the department, 48.9% of probable cause/reasonable suspicion searches resulted in the discovery of contraband, compared to only 21.6% of consent searches. This pattern is similar across the different areas within the department.

Table 7.7: Search Type Success Rates by Department and Areas

	Overall Search Success Rate	Type I: Mandatory Search Success Rate	Type II: Probable Cause/ Reasonable Suspicion Search Success Rate	Type III: Consent Search Success Rate
PSP Dept.	30.9	27.3	48.9	21.6
AREA I	27.3	21.9	44.4	17.9
AREA II	28.7	26.8	38.6	25.5
AREA III	35.5	41.5	55.8	22.4
AREA IV	41.1	46.7	56.9	29.2
AREA V	21.9	21.4	41.2	11.2

NOTE: Search success rates are measured as the percent of searches that resulted in a seizure of contraband; thus all search success rate entries in the table are percentages.

Search Success Rates by Drivers' and Troopers' Characteristics

It is also important to examine whether the search success rates vary based on drivers' and Troopers' characteristics. As noted previously, however, only Type II searches should be analyzed for purposes of the "outcome test," as these searches are the only ones that are based on officer discretion that do not require compliance by citizens (in the form of giving consent). Therefore, information regarding only the Type II search success rates is reported in Table 7.8 below.

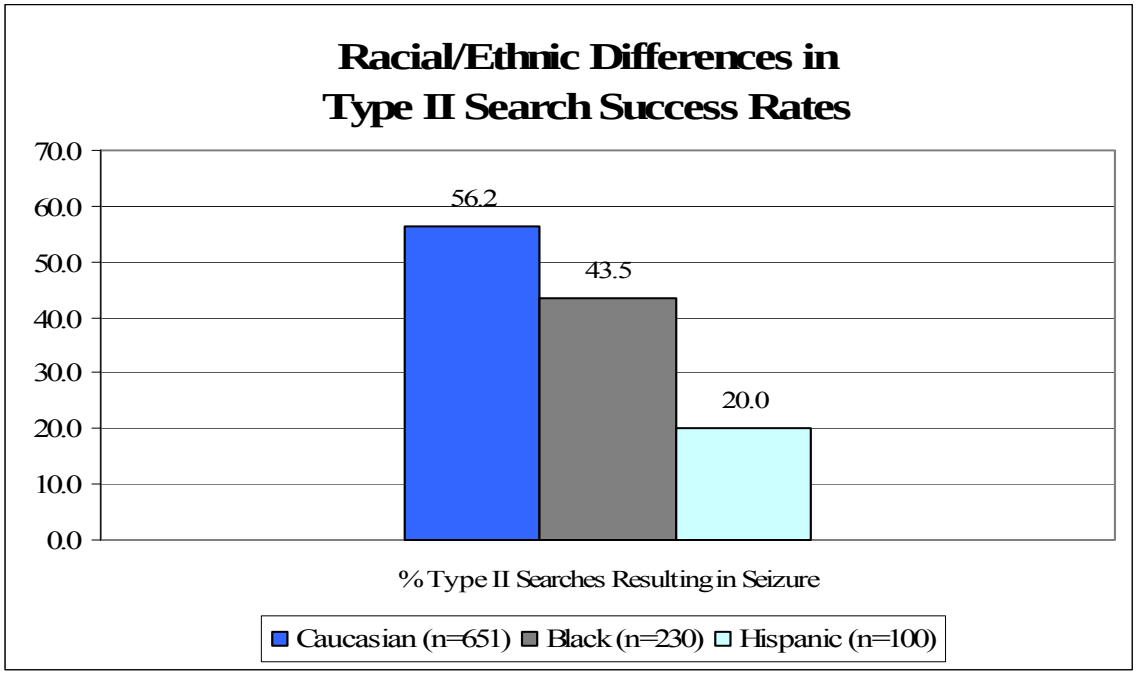
Table 7.8: Probable Cause/Reasonable Suspicion Search Success Rates by Driver and Trooper Characteristics

	Total # Searches	Total # of Type II Probable Cause/ Reasonable Suspicion Searches	Type II: Probable Cause/ Reasonable Suspicion Search Success Rate
All Drivers	3,364	999	48.9
By Drivers' Characteristics			
Caucasian Driver	2,176	651	56.2***
Black Driver	743	230	43.5
Hispanic Driver	364	100	20.0
Male Driver	2,893	863	48.1
Female Driver	468	135	54.8
Driver 25 years old or under	1,559	534	55.8***
Driver over 25 years old	1,800	462	40.9
Driver PA Resident	2,618	766	54.8***
Driver Non-PA Resident	746	233	29.6
By Troopers' Characteristics			
Caucasian Trooper	3,133	920	48.8
Non-Caucasian Trooper	210	71	49.3
Male Trooper	3,275	973	48.6
Female Trooper	68	18	61.1
Less than 5 years experience	1,796	468	50.4
5 years experience or more	1,547	523	47.4
No College	917	301	45.5
2 Year Degree	918	274	49.6
4 Year Degree	1,508	416	50.7

NOTE: * p <.05, ** p < .01, *** p < .001

Table 7.8 shows that there are significant differences in the probable cause/reasonable suspicion search success rates across different driver and Trooper characteristics. As shown in this table, and graphically displayed in Figure 7.1 below, the results of the outcome test for race/ethnicity indicate that **Caucasian drivers who are searched for probable cause/reasonable suspicion reasons were significantly more likely to be found in possession of contraband compared to searched Black and Hispanic drivers.** Specifically, 56.2% of probable cause/reasonable suspicion searches of Caucasian drivers were successful, compared to 43.5% of searches of Black drivers, and only 20.0% of searches of Hispanic drivers.

Figure 7.1: Racial/Ethnic Differences in Type II Search Success Rates



In comparison, only slight gender differences that do not reach statistical significance were found when probable cause/reasonable suspicion search success rates are examined. Significant differences between younger and older drivers, however, are evident. Probable cause/reasonable suspicion searches of drivers 25 and younger were significantly more likely to be successful than searches of older drivers. Residency of the driver also shows significant differences in search success rates. Probable cause/reasonable suspicion searches of drivers who reside in Pennsylvania were significantly more successful in the seizure of contraband compared to searches of non-Pennsylvania residents. That is, contrary to conventional police interdiction training, searches of out-of-state residents do not produce more fruitful seizures in terms of discovering contraband. The amount of contraband, however, has not been examined. Finally, no significant differences in search success rates were found based on Troopers' characteristics.

In summary, despite the earlier findings that Blacks and Hispanics were significantly more likely than Caucasians to be searched during traffic stops with PSP Troopers, probable cause/reasonable suspicion search success rates indicate Blacks and Hispanics were significantly less likely than Caucasians to be found in possession of contraband. This finding is consistent with findings from other state and local police agencies across the country, as well as previous reports issued for PSP. Based on the same discrepancy in earlier reports, nine focus groups were conducted with PSP Troopers in 2005 to better understand patterns and practices related to search and seizure during traffic stops, specifically these racial and ethnic disparities for searches and search success rates. The goal of these focus groups was to document the most effective techniques related to search and seizure in order to improve and potentially alter departmental training and reduce the racial/ethnic disparities reported in the *Year 2 Final Report*. Focus group participants from PSP, along with focus groups conducted with other state police agencies including the Ohio State Highway Patrol

and Nebraska State Patrol, offered several insightful and plausible interpretations for the inconsistent search success rates across racial/ethnic groups. Specifically, focus group participants indicated that lower search success rates for Hispanic drivers may be due to: 1) limited training, 2) Troopers relying on one or two indicators of suspicion (possibly including race or race-related stereotypes) rather than the totality of circumstances, 3) a poor understanding of cultural differences in behaviors across racial/ethnic groups, and 4) different drug trafficking methods (e.g., hidden compartments) used across racial/ethnic groups.

These insights led to the following recommendations, originally included in the *Years 3 & 4 Final Report*:

1. Better training for Troopers is needed regarding the complexities of interactions with members of different racial/ethnic groups. The use of racial/ethnic characteristics and/or the reliance on "gut instincts" and "sixth sense" to inform search decisions must be eradicated within the PSP. The best opportunity to do this is to demonstrate through academy and SHIELD training the ineffective nature of these types of practices.

2. The discussion of racial profiling as a component of the training curriculum should be enhanced. Training should focus on the problems with using individual characteristics to determine suspicion, and better emphasize the importance of relying on multiple indicators, rather than one or two indicators of suspicion.

3. A component should be added to criminal interdiction training that teaches officers about the cultural differences in behaviors they might see from drivers, which may not be valid indicators of suspicion. For example, some research indicates that racial and ethnic differences exist in cues of suspicion that officers are trained to identify when determining who to search (for review, see Engel & Johnson, 2006). Therefore, it is recommended that PSP criminal interdiction training describe these racial/ethnic differences in verbal and nonverbal behaviors, and stress that these behaviors alone should not be interpreted as reliable cues of suspicion.

Portions of these recommendations have been implemented; however, racial/ethnic disparities in search and seizure rates persist. Therefore, specific categories of Type II search success rates were further explored in an effort to better understand these racial/ethnic disparities. Table 7.9 reports the search success rates by race/ethnicity for specific types of searches contained with the larger Type II search category. Specifically, search success rates based on drug odor searches, plain view, canine alert, probable cause, and other reasons are reported. As shown, search success rates of Hispanics were the lowest across all categories of Type II searches. Search success rates of Blacks were also lower than those for Caucasians, with the exception of searches based on other reasons. The small number of probable cause/reasonable suspicion searches within specific search reasons, particularly for Hispanics, prohibits statistical significance testing for these comparisons. This information suggests that it is not one specific type of search that is resulting in lower search success rates for minority groups. Rather, all types of probable cause/reasonable suspicion searches are

less likely to result in contraband discoveries for Black and Hispanic drivers compared to Caucasian.

Table 7.9: Racial/Ethnic Differences in Probable Cause/Reasonable Suspicion Search Success Rates by Reason for Search

	# Drug Odor Searches	Drug Odor Search Success Rate	# Plain View Searches	Plain View Search Success Rate	# Canine Alert Searches	Canine Search Success Rate	# Probable Cause/ Reasonable Suspicion Searches	Probable Cause/ Reasonable Suspicion Search Success Rate	# Other Searches	Other Search Success Rate
Caucasian Driver	432	60.4%	235	89.4%	22	72.7%	195	61.5%	122	16.4%
Black Driver	123	57.7%	52	82.7%	27	59.3%	66	56.1%	59	20.3%
Hispanic Driver	29	48.3%	16	50.0%	5	20.0%	29	17.2%	44	4.5%

SPOTLIGHT ON CONSENT SEARCHES

As noted previously, a substantial percentage of PSP searches in 2006 were based *solely* on drivers' consent (43.8%).[21] Yet, of the reasons identified on the Contact Data Report to conduct a search, "solely consent" is one of the least productive search reasons in terms of discovering contraband: only 20.9% of searches based solely on consent resulted in the discovery of contraband. Examining whether consent search success rates vary by race/ethnicity, however, is complex. As noted above, it is ill-advised to utilize the outcome test to assess racial/ethnic bias in consent searches, because ultimately it is the citizen, not the officer, who has final discretion over whether or not these types of searches are conducted. That is, citizens always have the right to refuse. As such, the underlying assumption of the outcome test that officers have full discretion over whether or not to conduct searches is violated. Despite these limitations, in order to allow PSP to better understand consent searches, racial/ethnic differences in consent search success rates are provided with the strong caveat that this information should not be used to assess racial/ethnic discrimination. Therefore, this section includes: 1) an overview of consent searches, 2) an examination of driver and Trooper differences in requests for consent and granting/obtaining consent to search, and 3) an analysis of racial/ethnic differences in consent search success rates.

As demonstrated in Figure 7.2 below, of the 283,827 traffic stops initiated by PSP Troopers in 2006, 2,798 drivers (1.0%) were asked for consent to search.[22]

- Of these 2,798 requests, 82.3% (2,304 requests) resulted in a consent search being conducted, while 17.7% (494) did not. That is, an overwhelming majority of drivers gave their consent to be searched when asked by Troopers.
- Of the 2,304 consent searches that were conducted, 696 resulted in the discovery of contraband (i.e., 30.2% search success rate).
- Of the 2,304 consent searches that were conducted, 41.8% (1,407 searches) were based *solely* on consent; that is, there was no other reason indicated by the Trooper

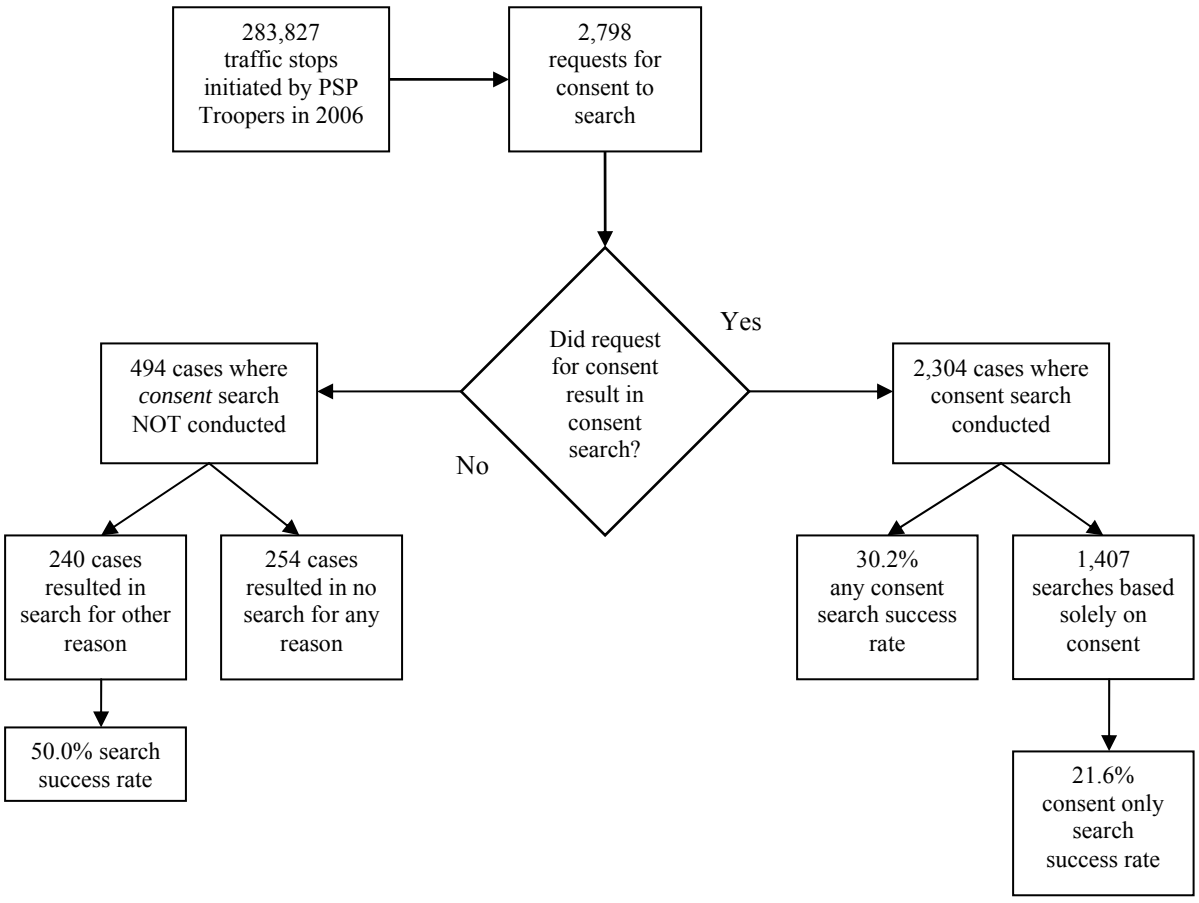
[21] PSP Troopers' heavy reliance on the use of consent searches is due, in part, to the unique case law in Pennsylvania guiding vehicular searches, which does not allow searches based on probable cause without a search warrant.

[22] It was acknowledged in the *Year 1 Report* that the data available at that time could not determine how many drivers were initially asked for consent to search. In an effort to further examine issues regarding consent searches, a new Contact Data Report was developed by PSP administrators, incorporating, among other changes, a new field that captures whether or not a consent search was requested. The new form was officially adopted department-wide October 1, 2003 and analyses focusing on consent searches were first provided in the *Year 2 Report*. These analyses, however, were based on the assumption that if a Trooper requested consent to search and did not subsequently conduct a consent search, the driver must have refused to grant consent. It was revealed during the focus group sessions with PSP Troopers conducted in 2005, however, that although rather infrequent, Troopers who receive consent to search may decide not to search based on other reasons (e.g. called away, changed their minds, etc.). Therefore, it is only known if a consent search was requested and whether or not one was conducted. The electronic data collection method provides a text data field for Troopers to include the reason why a search was not initiated if consent was requested (i.e., refusal, called away, etc.), but the earliest versions of the electronic data collection program did not *require* this data field be completed. The most recent version of the electronic data collection program does require this data field be completed in all cases where consent is requested but no search is initiated. Based on this modification, future reports may be able to assess how often the reason for no search initiated is a refusal versus some other reason.

for the search. Of these 1,407 searches based *solely* on consent, 308 resulted in the discovery of contraband (i.e., 21.6% search success rate).

- Of the 494 consent search requests that did not result in consent searches, 48.5% resulted in a search based on some other reason (240 searches). In these cases, the search success rate was considerably higher than in the cases of searches based on consent. Specifically, 50.0% of the 240 searches where consent was refused but the search was conducted based on another reason resulted in the discovery of contraband.
- The search success rate for the remaining 254 search requests is not calculable because these search requests did not result in a search being conducted for any other reason.

Figure 7.2: 2006 PSP Requests for Consent and Consent Searches



Driver and Trooper Differences in Requests for Consent

As noted above, of the 283,827 traffic stops initiated by PSP Troopers in 2006, 2,798 (1.0%) drivers were asked for consent to search. As shown in Table 7.10, there are significant

differences based on driver and Trooper characteristics in who is asked for consent to search and who requests consent to search.

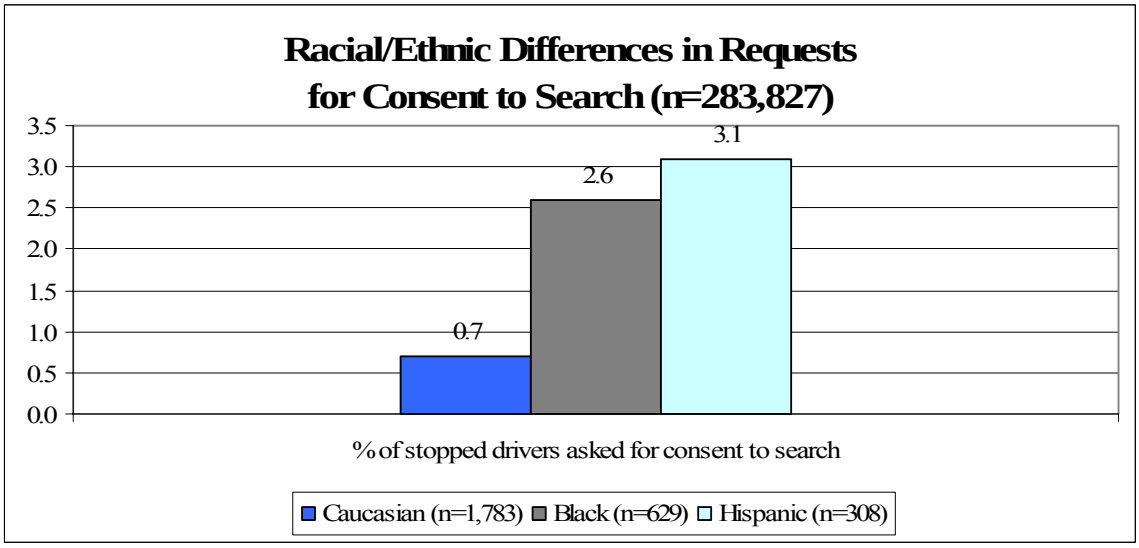
Table 7.10: Trooper and Driver Differences in Requests for Consent

	Total # Requests for Consent to Search	% of Stops Resulting in Request for Consent to Search
All Drivers	2,798	1.0
By Drivers' Characteristics		
Caucasian Driver	1,783	0.7***
Black Driver	629	2.6
Hispanic Driver	308	3.1
Male Driver	2,415	1.2***
Female Driver	381	0.4
Driver 25 years old or under	1352	1.5***
Driver over 25 years old	1442	0.7
Driver PA Resident	2,077	1.0
Driver Non-PA Resident	721	1.0
By Troopers' Characteristics		
Caucasian Trooper	2,600	1.0**
Non-Caucasian Trooper	182	0.8
Male Trooper	2,728	1.0**
Female Trooper	54	0.6
Less than 5 years experience	1,467	1.3***
5 years experience or more	1,315	0.8
No College	768	0.8***
2 Year Degree	767	1.1
4 Year Degree	1,247	1.0

NOTE: * p <.05, ** p < .01, *** p < .001

First, an examination of the drivers' race/ethnicity in Table 7.11 indicates that certain racial/ethnic groups were significantly more likely than others to be asked for consent to search. Specifically, as graphically displayed in Figure 7.3 below, 2.6% of Black drivers and 3.1% of Hispanic drivers were asked for consent to search, compared to only 0.7% of Caucasian drivers.

Figure 7.3: Racial/Ethnic Differences in Requests for Consent to Search (n=283,827)



NOTE: Differences across the racial/ethnic groups presented in this figure are statistically significant at $p \leq .001$

Furthermore, Table 7.10 also reveals significant differences in requests for consent based on driver gender and age. Specifically, male drivers and drivers 25 or younger were significantly more likely to be asked for consent to search than their female and older counterparts. No statistically significant differences in requests for consent were evident based on driver residency. Table 7.10 also shows some significant differences in requests for consent based on Trooper characteristics. *Specifically, Caucasian, male, less experienced, and less educated Troopers were significantly more likely to ask for consent to search compared to minority, female, more experienced, and more educated Troopers.*

Driver and Trooper Differences in Granting and Obtaining Consent

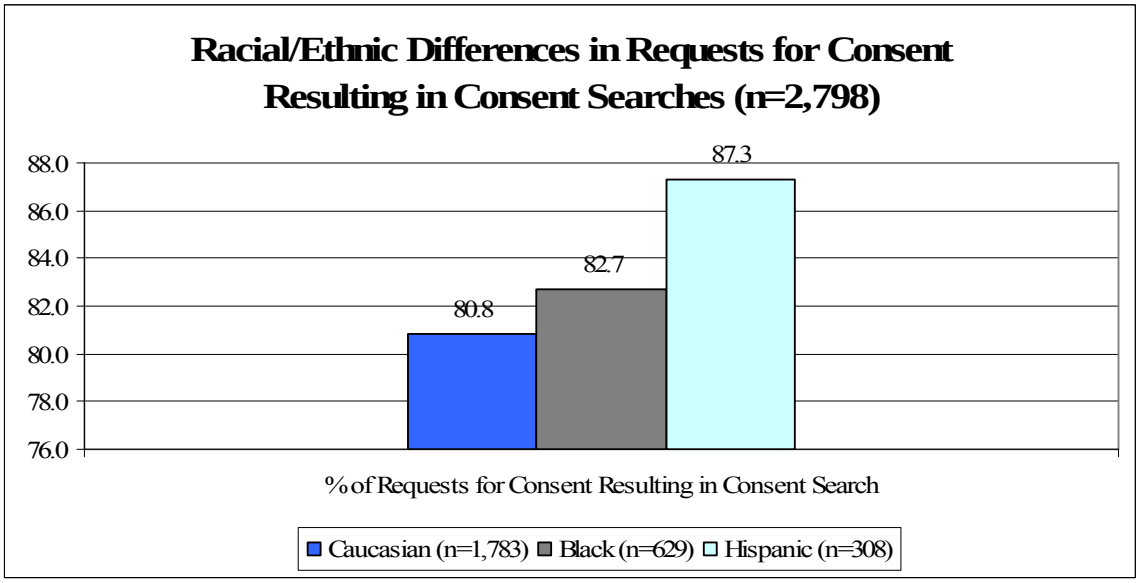
There are also racial/ethnic, gender, age, and residency differences among drivers who gave their consent to be search. Table 7.11 below documents these differences. As shown, Caucasians were significantly less likely to give their consent to be searched compared to other drivers of other races/ethnicities. That is, Blacks and Hispanics were more likely to comply with Troopers' requests to search their persons and/or vehicles compared to Caucasians. These racial/ethnic differences in granting consent are also graphically displayed in Figure 7.4.

Table 7.11: Trooper and Driver Differences in Granting and Obtaining Consent

	Total # Requests for Consent to Search	% Consent Requests Resulting in Consent Search
All Drivers	2,798	82.3
By Drivers' Characteristics		
Caucasian Driver	1,783	80.8*
Black Driver	629	82.7
Hispanic Driver	308	87.3
Male Driver	2,415	82.9**
Female Driver	381	77.2
Driver 25 years old or under	1352	83.7*
Driver over 25 years old	1442	80.6
Driver PA Resident	2,077	81.2*
Driver Non-PA Resident	721	84.7
By Troopers' Characteristics		
Caucasian Trooper	2,600	82.0
Non-Caucasian Trooper	182	81.9
Male Trooper	2,728	82.2
Female Trooper	54	72.2
Less than 5 years experience	1,467	84.2**
5 years experience or more	1,315	79.6
No College	768	82.7
2 Year Degree	767	83.1
4 Year Degree	1,247	81.0

NOTE: * p <.05, ** p < .01, *** p < .001

Figure 7.4: Racial/Ethnic Differences in Requests for Consent Resulting in Consent Searches (n=2,798)



NOTE: Differences across the racial/ethnic groups presented in this figure are statistically significant at $p \leq .001$

Table 7.11 above also shows that male drivers, younger drivers, and out-of-state drivers were significantly more likely to comply with Troopers' requests to search, compared to female drivers, older drivers, and drivers who reside in Pennsylvania, respectively.

In addition, Table 7.11 documents the differences in obtaining consent across different types of troopers. Contrary to the findings that different types of citizens were more/less likely to comply with officers' requests to search, different types of officers were not more or less likely to obtain consent from drivers with but one exception. Troopers with less than five years of experience were significantly more likely to gain consent to search compared to more experienced Troopers (i.e., 84.2% compared to 79.6%). Although the difference between the consent rates for male and female troopers is also large (82.2% compared to 72.2%, respectively), this difference is not statistically significant due in part to the small number of traffic stops in which a female Trooper asked for consent to search (n=54 traffic stops). Differences in Troopers' race/ethnicity and education also had no significant influence over citizens' compliance with requests to search.

Taken together, this information demonstrates that the outcome test should not be used to examine racial/ethnic disparities for consent searches. The inclusion of consent searches in outcome test analyses is especially problematic because, as with mandatory searches, the decision of whether or not to search is not entirely based on the officers' decision (Fridell, 2004; Engel, 2007). Although officers initially decide from whom to *request* a consent search, ultimately it is citizens, not officers, who decide whether or not consent searches are conducted. That is, citizens have the right to refuse search requests, and if the officer has no probable cause to conduct the search, their denial of the police request must be honored. The rates for granting consent to search are not equivalent across racial/ethnic groups. Therefore, for conclusions based on the outcome test, hit rates across racial/ethnic groups should not include searches based solely on consent. Nevertheless, this information is instructive for a better understanding of racial/ethnic differences and can be useful for training purposes.

Therefore, consent search success rates by race/ethnicity are provided below with the strong caveats that they be used for purposes of internal comparisons and training only, and that *no definitive conclusions about racial bias should be drawn from these comparisons*.

Table 7.12 demonstrates significant differences across driver and Trooper characteristics in search success rates for searches based solely on consent and based on any consent (i.e., consent searches including additional reasons identified for the search). As shown in Table 7.12, search success rates for Caucasian drivers who were searched based solely on consent and any consent were significantly more likely to be found in possession of contraband compared to Black and Hispanic drivers. Specifically, 27.4% of searches of Caucasians based solely on consent were successful, compared to 13.9% of searches of Black drivers, and only 7.5% of searches of Hispanic drivers. The search success rates were somewhat higher for searches based on any consent (i.e., consent searches also based upon another reason for search). Searches of Caucasians, however, were still significantly more likely to result in the discovery of contraband (36.7%), compared to searches of Blacks (24.2%) and Hispanics (11.5%).

Table 7.12 also shows that consent searches of younger drivers and Pennsylvania residents were significantly more likely to result in the discovery of contraband compared to searches of older and out-of-state drivers. Some differences in consent search success rates were also evident based on trooper characteristics. Specifically, Caucasian troopers were more likely than minority troopers to recover contraband during any consent searches. Additionally, male troopers and troopers with less experience were more likely than females and troopers with more experience to be successful in recovering contraband during searches based solely on consent. Troopers with a 2-year degree were also significantly more likely to discover contraband during consent-only searches than troopers with no college degree or those with a 4-year degree.

Table 7.12: Consent Search Success Rates by Driver and Trooper Characteristics

	Total # Searches	Total # of Consent Only Searches	Consent Only Search Success Rate	Total # of Any Consent Searches	Any Consent Search Success Rate
All Drivers	3,364	1,407	21.6	2,304	30.2
Driver Characteristics					
Caucasian Driver	2,176	906	27.4***	1,446	36.7***
Black Driver	743	295	13.9	521	24.2
Hispanic Driver	364	159	7.5	269	11.5
Male Driver	2,893	1,233	21.3	2,008	30.0
Female Driver	468	173	23.7	294	31.6
Driver 25 years old or under	1,559	661	25.4***	1,133	36.0***
Driver over 25 years old	1,800	746	18.2	1,167	24.3
Driver PA Resident	2,618	1,008	26.6***	1,692	35.6***
Driver Non-PA Resident	746	399	9.0	612	15.4
Trooper Characteristics					
Caucasian Trooper	3,133	1,325	22.0	2,140	30.5*
Non-Caucasian Trooper	210	77	14.3	149	22.8
Male Trooper	3,275	1,379	21.8*	2,250	30.1
Female Trooper	68	23	4.3	39	23.1
Less than 5 years experience	1,796	754	23.9*	1,240	30.9
5 years experience or more	1,547	648	18.8	1,049	28.9
No College	917	373	18.0*	635	29.3
2 Year Degree	918	411	25.8	641	33.2
4 Year Degree	1,508	618	20.9	1,013	28.3

NOTE: * p <.05, ** p < .01, *** p < .001

It is possible that consent searches of minority drivers are less successful in terms of discovering contraband compared to Caucasians because "guilty" minority drivers are more likely to decline search requests when asked. Examinations of consent search requests when no search was conducted, however, suggest that the opposite is true – Caucasian drivers are significantly less likely to be searched when consent is requested. Therefore, it is highly unlikely that the explanation for the differences in search success rates for consent searches is that "guilty" minority drivers are avoiding detection by refusing consent.

What appears more plausible is that the same causes for the racial/ethnic disparities in search success rates for probable cause/reasonable suspicion searches also pervade consent searches. Unfortunately, traffic stop data are very limited – causal explanations simply cannot be determined with the information available.

SUMMARY

- For the year 2006, PSP Troopers conducted 3,364 searches, or 1.2% of all stops.

- In 2006, most searches (68.5%) by Troopers were conducted based on drivers' consent. In addition, 41.8% of searched drivers were searched based solely on consent. The next most common reasons for a search included odor of drugs (17.5%), incident to arrest (13.7%), inventory (13.5%), plain view (9.2%), and reasonable suspicion and/or probable cause (8.9% of searches).

- Black and Hispanic drivers, males, and drivers 25 and younger were significantly more likely to be searched compared to Caucasian drivers, females, and drivers over 25.

- Racial/ethnic differences in the types of searches (i.e., mandatory, probable cause/reasonable suspicion, and consent) conducted by PSP Troopers were not statistically significant.

- For the year 2006 there were 1,040 seizures of contraband resulting from the 3,364 searches (30.9%).

- A majority of the contraband seized was drug (74.2%), alcohol (13.3%), or cash (7.7%) related.

- Type III searches (i.e., searches based on drivers' consent only) were the least productive in recovering contraband. The search success rate of Type III (consent) searches was 21.6%, compared to 27.3% for Type I (mandatory) searches and 48.9% for Type II (probable cause/reasonable suspicion) searches.

- Probable cause/reasonable suspicion (Type II) searches of minority drivers were less successful in recovering contraband compared to searches of Caucasian drivers. Specifically, 56.2% of searches of Caucasian drivers department-wide resulted in the seizure of contraband, compared to 43.5% of searches of Black drivers, and only 20.0% of searches of Hispanic drivers.

    - An examination of specific categories of Type II search success rates reveals that search success rates for Hispanics were lower than those for Caucasians and Blacks across all categories of Type II searches.

- Of the 283,827 traffic stops initiated by PSP Troopers in 2006, 2,798 drivers (1.0%) were asked for consent to search.

    - Of these 2,798 requests, an overwhelming majority (82.3%) resulted in a consent search being conducted.
    - Of the 2,304 consent searches that were conducted, 696 resulted in the discovery of contraband (i.e., 30.2% search success rate).

- Of the 2,304 consent searches that were conducted, 41.8% (1,407 searches) were based *solely* on consent. Of these, 308 resulted in the discovery of contraband (i.e., 21.6% search success rate).
- Of the 494 consent search requests that did not result in a consent search, 48.5% resulted in a search based on some other reason (240 searches). In these cases, the search success rate was considerably higher than in the cases of searches based on consent. Specifically, 50.0% of these 240 searches resulted in the discovery of contraband.

- Black (2.6%) and Hispanic (3.1%) drivers were significantly more likely than Caucasian (0.7%) drivers to be asked for consent to search.

- Additionally, certain racial/ethnic groups were significantly more likely to grant consent to search when asked. Specifically, only 80.8% of Caucasians gave their consent to be searched, compared to 82.7% of Blacks and 87.3% of Hispanics.

- Consent search success rates by race/ethnicity are provided with the strong caveats that they be used for purposes of internal comparisons and training only, and that *no definitive conclusions about racial bias be drawn from these comparisons*.
  - Caucasian drivers who were searched based solely on consent and any consent were significantly more likely to be found in possession of contraband compared to searched Black and Hispanic drivers.

- These findings cannot be used to determine the legality of and/or the presence of discrimination in individual searches conducted by PSP Troopers.

8. CONCLUSIONS & RECOMMENDATIONS

OVERVIEW

This report documents the findings from statistical analyses of data collected during all member-initiated traffic stops by the Pennsylvania State Police (PSP) from January 1, 2006 – December 31, 2006. These data represent the fifth year of data collection for the Project on Police-Citizen Contacts. Information was collected on either the Contact Data Form or by CDR X-press and collated into one dataset for analysis. The CDR X-press system was pilot tested in early 2006 prior to its rollout in May 2006. As of December 2006, a large majority of stations were using the CDR X-press system. Of the 283,827 CDR and CDR X-press forms included in the final data set, only 2.5% had one or more items missing or invalid, which is below the recommended 5% threshold.

Basic descriptive analyses were conducted on the 283,827 officer-initiated traffic stops and reported at the department, area, troop, and station levels. The trends in these descriptive findings are summarized below:

- Across the department, the majority of traffic stops had the following characteristics:
  - Occurred on a weekday (71.4%)
  - Occurred during the daytime (70.4%)
  - Occurred on a state highway (48.2%) or an interstate (47.6%)
  - Involved a vehicle registered in Pennsylvania (76.0%)
  - Involved vehicles with an average of 0.6 passengers
  - Lasted between 1-15 minutes (89.0%)
  - September and April accounted for the largest percentages of traffic stops

- Across the department, characteristics of the stop included:
  - The most frequent violation observed prior to traffic stops was speeding (69.8%), followed by moving violations (17.2%), equipment inspections (8.8%), and registration (3.2%)
  - Average speed over the limit was 19.1 mph

- Across the department, characteristics of the drivers included:
  - Average age of 35.1 years
  - 68.8% male
  - White (84.2%), Black (8.5%), White Hispanic (3.1%), Black Hispanic (0.4%), Middle Eastern (1.9%), Asian/Pacific Islander (1.6%), unknown race/ethnicity or missing data (0.5%)
  - Non-resident of municipality in which they were stopped (95.5%), non-resident of county in which they were stopped (64.4%), and non-Pennsylvania resident (24.9%)

- Across the department, traffic stop outcomes can be summarized by the following characteristics:
  - 12.0% of stops resulted in a warning issued only to the driver as the most severe outcome
  - 25.7% of stops resulted in a warning issued to the driver

- 86.4% of stops resulted in a citation issued only to the driver as the most severe outcome
- 87.2% of stops resulted in a citation issued to the driver
- 1.5% of stops resulted in the arrest of the driver
- 1.2% of stops resulted in a search of either the occupant(s) and/or the vehicle
- Of the searches conducted, 30.9% resulted in the discovery of contraband

In addition to analyzing the 2006 traffic stops, data collected between 2002 and 2006 at the area, troop, station, and county levels were also analyzed. It is important to note that the following results are descriptive and, even when based on statistical testing, cannot be used to determine the causes of the trends reported. Key findings include:

- After two years of steady decline in the statewide number of traffic stops initiated by PSP personnel (from 317,920 in 2003 to 272,670 in 2005), there was a 4.1% increase in 2006 to 283,827 stops. Nevertheless, this still represents a 10.7% decline in the number of member-initiated stops between 2003 and 2006 (this summary does not include traffic stops initiated in 2002 due to only eight months of data collection during that year).

- Between 2002 and 2006, Caucasian drivers made up roughly 85% of all traffic stops, Black drivers accounted for approximately 8%, and Hispanic drivers represented roughly 3% of all traffic stops, with only slight variation in percentages from year to year.

- The percentages of Black and Hispanic drivers stopped varied increasingly as more specific organizational units were examined (i.e., areas, troops, and stations); as a result, a more thorough analysis at the station level was conducted. This included both a visual trend across all five years at the station level and a binomial analysis for all stations and counties.
  - The results of the binomial analyses highlighted ten stations that had statistically significant elevated rates of stops of Black drivers in at least three comparisons between their 2006 rate and the rate in previous years.
    - These stations are: Belfast, Carlisle, Clarion, Harrisburg, Mercer, Montoursville, Skippack, Swiftwater, Trevose, and York.
  - Similar analyses of Hispanic drivers stopped revealed that six stations had statistically significant elevated rates of stops of Hispanic drivers in at least three comparisons between their 2006 rate and the rate in previous years.
    - These stations are: Bethlehem, Fogelsville, Lancaster, Skippack, Trevose, and Tunkhannock.

- Binomial statistical analyses were also conducted at the county level.
  - The results of county analyses highlighted seven Pennsylvania counties with statistically significant increases in their 2006 rates of traffic stops of Black drivers compared to the previous years.
    - These counties are: Lehigh, Lycoming, Mercer, Monroe, Montgomery, Northampton, and York.

- Similar analyses of Hispanic drivers stopped revealed that six counties had statistically significant elevated rates of stops of Hispanic drivers in 2006 compared to the previous years.
    - These counties are: Butler, Lancaster, Lehigh, Luzerne, Schuylkill, and Warren.

Apart from the trend analyses, the 2006 post-stop outcomes were examined in detail. This process involved both bivariate analyses and multivariate analyses. Bivariate analyses consider the relationship between only two factors, such as the race/ethnicity or gender of the driver and the outcome of the stop (i.e., warning, citation, arrest, or search). Multivariate statistical models take many different factors into account when attempting to explain a particular behavior. Unlike a bivariate model, they do not simply assess the relationship between two variables. Rather, multivariate models examine many variables simultaneously, and therefore provide a more thorough and accurate interpretation of the data. Both of these analyses were conducted on the 2006 data.

- **Bivariate Analysis**
    - At the department level, Hispanic drivers were the most likely to be given a citation (89.4% of all stops) compared to Black (88.2%) and Caucasian (86.7%) drivers.
    - Hispanic drivers were also more likely to be arrested (2.2% of stops) compared to Caucasian (1.6%) and Black (1.5%) drivers.
    - Additionally, Hispanic drivers were more likely to be searched (3.7% of stops) compared to Black (3.1%) and Caucasian (0.9%) drivers.
    - At the department level, male drivers were more likely to be cited (87.3% of stops), arrested (1.8%), and searched (1.5%) compared to female drivers (86.8% cited, 0.9% arrested, and 0.5% searched).
    - These patterns and trends varied somewhat at the area level and more so at the troop and station levels.
    - PSP supervisors should review findings at multiple levels within the organization for the best understanding of trends of racial/ethnic disparities in warnings and citations within their jurisdictions.

- **Multivariate Analyses**
    - **Warnings**
        - Hispanic and "other" drivers were significantly *less* likely than Caucasian drivers to be issued warnings.
        - Specifically, Hispanic drivers were 1.4 times *less* likely compared to Caucasian drivers to receive warnings during traffic stops not involving arrests. Likewise, Asian, Native American, and Middle Eastern drivers were 1.5 times *less* likely compared to Caucasians drivers to receive warnings.

    - **Citations**
        - Asian, Native American, and Middle Eastern drivers, collectively, were 1.3 times *more* likely to be cited than their Caucasian counterparts.

        - No other race/ethnicity effect was reported in the multivariate analyses of citations.

    - **Arrests**
        - Black and Hispanic drivers were <u>not</u> significantly more likely to be arrested compared to Caucasian drivers.
        - Native American, Asian, and Middle Eastern drivers collectively were 2.1 times *less* likely than Caucasians to be arrested in similar situations.

    - **Searches**
        - Black and Hispanic drivers were 2.8 and 2.4 times *more* likely to be searched than Caucasian drivers in similar situations.
        - There was no statistical relationship between Native American, Asian, and Middle Eastern drivers collectively and the likelihood of a search.

The results of the bivariate and multivariate analyses do not definitively provide evidence of racial bias, but do demonstrate disparity for particular racial/ethnic groups for specific traffic stop outcomes. These post-stop outcomes were also assessed across multiple years of data collection (i.e., 2002-2006).

- Department-wide between 2002 and 2006, the rates of drivers warned declined across the first four years of data collection (from 27.0% in 2002 to 24.6% in 2005), prior to rising to 25.7% in 2006.

- Demonstrating an inverse relationship to warnings, the citation rate increased during the same time period, from a low of 82.8% in 2002 to 88.1% in 2005, before a small decline to 87.2% in 2006.

- During the same time period, arrests, searches, and the discovery of contraband all demonstrated increases in 2006. The 2006 arrest rate (1.5%) nearly doubled from 2005 (0.8%), and nearly tripled from 2002 (0.6%). The 2006 search rate (1.2%) only increased slightly from 2005 (1.1%), but has risen from 0.8% in 2002. Finally, the seizure rate has steadily increased since 2004 to a high of 30.9% in 2006, after an initial decline from 2002 to 2004. It is important to remember, however, that the research team believes the data reported for these more serious outcomes were being underreported before being corrected by PSP administrators in September 2005.

- Similar to the patterns for traffic stops, post-stop outcomes varied more noticeably at increasingly specific organizational units (i.e., areas, troops, and stations).

- It is also important to examine trends in traffic stop outcomes across racial/ethnic groups:

- **Warnings**
  - Warnings issued to Caucasians declined between 2002 (28.0% of traffic stops) and 2005 (24.8%), prior to an increase in 2006 (26.0%).
  - Black drivers exhibited an opposite pattern, with a slight decrease in warnings only in 2004. Specifically, the rate of Black drivers receiving a warning increased to a high in 2006 of 25.7% from a low in 2002 of 23.3%.
  - For Hispanic drivers, the trend has been steadily increasing since 2003 (23.1%) and peaked in the last two years at 26.1% and 26.0%, respectively.
  - Initial differences in the rate of warnings for each racial/ethnic group have greatly diminished over time, as the rate of warnings in 2006 was nearly equivalent for Caucasians, Blacks, and Hispanics.

- **Citations**
  - Across all five years, Caucasians were consistently the least cited racial/ethnic group, although that gap – particularly between Caucasians and Blacks – narrowed considerably in 2005 (87.8% and 88.0%, respectively) before widening again in 2006 (86.7% and 88.2%).
  - Hispanics are consistently the most cited racial/ethnic group (89.4% in 2006).

- **Arrests**
  - Hispanic drivers consistently have the highest proportion of arrests compared to Caucasians and Blacks. Specifically, in 2006, the gap between Caucasian and Hispanic drivers arrested increased, while the proportion of Black drivers arrested fell below the proportion of Caucasian drivers arrested.
  - Furthermore, due to the corrections in data collection for arrests, searches, and seizures previously mentioned, the rate of arrest for all racial ethnic groups increased dramatically from 2005 to 2006 (e.g., 0.8% to 1.6% for Caucasians, 1.0% to 1.5% for Blacks, and 1.2% to 2.2% for Hispanics).

- **Searches**
  - Between 2002 and 2006, Hispanic drivers had the highest rate of searches compared to other racial/ethnic groups.
  - Black drivers were also searched at levels much higher than Caucasian drivers.
  - Increases in the rate of searches for all racial/ethnic groups were evident between 2002 and 2006.

- **Seizures**
  - Consistently, searches of Caucasian drivers produced the highest rate of success compared to Black and Hispanic drivers.

- Between 2002 and 2006, Black drivers had between 5 and 10 percent lower hit rates and Hispanic drivers had between 15 and 20 percent lower hit rates compared to Caucasian drivers.

There are a number of possible explanations (legitimate and illegitimate) for these racial disparities in post-stop outcomes. The rates presented in this section are simply descriptive and do not take into account other factors that may contribute to these racial/ethnic differences. As a result, any interpretation of these findings must be made with caution.

Further analyses were conducted on 2006 search and seizure activity.

- For the year 2006, PSP Troopers conducted 3,364 searches, or 1.2% of all stops.

- In 2006, most searches (68.5%) by Troopers were conducted based on drivers' consent. In addition, 41.8% of searched drivers were searched based solely on consent. The next most common reasons for a search included odor of drugs (17.5%), incident to arrest (13.7%), inventory (13.5%), plain view (9.2%), and reasonable suspicion and/or probable cause (8.9% of searches).

- Black and Hispanic drivers, males, and drivers 25 and younger were significantly more likely to be searched compared to Caucasian drivers, females, and drivers over 25.

- Racial/ethnic differences in the types of searches (i.e., mandatory, probable cause/reasonable suspicion, and consent) conducted by PSP Troopers were not statistically significant.

- For the year 2006 there were 1,040 seizures of contraband resulting from the 3,364 searches (30.9%).

- A majority of the contraband seized was drug (74.2%), alcohol (13.3%), or cash (7.7%) related.

- Type III searches (i.e., searches based on drivers' consent only) were the least productive in recovering contraband. The search success rate of Type III (consent) searches was 21.6%, compared to 27.3% for Type I (mandatory) searches and 48.9% for Type II (probable cause/reasonable suspicion) searches.

- Probable cause/reasonable suspicion (Type II) searches of minority drivers were less successful in recovering contraband compared to searches of Caucasian drivers. Specifically, 56.2% of searches of Caucasian drivers department-wide resulted in the seizure of contraband, compared to 43.5% of searches of Black drivers, and only 20.0% of searches of Hispanic drivers.

- An examination of specific categories of Type II search success rates reveals that search success rates for Hispanics were lower than those for Caucasians and Blacks across all categories of Type II searches.

- Of the 283,827 traffic stops initiated by PSP Troopers in 2006, 2,798 drivers (1.0%) were asked for consent to search.

  - Of these 2,798 requests, an overwhelming majority (82.3%) resulted in a consent search being conducted.
  - Of the 2,304 consent searches that were conducted, 696 resulted in the discovery of contraband (i.e., 30.2% search success rate).
  - Of the 2,304 consent searches that were conducted, 41.8% (1,407 searches) were based *solely* on consent. Of these, 308 resulted in the discovery of contraband (i.e., 21.6% search success rate).
  - Of the 494 consent search requests that did not result in a consent search, 48.5% resulted in a search based on some other reason (240 searches). In these cases, the search success rate was considerably higher than in the cases of searches based on consent. Specifically, 50.0% of these 240 searches resulted in the discovery of contraband.

- Black (2.6%) and Hispanic (3.1%) drivers were significantly more likely than Caucasian (0.7%) drivers to be asked for consent to search.

- Additionally, certain racial/ethnic groups were significantly more likely to grant consent to search when asked. Specifically, only 80.8% of Caucasians gave their consent to be searched, compared to 82.7% of Blacks and 87.3% of Hispanics.

- Consent search success rates by race/ethnicity are provided with the strong caveats that they be used for purposes of internal comparisons and training only, and that *no definitive conclusions about racial bias should be drawn from these comparisons*.
  - Caucasian drivers who were searched based on solely consent and any consent were significantly more likely to be found in possession of contraband compared to searched Black and Hispanic drivers.

It is important to remember, however, that the findings presented above are bivariate in nature (i.e., they do not take into account other extralegal and legal factors that might have a significant influence over search success rates). Furthermore, the information presented above cannot determine the legality of and/or the presence of discrimination in individual searches conducted by PSP Troopers.

RECOMMENDATIONS

As documented in Section 1, based on the findings from the *Years 3 & 4 Final Report*, the Pennsylvania State Police implemented a series of policy and training recommendations as they have also done in response to previous final reports. In this respect, the Pennsylvania State Police have continued an innovative and professional approach to understanding and

altering racial/ethnic disparities in traffic stop outcomes. The continued racial/ethnic disparities in stop outcomes, particularly searches and seizures, however, could indicate that additional work is still needed to ensure that PSP Troopers display equitable treatment across racial/ethnic groups and maintain their legitimacy among the citizens of the Pennsylvania Commonwealth. With this goal in mind, the following recommendations are made:

- During 2006, PSP began the transition from collecting all information regarding traffic stops on paper forms (i.e., CDR) to a system in which the information was electronically gathered (i.e., the CDR X-press system). Based on data collected in December 2007, 91.3% of the data was supplied by the CDR X-press system. Four stations, however, utilized the CDR X-press infrequently: Gibson, Lamar, Tunkhannock, & Washington. PSP administrators need to prioritize the full implementation of the CDR X-press system in these four stations and continue to monitor the electronic data collection in the remaining stations.

- PSP administrators should examine the specific stations identified in Section 4 of this report, which demonstrate statistically significant increases in the percentages of Black and Hispanic drivers compared to previous years. There are a number of reasons that might account for these differences. It is recommended that PSP managers explore to the best of their abilities the reasons that might account for these differences.

- PSP administrators should examine the racial/ethnic disparities reported in search and seizure rates across areas, troops, and stations to begin to better understand where and why these disparities exist. Again, there are several possible explanations for these elevated rates that can only be determined based on local knowledge of the area and additional information that included in the Contact Data Reports.

- Continued monitoring of racial/ethnic disparities in traffic stop outcomes, particularly searches and seizures, remains necessary. One method to further inform this issue would be to conduct additional focus groups with PSP Troopers, with the primary goal to more specifically discuss reasons why there are consistent disparities in Hispanic (and to some extent Black) search success rates compared to Whites. The initial focus groups with Troopers conducted in 2005 provided valuable information that would be supplemented with follow-up discussions.

- As communities develop, their racial/ethnic composition often changes. It is important to ensure that minority groups are proportionately represented within the PSP. Although recruiting minorities can be challenging at times, PSP administrators should examine this issue to ensure that all possible efforts are being made to maintain proportionate racial/ethnic representation within its personnel.

- Finally, it is recommended that the PSP continue to collect and analyze traffic stop data. By comparing multiple years of traffic stop data, it is possible to determine the relative effectiveness of any new policies and training on the rates of searches and seizures of minority drivers. Further, continual monitoring of traffic stops provides

valuable information to the organization, while simultaneously institutionalizing a culture within the organization that inspires fair and equitable policing.

PSP officials remain committed to both the data collection effort and the larger goals of reducing racial/ethnic disparities in traffic stops and post-stop outcomes, as well as providing legitimate and unbiased policing services to citizens of the Commonwealth of Pennsylvania. This commitment has been demonstrated by their ongoing data collection efforts (currently contracted until December 31, 2009) and their continued responsiveness to the UC research team's recommendations. Racial and ethnic disparities in traffic stops and post-stop outcomes are very rare within this agency. The only remaining areas in need of improvement are searches and seizures. The racial/ethnic disparities in searches and seizures reported for PSP are consistent with findings from numerous other state and local police agencies. This suggests that rather than individual police officer bias, there are larger cultural and/or organizational explanations for these disparities – particularly for searches of Hispanic drivers. In summary, it is recommended that PSP officials continue their now well-established data collection process and supplement this data collection with qualitative information from Troopers engaging searches.

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10. APPENDIX A

In the following tables, the results of a binomial analysis are presented for Black and Hispanic drivers across all stations and counties. Table A.1 reports Black drivers at the station level, Table A.2 summarizes the rate of Hispanic drivers across all stations, and Tables A.3 & A.4 focus on the county level and present the binomial results for Black and Hispanic drivers, respectively. The first five columns report the number of traffic stops of the minority group. In the next five columns, the percent of stops of each minority group are reported for all five years. The final four columns report whether there was a significant change in the rate of stops in previous years compared to 2006. Importantly, these columns reflect the analysis between the rate of traffic stops in 2002 and 2006, the rate of traffic stops in 2003 and 2006, the rate of traffic stops in 2004 and 2006, and the rate of traffic stops in 2005 and 2006, respectively. The results are characterized by the following symbols:

- "No" indicates that no statistically significant change occurred between the years analyzed
- "+" indicates that there was a statistically significant **increase** in the 2006 rate of traffic stops compared to the earlier year
- "-" indicates that there was a statistically significant **decrease** in the 2006 rate of traffic stops compared to the earlier year
- "n/a" indicates no comparison was conducted due to an unstable rate of traffic stops

Based on these categorizations, each jurisdiction was compared in four independent analyses. In this manner, the change in rates of traffic stops for each minority group from year to year is compared with the most recent year (i.e., 2006). This analysis reports the trends in each jurisdiction and whether any change is statistically significant.

Importantly, a statistically significant increase in the rate of stopping a minority group cannot be used to conclude the existence of officer bias. There are a variety of potential explanations for a change in the rate of minority stops that include but are not limited to racial bias. For example, changes in the rate of stops could occur as a result of:

- Changes in the racial/ethnic composition of residential populations, altering the racial/ethnic composition of drivers eligible to be stopped.
- Other changes in travel patterns which differentially impact the percentages of minority drivers on particular roadways.
- Changes in PSP deployment patterns and manpower allocation to address changes in reported criminal patterns and calls for service, resulting in higher concentrations of officers in areas where minorities are more likely to travel and/or violate the law.
- Changes in officer bias toward minority drivers.
- Changes in the data collection system.

These analyses are useful to identify trends across time and areas that may need further examination to assess the validity of the aforementioned explanations.

Table 10.1: Binomial Analyses of Traffic Stops of Black Drivers by Station – 2002-2006 (p. 1 of 3)

	# Stops					% Stops					Significant Change 2002-2006	Significant Change 2003-2006	Significant Change 2004-2006	Significant Change 2005-2006
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006				
Avondale	285	303	298	258	362	10.3	9.6	9.9	9.4	11.5	**No**	**+**	**No**	**+**
Beaver	168	197	153	156	199	6.9	6.8	6.6	6.7	8.3	**No**	**No**	**No**	**No**
Bedford	86	133	128	128	163	5.0	4.2	4.1	4.2	5.2	**No**	**No**	**No**	**No**
Belfast	204	269	293	298	300	8.6	8.9	9.3	9.5	12.7	**+**	**+**	**+**	**+**
Belle Vernon	168	270	244	221	112	6.9	6.7	8.0	9.3	6.5	**No**	**No**	**No**	**-**
Bethlehem	130	167	371	327	224	6.6	7.2	8.4	9.6	9.8	**+**	**+**	**No**	**No**
Blooming Grove	62	143	144	103	129	5.2	5.4	5.6	5.4	6.4	**No**	**No**	**No**	**No**
Bloomsburg	197	351	308	229	232	9.5	11.0	10.7	11.3	9.5	**No**	**No**	**No**	**No**
Bowmansville	895	1,203	840	715	789	12.9	12.6	13.1	12.3	12.4	**No**	**No**	**No**	**No**
Butler	95	154	131	159	140	3.3	2.9	3.1	4.0	3.7	**No**	**No**	**No**	**No**
Carlisle	143	241	435	394	554	6.6	7.1	7.3	7.6	8.6	**+**	**+**	**+**	**No**
Chambersburg	178	222	294	231	298	7.7	6.1	5.8	6.2	5.7	**-**	**No**	**No**	**No**
Clarion	435	629	505	424	469	10.4	10.4	10.3	12.0	12.1	**+**	**+**	**+**	**No**
Clearfield	350	480	348	286	374	9.1	8.3	6.8	7.8	9.2	**No**	**No**	**+**	**No**
Corry	5	22	36	7	9	0.8	1.9	3.0	0.8	1.0	**No**	**No**	**-**	**No**
Coudersport	9	13	16	6	17	0.6	0.8	1.1	0.4	0.8	**No**	**No**	**No**	**No**
Dublin	37	101	127	125	105	2.0	2.5	3.0	4.0	3.7	**+**	**+**	**No**	**No**
Dubois	325	384	314	203	187	8.8	9.1	10.3	9.1	8.9	**No**	**No**	**No**	**No**
Dunmore	186	170	186	207	184	7.1	5.8	6.7	6.8	6.2	**No**	**No**	**No**	**No**
Ebensburg	61	101	78	90	111	3.3	2.8	2.5	2.2	2.5	**No**	**No**	**No**	**No**
Embreeville	274	332	316	357	443	12.9	12.1	13.2	14.9	13.2	**No**	**No**	**No**	**No**
Emporium	6	8	5	5	3	0.6	0.6	0.4	0.5	0.4	**No**	**No**	**No**	**No**
Ephrata	81	97	66	74	56	6.5	6.9	6.8	7.3	4.8	**No**	**No**	**No**	**No**
Erie	135	199	226	141	171	5.9	4.9	5.2	5.2	5.6	**No**	**No**	**No**	**No**
Everett	1,180	1,490	1,184	1,413	1,541	13.9	14.2	15.2	14.7	15.4	**+**	**+**	**No**	**No**
Fern Ridge	149	165	302	194	166	10.3	10.0	11.0	10.3	10.8	**No**	**No**	**No**	**No**
Findlay	376	603	371	389	420	7.6	8.3	8.4	8.4	9.0	**+**	**No**	**No**	**No**
Fogelsville	263	383	468	451	521	9.6	8.8	9.1	9.2	10.3	**No**	**+**	**No**	**No**
Frackville	91	64	29	53	94	5.4	3.9	3.0	6.1	5.9	**No**	**+**	**+**	**No**
Franklin	20	21	75	82	69	1.7	1.0	2.5	5.0	3.2	**+**	**+**	**No**	**-**

Table 10.1: Binomial Analyses of Traffic Stops of Black Drivers by Station – 2002-2006 (p. 2 of 3)

	# Stops					% Stops					Significant Change 2002-2006	Significant Change 2003-2006	Significant Change 2004-2006	Significant Change 2005-2006
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006				
Gettysburg	68	99	149	141	133	4.8	5.4	5.0	5.3	5.3	No	No	No	No
Gibson	116	130	192	136	146	9.7	8.4	9.2	8.9	8.6	No	No	No	No
Gibsonia	514	838	845	824	719	11.7	9.7	10.4	10.4	10.2	-	No	No	No
Girard	193	269	197	171	125	6.3	6.3	5.3	6.2	5.5	No	No	No	No
Greensburg	95	177	99	101	134	2.7	3.3	2.4	2.6	2.4	No	-	No	No
Hamburg	136	156	157	170	135	10.0	9.8	8.7	8.5	7.9	No	No	No	No
Harrisburg	268	312	278	294	337	7.1	7.3	7.2	8.9	9.4	+	+	+	No
Hazleton	222	280	282	247	321	8.1	10.0	8.7	7.9	9.1	No	No	No	No
Highspire	1	4	1	6	3	8.3	14.8	33.3	13.3	12.5	No	No	No	No
Hollidaysburg	100	114	141	143	170	4.8	3.6	4.5	5.0	5.7	No	+	No	No
Honesdale	29	60	46	56	61	2.5	2.1	2.2	2.8	3.4	No	+	No	No
Huntingdon	30	37	44	39	33	2.5	1.7	2.0	2.1	2.1	No	No	No	No
Indiana	73	111	131	88	176	3.4	3.1	3.3	3.4	4.1	No	+	No	No
Jonestown	180	240	243	277	193	9.0	8.2	8.9	8.7	7.5	No	No	No	No
Kane	22	17	38	25	21	1.7	0.9	2.5	1.8	1.4	No	No	No	No
King of Prussia	505	755	708	630	692	10.0	10.2	10.5	10.2	10.5	No	No	No	No
Kiski Valley	90	220	130	126	134	5.9	7.9	5.2	4.6	5.7	No	-	No	No
Kittanning	74	136	229	234	220	3.7	5.0	5.5	6.4	6.5	+	+	No	No
Lamar	213	312	306	158	138	8.7	9.2	8.9	9.5	8.5	No	No	No	No
Lancaster	209	105	118	203	238	6.4	5.0	5.6	6.5	6.7	No	+	No	No
Laporte	11	11	14	14	10	1.2	0.7	1.0	1.0	0.8	No	No	No	No
Lehighton	22	61	81	78	70	2.6	2.5	3.2	3.3	3.5	No	No	No	No
Lewistown	70	118	111	121	134	3.0	4.0	4.5	3.8	3.5	No	No	No	No
Lykens	9	16	12	14	17	1.2	1.7	1.0	0.9	1.5	No	No	No	No
Mansfield	39	43	53	43	58	4.1	2.8	3.8	3.5	4.6	No	+	No	No
McConnellsburg	216	350	266	254	424	15.6	13.7	13.1	12.0	13.4	-	No	No	No
Meadville	195	151	194	297	296	6.4	5.6	5.9	6.8	6.4	No	No	No	No
Media	784	877	820	496	824	18.3	17.1	21.4	19.3	20.2	+	+	No	No
Mercer	194	230	289	243	310	10.1	9.0	9.4	9.7	13.3	+	+	+	+
Milton	248	199	222	150	225	9.4	8.3	7.7	7.1	8.5	No	No	No	No

Table 10.1: Binomial Analyses of Traffic Stops of Black Drivers by Station – 2002-2006 (p. 3 of 3)

	# Stops					% Stops					Significant Change 2002-2006	Significant Change 2003-2006	Significant Change 2004-2006	Significant Change 2005-2006
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006				
Montoursville	118	201	298	138	130	3.9	4.4	4.3	3.4	7.6	+	+	+	+
New Castle	78	104	116	109	133	6.7	6.0	5.4	6.3	7.5	No	No	+	No
New Stanton	348	798	841	875	1,052	9.1	8.7	10.8	10.8	11.1	+	+	No	No
Newport	39	48	86	104	128	3.3	3.7	4.2	4.5	4.9	+	No	No	No
Newville	1,083	1,479	1,223	960	972	12.8	13.2	12.3	11.2	13.1	No	No	No	+
Philadelphia	530	824	662	768	1,469	25.1	23.7	24.3	24.6	25.5	No	No	No	No
Philipsburg	44	67	109	105	89	2.7	2.5	3.9	4.2	3.6	No	No	No	No
Pocono	318	417	336	352	407	6.0	6.5	7.9	6.7	7.6	+	No	No	No
Punxsutawney	83	105	74	61	27	3.3	3.1	3.1	3.0	1.6	-	-	-	-
Reading	78	130	100	72	72	4.0	5.1	5.2	5.6	4.7	No	No	No	No
Ridgway	35	43	57	27	23	1.9	1.8	2.5	1.4	0.9	-	-	-	No
Rockview	323	302	180	281	249	7.7	5.5	4.6	5.0	4.4	-	-	No	No
SchuylkillHaven	33	21	37	42	41	3.0	1.5	2.3	2.8	2.7	No	No	No	No
Selinsgrove	160	169	116	107	118	4.9	4.0	3.7	3.8	4.8	No	No	No	No
Shickshinny	8	17	34	24	24	1.1	1.7	3.4	2.2	2.2	No	No	No	No
Skippack	232	360	399	288	369	10.5	8.9	9.0	10.7	12.4	+	+	+	No
Somerset (A)	8	23	33	29	27	0.7	1.1	1.6	1.2	1.3	No	No	No	No
Somerset (T)	1,212	1,380	1,057	920	1,109	15.3	15.3	14.6	13.8	14.7	No	No	No	No
Stonington	10	15	10	11	21	0.8	0.9	0.7	1.0	1.5	No	No	No	No
Swiftwater	525	652	530	536	649	13.2	13.4	13.8	15.4	15.6	+	+	+	No
Tionesta	10	14	39	21	21	0.5	0.6	1.9	0.9	1.2	No	No	No	No
Towanda	9	21	9	31	20	0.8	1.3	0.5	1.3	0.8	No	No	No	No
Trevose	302	520	427	345	382	16.3	16.3	13.0	16.5	19.3	+	+	+	No
Tunkhannock	9	9	12	12	9	1.2	0.7	0.8	1.1	0.9	No	No	No	No
Uniontown	186	200	226	285	221	5.6	5.9	5.7	5.3	4.7	No	-	No	No
Warren	3	7	7	4	10	0.6	0.5	0.4	0.4	0.8	No	No	No	No
Washington	302	365	332	314	321	6.1	7.1	6.2	6.2	7.4	+	No	No	No
Waynesburg	85	122	99	106	90	5.0	4.2	3.8	4.8	4.6	No	No	No	No
Wyoming	98	116	118	89	110	5.1	4.6	4.7	5.3	5.5	No	No	No	No
York	364	323	443	437	723	10.4	9.5	9.1	10.0	13.5	+	+	+	+

Table 10.2: Binomial Analyses of Traffic Stops of Hispanic Drivers by Station – 2002-2006 (p. 1 of 3)

	# Stops					% Stops					Significant Change 2002-2006	Significant Change 2003-2006	Significant Change 2004-2006	Significant Change 2005-2006
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006				
Avondale	309	329	432	427	414	11.2	10.4	14.4	15.6	13.2	+	+	No	-
Beaver	17	9	11	7	11	0.7	0.3	0.5	0.3	0.5	No	No	No	No
Bedford	11	37	26	28	33	0.6	1.2	0.8	0.9	1.0	No	No	No	No
Belfast	202	246	322	366	273	8.5	8.2	10.2	11.6	11.5	+	+	No	No
Belle Vernon	30	30	30	31	20	1.2	0.7	1.0	1.3	1.2	No	No	No	No
Bethlehem	165	190	455	419	315	8.3	8.2	10.3	12.3	13.7	+	+	+	No
Blooming Grove	39	74	102	81	93	3.3	2.8	4.0	4.3	4.6	No	+	No	No
Bloomsburg	136	150	149	87	121	6.6	4.7	5.2	4.3	5.0	No	No	No	No
Bowmansville	312	421	284	252	326	4.5	4.4	4.4	4.3	5.1	No	No	No	No
Butler	33	26	17	18	36	1.2	0.5	0.4	0.4	1.0	No	No	+	+
Carlisle	63	96	215	225	257	2.9	2.8	3.6	4.3	4.0	+	+	No	No
Chambersburg	80	124	164	157	173	3.5	3.4	3.3	4.2	3.3	No	No	No	No
Clarion	219	296	273	201	207	5.2	4.9	5.6	5.7	5.4	No	No	No	No
Clearfield	140	177	188	125	174	3.6	3.0	3.7	3.4	4.3	No	+	No	No
Corry	2	4	7	4	5	0.3	0.3	0.6	0.5	0.5	No	No	No	No
Coudersport	2	8	9	5	11	0.1	0.5	0.6	0.4	0.5	+	No	No	No
Dublin	60	146	192	144	152	3.2	3.5	4.6	4.6	5.4	+	+	No	No
Dubois	204	217	145	118	113	5.5	5.1	4.7	5.3	5.4	No	No	No	No
Dunmore	65	108	110	125	119	2.5	3.7	3.9	4.1	4.0	+	No	No	No
Ebensburg	11	17	18	12	17	0.6	0.5	0.6	0.3	0.4	No	No	No	No
Embreeville	104	150	127	152	199	4.9	5.5	5.3	6.3	5.9	No	No	No	No
Emporium	2	3	2	1	5	0.2	0.2	0.2	0.1	0.6	No	No	No	No
Ephrata	101	98	89	98	88	8.1	7.0	9.1	9.7	7.6	No	No	No	No
Erie	38	57	60	38	54	1.7	1.4	1.4	1.4	1.8	No	No	No	No
Everett	237	306	256	317	334	2.8	2.9	3.3	3.3	3.3	No	No	No	No
Fern Ridge	81	131	234	156	137	5.6	7.9	8.5	8.3	8.9	+	No	No	No
Findlay	38	55	39	30	39	0.8	0.8	0.9	0.6	0.8	No	No	No	No
Fogelsville	256	390	546	585	622	9.3	9.0	10.6	11.9	12.3	+	+	+	No
Frackville	48	47	35	31	79	2.8	2.9	3.7	3.6	5.0	+	+	No	No
Franklin	8	12	35	30	44	0.7	0.6	1.2	1.8	2.0	+	+	No	No

Table 10.2: Binomial Analyses of Traffic Stops of Hispanic Drivers by Station – 2002-2006 (p. 2 of 3)

	# Stops					% Stops					Significant Change 2002-2006	Significant Change 2003-2006	Significant Change 2004-2006	Significant Change 2005-2006
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006				
Gettysburg	77	103	130	146	151	5.4	5.6	4.4	5.4	6.0	**No**	**No**	**+**	**No**
Gibson	40	41	66	55	44	3.3	2.7	3.2	3.6	2.6	**No**	**No**	**No**	**No**
Gibsonia	74	166	158	136	152	1.7	1.9	1.9	1.7	2.2	**No**	**No**	**No**	**No**
Girard	40	77	49	42	38	1.3	1.8	1.3	1.5	1.7	**No**	**No**	**No**	**No**
Greensburg	10	20	11	10	19	0.3	0.4	0.3	0.3	0.3	**No**	**No**	**No**	**No**
Hamburg	109	123	128	175	133	8.0	7.7	7.1	8.7	7.8	**No**	**No**	**No**	**No**
Harrisburg	128	167	164	142	179	3.4	3.9	4.2	4.3	5.0	**+**	**No**	**No**	**No**
Hazleton	190	191	331	361	397	7.0	6.8	10.2	11.6	11.2	**+**	**+**	**No**	**No**
Highspire	0	2	0	3	1	0.0	7.4	0.0	6.7	4.2	**N/A**	**No**	**N/A**	**No**
Hollidaysburg	25	21	22	37	35	1.2	0.7	0.7	1.3	1.2	**No**	**No**	**No**	**No**
Honesdale	22	53	42	41	36	1.9	1.9	2.0	2.1	2.0	**No**	**No**	**No**	**No**
Huntingdon	14	10	13	11	7	1.2	0.5	0.6	0.6	0.4	**No**	**No**	**No**	**No**
Indiana	30	11	14	6	20	1.4	0.3	0.4	0.2	0.5	**-**	**No**	**No**	**No**
Jonestown	116	182	190	229	206	5.8	6.2	6.9	7.2	8.0	**+**	**+**	**No**	**No**
Kane	11	10	17	5	12	0.9	0.5	1.1	0.4	0.8	**No**	**No**	**No**	**No**
King of Prussia	205	285	287	269	301	4.0	3.9	4.2	4.4	4.6	**No**	**No**	**No**	**No**
Kiski Valley	9	10	16	7	12	0.6	0.4	0.6	0.3	0.5	**No**	**No**	**No**	**No**
Kittanning	9	12	21	25	28	0.5	0.4	0.5	0.7	0.8	**No**	**No**	**No**	**No**
Lamar	135	156	162	83	63	5.5	4.6	4.7	5.0	3.9	**No**	**No**	**No**	**No**
Lancaster	195	103	138	256	342	5.9	4.9	6.5	8.2	9.6	**+**	**+**	**+**	**No**
Laporte	4	9	9	5	7	0.4	0.6	0.7	0.3	0.6	**No**	**No**	**No**	**No**
Lehighton	35	69	72	65	64	4.1	2.8	2.8	2.8	3.2	**No**	**No**	**No**	**No**
Lewistown	31	54	47	56	73	1.3	1.9	1.9	1.8	1.9	**No**	**No**	**No**	**No**
Lykens	6	8	10	16	8	0.8	0.9	0.8	1.1	0.7	**No**	**No**	**No**	**No**
Mansfield	13	17	5	14	15	1.4	1.1	0.4	1.1	1.2	**No**	**No**	**+**	**No**
McConnellsburg	35	55	36	26	65	2.5	2.2	1.8	1.2	2.1	**No**	**No**	**No**	**+**
Meadville	30	21	39	49	68	1.0	0.8	1.2	1.1	1.5	**No**	**+**	**No**	**No**
Media	124	155	122	103	159	2.9	3.0	3.2	4.0	3.9	**+**	**No**	**No**	**No**
Mercer	77	82	164	116	117	4.0	3.2	5.3	4.6	5.0	**No**	**+**	**No**	**No**
Milton	116	85	113	77	68	4.4	3.5	3.9	3.6	2.6	**-**	**No**	**-**	**No**

Table 10.2: Binomial Analyses of Traffic Stops of Hispanic Drivers by Station – 2002-2006 (p. 3 of 3)

	# Stops					% Stops					Significant Change 2002-2006	Significant Change 2003-2006	Significant Change 2004-2006	Significant Change 2005-2006
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006				
Montoursville	24	68	78	32	14	0.8	1.5	1.1	0.8	0.8	**No**	**No**	**No**	**No**
New Castle	4	5	11	8	7	0.3	0.3	0.5	0.5	0.4	**No**	**No**	**No**	**No**
New Stanton	41	104	109	141	158	1.1	1.1	1.4	1.7	1.7	**+**	**+**	**No**	**No**
Newport	22	24	21	49	41	1.9	1.8	1.0	2.1	1.6	**No**	**No**	**No**	**No**
Newville	282	377	344	274	222	3.3	3.4	3.5	3.2	3.0	**No**	**No**	**No**	**No**
Philadelphia	116	141	136	166	301	5.5	4.1	5.0	5.3	5.2	**No**	**+**	**No**	**No**
Philipsburg	11	14	48	52	24	0.7	0.5	1.7	2.1	1.0	**No**	**No**	**No**	**-**
Pocono	153	148	102	147	152	2.9	2.3	2.4	2.8	2.8	**No**	**No**	**No**	**No**
Punxsutawney	35	46	35	17	11	1.4	1.4	1.5	0.8	0.7	**No**	**No**	**No**	**No**
Reading	117	273	178	140	122	6.0	10.7	9.2	10.9	7.9	**No**	**-**	**No**	**-**
Ridgway	17	21	44	14	15	0.9	0.9	1.9	0.7	0.6	**No**	**No**	**-**	**No**
Rockview	202	130	93	115	90	4.8	2.4	2.4	2.1	1.6	**-**	**-**	**-**	**No**
SchuylkillHaven	17	20	31	53	33	1.5	1.5	1.9	3.5	2.2	**No**	**No**	**No**	**No**
Selinsgrove	46	41	33	31	37	1.4	1.0	1.1	1.1	1.5	**No**	**No**	**No**	**No**
Shickshinny	9	15	18	15	12	1.3	1.5	1.8	1.4	1.1	**No**	**No**	**No**	**No**
Skippack	93	135	197	118	175	4.2	3.3	4.4	4.4	5.9	**+**	**+**	**+**	**+**
Somerset (A)	5	5	7	6	4	0.4	0.2	0.3	0.3	0.2	**No**	**No**	**No**	**No**
Somerset (T)	234	270	255	191	225	3.0	3.0	3.5	2.9	3.0	**No**	**No**	**No**	**No**
Stonington	8	17	12	8	24	0.6	1.0	0.8	0.8	1.7	**+**	**No**	**No**	**No**
Swiftwater	358	342	245	275	331	9.0	7.1	6.4	7.9	7.9	**No**	**No**	**+**	**No**
Tionesta	13	4	10	3	10	0.7	0.2	0.5	0.1	0.6	**No**	**No**	**No**	**+**
Towanda	10	8	8	16	17	0.9	0.5	0.4	0.7	0.7	**No**	**No**	**No**	**No**
Trevose	95	178	192	177	157	5.1	5.6	5.9	8.5	7.9	**+**	**+**	**+**	**No**
Tunkhannock	15	16	17	14	29	2.0	1.2	1.2	1.3	3.0	**No**	**+**	**+**	**+**
Uniontown	9	9	6	7	5	0.3	0.3	0.2	0.1	0.1	**No**	**No**	**No**	**No**
Warren	2	5	4	1	5	0.4	0.4	0.3	0.1	0.4	**No**	**No**	**No**	**No**
Washington	47	26	41	32	25	1.0	0.5	0.8	0.6	0.6	**No**	**No**	**No**	**No**
Waynesburg	10	20	22	14	12	0.6	0.7	0.8	0.6	0.6	**No**	**No**	**No**	**No**
Wyoming	37	32	30	30	57	1.9	1.3	1.2	1.8	2.8	**No**	**+**	**+**	**No**
York	123	136	186	156	163	3.5	4.0	3.8	3.6	3.0	**No**	**-**	**No**	**No**

Table 10.3: Binomial Analyses of Traffic Stops of Black Drivers by County – 2002-2006 (p. 1 of 3)

	# Stops					% Stops					Significant Change 2002-2006	Significant Change 2003-2006	Significant Change 2004-2006	Significant Change 2005-2006
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006				
Adams	59	88	135	137	127	4.4	5.1	4.7	5.3	5.1	No	No	No	No
Allegheny	643	1,070	996	1,008	934	9.0	9.0	8.8	9.3	9.7	No	No	No	No
Armstrong	17	36	26	39	41	1.4	2.6	1.8	3.4	3.2	+	No	No	No
Beaver	382	583	505	491	483	9.6	9.5	10.3	9.8	10.1	No	No	No	No
Bedford	907	1,190	1,065	1,302	1,450	12.5	11.7	11.8	12.4	12.9	No	+	+	No
Berks	259	384	278	274	248	7.0	7.8	7.0	7.6	6.8	No	No	No	No
Blair	93	115	132	112	159	4.6	3.7	4.5	4.4	5.4	No	+	No	No
Bradford	10	21	9	30	19	0.8	1.3	0.5	1.3	0.7	No	No	No	No
Bucks	430	820	707	622	667	9.3	9.3	8.1	9.5	10.4	No	No	+	No
Butler	119	184	167	180	187	3.9	3.3	3.7	4.0	4.3	No	No	No	No
Cambria	67	105	78	93	111	3.5	2.9	2.5	2.3	2.5	-	No	No	No
Cameron	6	8	5	5	2	0.6	0.6	0.4	0.5	0.2	No	No	No	No
Carbon	296	452	471	393	350	6.1	6.2	7.5	6.3	6.5	No	No	No	No
Centre	380	372	311	408	344	6.5	4.6	4.5	4.9	4.2	-	No	No	No
Chester	726	908	870	856	1,039	11.3	10.9	11.3	11.4	11.8	No	No	No	No
Clarion	483	662	531	428	469	8.9	8.9	9.0	9.4	10.1	No	No	No	No
Clearfield	500	611	447	360	468	8.7	8.0	7.0	7.4	9.0	No	No	+	+
Clinton	222	342	358	160	139	8.8	9.5	9.3	9.4	8.5	No	No	No	No
Columbia	181	344	312	233	240	9.6	11.0	10.7	11.3	9.6	No	No	No	No
Crawford	188	164	200	296	300	6.0	5.3	5.4	6.4	6.0	No	No	No	No
Cumberland	1,087	1,506	1,449	1,145	1,359	11.5	12.0	10.3	9.5	10.7	No	-	No	+
Dauphin	378	468	384	388	415	7.4	7.7	6.9	7.3	8.0	No	No	No	No
Delaware	826	886	825	503	835	18.6	17.1	21.4	19.3	20.2	No	+	No	No
Elk	26	30	26	24	21	1.5	1.4	1.3	1.3	0.9	No	No	No	No
Erie	349	526	491	357	306	5.7	5.7	5.4	5.8	5.2	No	No	No	No
Fayette	200	236	268	346	253	5.3	5.9	6.0	5.9	4.9	No	No	-	No
Forest	7	7	11	15	10	0.7	0.6	1.1	1.2	1.2	No	No	No	No
Franklin	344	470	541	445	460	9.1	8.0	7.7	8.1	7.0	-	No	No	No
Fulton	594	777	511	543	652	13.4	12.9	12.6	12.0	13.1	No	No	No	No
Greene	86	112	101	99	86	5.1	4.0	3.9	4.5	4.4	No	No	No	No

Table 10.3: Binomial Analyses of Traffic Stops of Black Drivers by Station – 2002-2006 (p. 2 of 3)

	# Stops					% Stops					Significant Change 2002-2006	Significant Change 2003-2006	Significant Change 2004-2006	Significant Change 2005-2006
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006				
Huntingdon	37	44	51	41	38	3.0	2.0	2.3	2.1	2.3	**No**	**No**	**No**	**No**
Indiana	74	102	131	91	174	3.3	2.8	3.3	3.2	3.8	**No**	**+**	**No**	**No**
Jefferson	230	364	333	190	142	5.8	6.6	7.3	6.5	5.3	**No**	**No**	**-**	**No**
Juniata	49	57	62	103	68	3.5	4.4	5.3	4.9	3.7	**No**	**No**	**No**	**No**
Lackawanna	199	200	218	224	217	6.7	5.9	6.9	6.5	6.2	**No**	**No**	**No**	**No**
Lancaster	909	976	679	667	759	9.7	10.2	10.2	9.3	9.5	**No**	**No**	**No**	**No**
Lawrence	119	168	162	181	207	7.1	6.0	5.4	6.8	7.3	**No**	**No**	**+**	**No**
Lebanon	208	271	244	251	205	10.3	10.1	9.6	9.4	8.4	**No**	**No**	**No**	**No**
Lehigh	449	596	784	761	793	8.2	8.2	8.7	9.0	10.0	**+**	**+**	**+**	**+**
Luzerne	343	416	480	404	499	5.8	5.9	6.4	6.1	6.5	**No**	**No**	**No**	**No**
Lycoming	112	174	275	136	130	3.8	4.0	4.1	3.4	7.5	**+**	**+**	**+**	**+**
McKean	22	17	30	24	17	1.7	0.8	2.2	1.8	1.2	**No**	**No**	**No**	**No**
Mercer	184	253	352	375	313	10.5	9.6	10.5	12.8	13.5	**+**	**+**	**+**	**No**
Mifflin	22	63	48	21	67	2.2	3.8	3.9	1.9	3.3	**No**	**No**	**No**	**+**
Monroe	644	795	735	689	813	12.6	12.7	12.7	13.5	14.1	**+**	**+**	**+**	**No**
Montgomery	1,056	1,659	1,666	1,475	2,241	14.0	13.2	13.5	15.0	17.7	**+**	**+**	**+**	**+**
Montour	44	50	47	39	56	10.0	9.5	9.2	8.3	11.6	**No**	**No**	**No**	**No**
Northhampton	251	336	431	399	354	8.5	8.7	9.6	9.8	12.3	**+**	**+**	**+**	**+**
Northumberland	25	43	53	32	67	1.7	2.1	2.6	2.1	3.3	**+**	**+**	**No**	**No**
Perry	18	43	81	98	109	2.7	4.0	4.1	4.5	4.7	**+**	**No**	**No**	**No**
Philadelphia	29	29	11	9	17	38.7	45.3	39.3	39.1	33.3	**No**	**No**	**No**	**No**
Pike	59	135	141	113	127	5.3	5.4	5.6	6.1	6.7	**No**	**No**	**No**	**No**
Potter	10	13	16	7	17	0.7	0.8	1.1	0.5	0.8	**No**	**No**	**No**	**No**
Schuylkill	134	117	104	146	149	4.4	3.2	3.6	4.9	4.4	**No**	**+**	**No**	**No**
Snyder	163	170	116	109	118	5.0	4.0	3.7	3.8	4.8	**No**	**No**	**No**	**No**
Somerset	933	1,012	766	832	1,001	13.2	11.7	10.9	11.0	11.8	**-**	**No**	**No**	**No**
Sullivan	11	10	14	14	10	1.2	0.6	1.1	1.0	0.8	**No**	**No**	**No**	**No**
Susquehanna	115	133	193	126	127	9.6	8.6	9.3	8.8	9.0	**No**	**No**	**No**	**No**
Tioga	31	43	53	46	60	3.4	2.8	3.7	3.7	4.7	**No**	**+**	**No**	**No**
Union	186	138	139	89	125	9.5	8.7	7.3	7.6	8.0	**No**	**No**	**No**	**No**

Table 10.3: Binomial Analyses of Traffic Stops of Black Drivers by Station – 2002-2006 (p. 3 of 3)

	# Stops					% Stops					Significant Change 2002-2006	Significant Change 2003-2006	Significant Change 2004-2006	Significant Change 2005-2006
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006				
Venango	27	44	110	94	63	2.2	1.9	3.5	5.5	3.0	**No**	**No**	**No**	**-**
Warren	2	8	10	4	18	0.4	0.5	0.6	0.4	1.3	**+**	**No**	**No**	**+**
Washington	500	602	579	499	499	6.4	6.5	6.8	6.4	7.4	**+**	**No**	**No**	**+**
Wayne	32	65	47	51	58	2.6	2.2	2.2	2.7	3.3	**No**	**No**	**No**	**No**
Westmoreland	849	1,630	1,371	1,211	1,362	7.7	8.1	8.4	7.8	7.8	**No**	**No**	**No**	**No**
Wyoming	10	9	12	15	12	1.3	0.7	0.8	1.4	1.1	**No**	**No**	**No**	**No**
York	396	384	495	494	776	10.0	9.5	9.1	9.9	13.2	**+**	**+**	**+**	**+**

Table 10.4: Binomial Analyses of Traffic Stops of Hispanic Drivers by County – 2002-2006 (p. 1 of 3)

	# Stops					% Stops					Significant Change 2002-2006	Significant Change 2003-2006	Significant Change 2004-2006	Significant Change 2005-2006
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006				
Adams	74	96	126	142	150	5.5	5.6	4.4	5.5	6.0	**No**	**No**	**+**	**No**
Allegheny	77	138	134	119	131	1.1	1.2	1.2	1.1	1.4	**No**	**No**	**No**	**No**
Armstrong	3	3	5	3	10	0.3	0.2	0.3	0.3	0.8	**No**	**No**	**No**	**No**
Beaver	44	75	72	54	63	1.1	1.2	1.5	1.1	1.3	**No**	**No**	**No**	**No**
Bedford	160	249	215	283	308	2.2	2.4	2.4	2.7	2.7	**+**	**No**	**No**	**No**
Berks	251	554	336	333	275	6.8	11.2	8.4	9.3	7.5	**No**	**-**	**No**	**-**
Blair	22	19	19	24	27	1.1	0.6	0.6	0.9	0.9	**No**	**No**	**No**	**No**
Bradford	11	8	8	17	15	0.9	0.5	0.4	0.7	0.6	**No**	**No**	**No**	**No**
Bucks	213	406	457	399	394	4.6	4.6	5.3	6.1	6.1	**+**	**+**	**No**	**No**
Butler	35	31	25	32	56	1.2	0.6	0.5	0.7	1.3	**No**	**+**	**+**	**+**
Cambria	13	17	18	12	16	0.7	0.5	0.6	0.3	0.4	**No**	**No**	**No**	**No**
Cameron	2	3	4	1	5	0.2	0.2	0.3	0.1	0.6	**No**	**No**	**No**	**No**
Carbon	169	225	272	239	188	3.5	3.1	4.3	3.8	3.5	**No**	**No**	**No**	**No**
Centre	218	146	149	176	121	3.7	1.8	2.2	2.1	1.5	**-**	**No**	**-**	**-**
Chester	486	578	685	702	728	7.6	6.9	8.9	9.4	8.3	**No**	**+**	**No**	**-**
Clarion	246	318	279	198	206	4.5	4.3	4.7	4.4	4.4	**No**	**No**	**No**	**No**
Clearfield	242	239	234	173	220	4.2	3.1	3.7	3.6	4.2	**No**	**+**	**No**	**No**
Clinton	141	171	189	85	64	5.6	4.7	4.9	5.0	3.9	**No**	**No**	**No**	**No**
Columbia	107	146	147	88	125	5.7	4.7	5.1	4.3	5.0	**No**	**No**	**No**	**No**
Crawford	31	23	39	50	71	1.0	0.7	1.1	1.1	1.4	**No**	**+**	**No**	**No**
Cumberland	313	416	490	465	460	3.3	3.3	3.5	3.8	3.6	**No**	**No**	**No**	**No**
Dauphin	153	209	185	173	213	3.0	3.5	3.3	3.2	4.1	**+**	**No**	**No**	**No**
Delaware	134	154	123	104	162	3.0	3.0	3.2	4.0	3.9	**No**	**+**	**No**	**No**
Elk	20	18	26	12	10	1.2	0.8	1.3	0.7	0.4	**-**	**No**	**-**	**No**
Erie	82	148	137	105	96	1.4	1.6	1.5	1.7	1.6	**No**	**No**	**No**	**No**
Fayette	9	10	7	8	7	0.2	0.2	0.2	0.1	0.1	**No**	**No**	**No**	**No**
Forest	2	0	1	1	7	0.2	0.0	0.1	0.1	0.8	**No**	**N/A**	**+**	**+**
Franklin	127	187	246	214	210	3.4	3.2	3.5	3.9	3.2	**No**	**No**	**No**	**No**
Fulton	126	148	103	98	115	2.8	2.5	2.5	2.2	2.3	**No**	**No**	**No**	**No**
Greene	10	20	20	13	13	0.6	0.7	0.8	0.6	0.7	**No**	**No**	**No**	**No**

Table 10.4: Binomial Analyses of Traffic Stops of Hispanic Drivers by Station – 2002-2006 (p. 2 of 3)

	# Stops					% Stops					Significant Change 2002-2006	Significant Change 2003-2006	Significant Change 2004-2006	Significant Change 2005-2006
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006				
Huntingdon	13	9	13	10	7	1.0	0.4	0.6	0.5	0.4	**No**	**No**	**No**	**No**
Indiana	28	11	14	7	19	1.2	0.3	0.3	0.2	0.4	**-**	**No**	**No**	**No**
Jefferson	132	189	165	92	89	3.3	3.4	3.6	3.1	3.3	**No**	**No**	**No**	**No**
Juniata	25	35	31	45	44	1.8	2.7	2.6	2.2	2.4	**No**	**No**	**No**	**No**
Lackawanna	80	122	123	142	142	2.7	3.6	3.9	4.1	4.0	**+**	**No**	**No**	**No**
Lancaster	494	474	370	486	593	5.3	4.9	5.6	6.8	7.4	**+**	**+**	**+**	**No**
Lawrence	8	18	19	15	23	0.5	0.6	0.6	0.6	0.8	**No**	**No**	**No**	**No**
Lebanon	138	214	210	204	195	6.8	8.0	8.2	7.6	8.0	**No**	**No**	**No**	**No**
Lehigh	429	568	911	948	894	7.8	7.8	10.1	11.2	11.3	**+**	**+**	**+**	**No**
Luzerne	232	246	389	417	476	3.9	3.5	5.2	6.3	6.2	**+**	**+**	**+**	**No**
Lycoming	22	53	63	29	15	0.7	1.2	0.9	0.7	0.9	**No**	**No**	**No**	**No**
McKean	11	10	8	5	11	0.8	0.5	0.6	0.4	0.8	**No**	**No**	**No**	**No**
Mercer	73	88	191	159	117	4.2	3.3	5.7	5.4	5.0	**No**	**+**	**No**	**No**
Mifflin	8	22	16	11	28	0.8	1.3	1.3	1.0	1.4	**No**	**No**	**No**	**No**
Monroe	454	445	385	367	455	8.9	7.1	6.6	7.2	7.9	**No**	**No**	**+**	**No**
Montgomery	324	498	620	510	670	4.3	4.0	5.0	5.2	5.3	**+**	**+**	**No**	**No**
Montour	31	23	25	25	13	7.0	4.4	4.9	5.3	2.7	**-**	**No**	**No**	**No**
Northhampton	253	308	465	471	346	8.5	8.0	10.4	11.6	12.0	**+**	**+**	**No**	**No**
Northumberland	13	27	22	22	40	0.9	1.3	1.1	1.4	2.0	**+**	**No**	**No**	**No**
Perry	14	19	20	47	32	2.1	1.8	1.0	2.2	1.4	**No**	**No**	**No**	**No**
Philadelphia	7	1	4	0	3	9.3	1.6	14.3	0.0	5.9	**No**	**No**	**No**	**N/A**
Pike	37	73	101	77	85	3.3	2.9	4.0	4.2	4.5	**No**	**+**	**No**	**No**
Potter	2	9	9	5	12	0.1	0.6	0.6	0.4	0.6	**+**	**No**	**No**	**No**
Schuylkill	72	81	75	109	128	2.4	2.2	2.6	3.7	3.8	**+**	**+**	**+**	**No**
Snyder	46	41	34	31	38	1.4	1.0	1.1	1.1	1.6	**No**	**No**	**No**	**No**
Somerset	193	206	194	176	206	2.7	2.4	2.8	2.3	2.4	**No**	**No**	**No**	**No**
Sullivan	4	10	9	5	7	0.4	0.6	0.7	0.3	0.6	**No**	**No**	**No**	**No**
Susquehanna	40	42	66	49	28	3.4	2.7	3.2	3.4	2.0	**No**	**No**	**No**	**No**
Tioga	7	17	5	14	16	0.8	1.1	0.4	1.1	1.2	**No**	**No**	**+**	**No**
Union	80	54	84	39	37	4.1	3.4	4.4	3.3	2.4	**-**	**No**	**-**	**No**

Table 10.4: Binomial Analyses of Traffic Stops of Hispanic Driverss by Station – 2002-2006 (p. 3 of 3)

	# Stops					% Stops					Significant Change 2002-2006	Significant Change 2003-2006	Significant Change 2004-2006	Significant Change 2005-2006
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006				
Venango	9	19	55	40	38	0.7	0.8	1.7	2.4	1.8	+	+	**No**	**No**
Warren	1	5	3	1	11	0.2	0.3	0.2	0.1	0.8	+	**No**	+	+
Washington	69	47	71	56	41	0.9	0.5	0.8	0.7	0.6	**No**	**No**	**No**	**No**
Wayne	24	54	44	38	38	2.0	1.9	2.1	2.0	2.1	**No**	**No**	**No**	**No**
Westmoreland	127	226	214	198	223	1.2	1.1	1.3	1.3	1.3	**No**	**No**	**No**	**No**
Wyoming	15	15	16	13	28	2.0	1.1	1.1	1.2	2.5	**No**	+	+	**No**
York	136	156	202	166	179	3.4	3.9	3.7	3.3	3.1	**No**	**No**	**No**	**No**